Australian Government

Infrastructure Australia

Infrastructure Priority List

Australian Infrastructure Plan

Project and Initiative Summaries

March 2018

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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Contents

Chair's Foreword

Our Infrastructure Priority List has become a critical point of reference for governments so that they can invest in projects that best meet our future infrastructure needs.

In 30 years' time, Australia's population is projected to increase by 11.8 million people. If you can imagine adding two more cities the size of Melbourne or Sydney to Australia by 2047, you'll appreciate the enormity of the challenge. At Infrastructure Australia, we firmly believe that a growing population brings exciting opportunities to boost our national productivity – but only if our infrastructure is prepared for it.

This is a challenge that we can't afford to manage passively – we must plan for growth. We must invest our infrastructure dollars wisely to maintain our existing infrastructure. We must build new infrastructure when and where it is most needed.

As the nation's independent infrastructure adviser, our primary focus at Infrastructure Australia is to support better infrastructure decision making and delivery in Australia. One of the key platforms we use to achieve this is the Infrastructure Priority List, which identifies major infrastructure proposals that have substantial strategic merit and are of national significance. The Priority List aims to identify the key energy, telecommunications, transport, and water projects across Australia that will improve connectivity and deliver better infrastructure services.

Our Infrastructure Priority List has become a critical point of reference for governments so that they can invest in projects that best meet our future infrastructure needs.

This latest update builds on the 2017 list, with new initiatives that reflect emerging infrastructure priorities across Australia, and updates to existing initiatives. It has been developed in close consultation with all levels of Australian government, business and the community, so it represents a consensus view on the investments that will most benefit our growing cities and regions.

This year's list features 96 major infrastructure proposals that have strategic merit and are of national significance. Of these, six are listed as High Priority Projects, six are Priority Projects, 24 High Priority Initiatives, and 60 Priority Initiatives. So we are again presenting a long list of options for government to invest in to improve living standards and productivity in Australia.

Since February 2017, 10 projects have graduated off the list as they move into the construction phase. This includes projects to improve our national connectivity like the Adelaide–Tarcoola Rail Upgrade Acceleration in South Australia, and Bringelly Road Upgrade Stage 2 in Western Sydney. A further three projects have been moved from the list of initiatives to the list of projects following approval from the Infrastructure Australia Board. This includes the Beerburrum to Nambour Rail Upgrade in South East Queensland, which is now on the list of Priority Projects.

We are also pleased to see a number of new transport initiatives added this year. There are some important initiatives to improve rail network capacity in Sydney, Melbourne, Perth and the Gold Coast, and an initiative to improve public transport network capacity in Brisbane and Sydney. These initiatives could go a long way to solving issues of congestion in some of our busiest cities and ensuring these services are well equipped to support our growing population into the future.

Australia's cities have been a major focus on this list, with a number of new initiatives to improve connectivity between our biggest capital cities and smaller neighbouring cities. This includes improvements to rail capacity on the Melbourne–Geelong and Brisbane–Gold Coast rail lines. It also includes rail upgrades on lines from Sydney to the regional centres of Newcastle and Wollongong. Upgrading this infrastructure will be an important step to enable our smaller cities to develop stronger economic and employment links with our bigger cities.

The Infrastructure Priority List is guided and supported by our rigorous Assessment Framework, which details the method we use to evaluate initiatives and business cases for inclusion on the Priority List. We constantly look for ways to improve the Assessment Framework. Since 2016 we have made a number of updates to improve the clarity of our guidance and processes. Our most recent update, which we published in March 2018, provides further guidance in the areas of land use impacts and benefits, post-completion reviews and the treatment of climate change risks. We hope that these updates will make the process of submitting business cases easier for proponents, and lead to better infrastructure decisions for Australia.

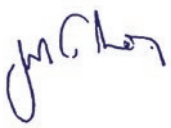
While we publish a revised hardcopy list each year, the online version is a live document on our website and is updated regularly as our board meets to make decisions on infrastructure proposals throughout the year.

Next year, we will publish the Australian Infrastructure Audit 2019, which will use an expanded evidence base to identify more infrastructure gaps across the country. We anticipate that following this, the Infrastructure Priority List will continue to evolve to find the best solutions for these future gaps.

I would like to acknowledge the enormous contributions that we have received in developing this list – we greatly value the relationships we have formed through this process. We have been pleased with the input we have received from across Australia in all levels of government, as well as from the business sector and the community. We have been buoyed by the level of enthusiasm from across the community to deliver better infrastructure outcomes for all Australians.

For our part, we will continue to strengthen our Assessment Framework to support better project selection and delivery across the country. We are also proud of the work we have done engaging with project proponents to develop high-quality business cases – from identifying an infrastructure problem and potential solutions to developing a business case and advising on project funding, delivery and operation.

We look forward to continuing to work closely with each level of government and the wider community to develop projects and initiatives that deliver the best social, economic and environmental outcomes for all Australians.



Julieanne Alroe

Chair, Infrastructure Australia

The Infrastructure Priority List

The Infrastructure Priority List is the authoritative list of nationally significant infrastructure investments Australia needs over the next 15 years. The Priority List provides independent, evidence-based advice to governments and industry on the projects that will most benefit our growing communities.

Defining Australia's infrastructure priorities

Defining Australia's infrastructure priorities is important for governments, investors, industry and the community. The Priority List guides government decision making on how best to allocate resources, provides transparency on future spending priorities, and supports economic growth. It also provides industry with a clear forward program of works, which helps ensure that Australia retains specialist skills to deliver the infrastructure we need.

We developed the Infrastructure Priority List to define Australia's infrastructure priorities and establish a consistent framework for assessing the economic, social and environmental benefits of potential infrastructure projects. The Priority List is a live document. It is regularly reviewed and updated by the independent Infrastructure Australia Board as robust, evidence-based proposals for nationally significant projects move through stages of development and delivery.

Through the Infrastructure Priority List, we provide clear advice to governments on the significant projects that represent the best use of our infrastructure funding. Although the Priority List does not provide specific funding recommendations, it sets out a detailed list of opportunities to deliver a better infrastructure future for all Australians.

The list has helped to guide decisions on Australia's most pressing infrastructure needs by giving a transparent, evidence-based list of infrastructure priorities that will deliver the best long-term outcomes for Australia.

How to use the Infrastructure Priority List

The Infrastructure Priority List contains two broad groupings:

- **Projects** are advanced proposals that have undergone a full business case assessment by Infrastructure Australia and have been positively evaluated to address a nationally significant problem and deliver robust economic, social or environmental outcomes. Projects remain on the Priority List until construction or delivery is underway. We publish a separate list on our website of projects that were previously on the Priority List and are now being delivered or have been completed.
- **Initiatives** are proposals that have been identified to potentially address a nationally significant problem or opportunity, but require further development and rigorous assessment to determine if they are the most appropriate solution.

Initiatives or projects that address major problems or opportunities of national significance are highlighted as High Priority. This focuses decision makers' attention on the most

significant problems, where delivery of an effective solution is critical. Within both the High Priority and Priority categories, projects and initiatives are not ranked, but rather ordered by their location, then category of problem they address and by timeframe.

Each project and initiative on the 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 our cities and regions.

These timeframes are defined as:

- near term (0-5 years)
- medium term (5-10 years)
- longer term (10-15 years)
- future (more than 15 years).

By including initiatives alongside more advanced projects which have a fully developed business case, we encourage decision-makers to think strategically about opportunities to preserve infrastructure corridors and how potential solutions fit within broader networks and systems.

This edition of the Infrastructure Priority List includes a one-page summary for each project and initiative. The summary for projects includes details of funding commitments, where they have been published. This information is included to assist readers. The funding commitments quoted are based on information provided to Infrastructure Australia. For some projects, committed funding exceeds the estimated capital cost. This is usually because the cost estimate was revised after the funding commitment was made. Not all projects with funding commitments are fully funded. Infrastructure Australia does not take account of funding commitments when evaluating business cases. Funding commitments are a matter for project proponents and governments.

Defining national significance

The *Infrastructure Australia Act 2008* defines nationally significant infrastructure as including transport, energy, communications and water infrastructure 'in which investment or further investment will materially improve national productivity'.

An infrastructure investment is nationally significant if, based on the evidence presented, the Infrastructure Australia Board is of the opinion that the investment is expected to have a material impact on national output by:

1. addressing a problem that would otherwise impose economic, social, and/or environmental costs; or
2. provide an opportunity for realising economic, social, or environmental benefits; or
3. both addressing a problem and providing an opportunity.

As a guide, for the purposes of assessing submissions to the Infrastructure Priority List, Infrastructure Australia has applied a threshold value of $30 million per annum (nominal, undiscounted) in measuring material net benefit, taking potential unquantified quality-of-life considerations into account.

Infrastructure Australia expects potential impacts cited in submissions to be quantified and supported by evidence, but recognises that some types of social and environmental impacts may not be readily quantifiable.

Maintaining the Infrastructure Priority List

New projects are added to the Infrastructure Priority List as the Infrastructure Australia Board receives and assesses new business cases – meaning it evolves over time to meet emerging challenges and opportunities.

The list is guided and supported by our rigorous Assessment Framework, which details the method we use to evaluate initiatives and business cases for inclusion in the Infrastructure Priority List. The rigour of this framework is what makes the list a trusted, key reference point for governments.

We routinely review the framework at least every two years to ensure it remains current and user-friendly. In June 2017, we eleased a major update that streamlined all of our guidance and templates into a single, easy-to-use document. We also simplified and improved the clarity of our guidance and processes.

We reviewed the five-stage assessment process to better align the process to the proponents' business case cycles. In particular, we have revised Stages 2 and 3 to align with the development of options and the development of business cases. The following diagram summarises the five-stage assessment process set out in the Assessment Framework.

In March 2018 we updated the Assessment Framework to provide further guidance in the areas of land use impacts and benefits, post-completion reviews and the treatment of climate change risk.

Based on our Assessment Framework, the Priority List promotes the preparation of robust business cases for major infrastructure projects. The Priority List aims to stimulate and support high-quality proposal development and decision making.

We require project proponents to show that they have:

1. clearly identified the problem they are seeking to solve
2. undertaken detailed options analysis where a full range of innovative, deliverable solutions are developed and the preferred option is selected through a structured assessment process
3. developed a robust business case with adequate calculation of all appropriate costs and benefits.

Following our assessment and the construction of the project, we also encourage proponents to conduct a post completion review to ensure that any lessons from the process are documented and applied in the future.

Infrastructure Priority List Online

This year, we have developed an interactive map for the Infrastructure Priority List. The map sets out a detailed view of projects and initiatives, and allows you to see which infrastructure solutions have been proposed around the country.

The map provides an up-to-date view of the nationally significant investments Australia needs to meet its infrastructure challenges. Importantly, the map is continually updated throughout the year when new business cases and proposals are assessed by the Infrastructure Australia Board.

You can explore the map in a number of ways, including by searching for the project or initiative name or navigating the map.

You can also use filters to search by state/territory, region, projects and initiatives, level of priority, timeframe and proponent.

Once you've found a project or initiative that is of interest, you can 'see full details' to view further information and download a project business case evaluation, if available. You can also export the latest Infrastructure Priority List in PDF format by following the link included in the map.

Visit www.infrastructureaustralia.gov.au to see our explainer video and learn how to use the interactive map.

High Priority Projects ●

Proposed project	Problem description	Proponent's proposed delivery timescale	Problem category	Page
New South Wales				
M4 Motorway upgrade Parramatta to Lapstone	Connectivity in outer western Sydney	Near term	Urban Congestion	18
WestConnex	Sydney inner west road congestion	Near term	Urban Congestion	19
Sydney Metro: City and Southwest	Sydney rail network capacity	Medium term	Urban Congestion	20
Western Sydney Airport	Sydney aviation capacity	Medium term	National Connectivity	21
Victoria				
M80 Ring Road upgrade	Melbourne M80 Western Ring Road congestion	Near term	Urban Congestion	22
Queensland				
Brisbane Metro	Brisbane inner city public transport network capacity	Near term	Urban Congestion	23

Priority Projects ●

Proposed project	Problem description	Proponent's proposed delivery timescale	Problem category	Page
National				
Inland Rail Melbourne to Brisbane via inland NSW	Freight connectivity Melbourne–Brisbane	Longer term	National Connectivity	26
New South Wales				
The Northern Road upgrade	Access to south-west Sydney growth area and construction access to Western Sydney Airport	Near term	National Connectivity	27
Queensland				
Beerburrum to Nambour Rail Upgrade	Queensland north coast rail congestion	Near term	National Connectivity	28
Western Australia				
Myalup-Wellington Water Project	Opportunity to develop industry and agriculture in south-west Western Australia	Near term	Opportunity for growth	29
South Australia				
Eyre Infrastructure Project Iron Road	Eyre Peninsula freight capacity	Near term	Opportunity for growth	30
Tasmania				
Hobart Science and Technology Precinct	Opportunity to stimulate economic growth and productivity in Tasmania	Near term	Opportunity for growth	31

High Priority Initiatives

Proposed initiative	Problem description	Timescale	Problem category	Next steps	Page
National					
Network Optimisation Program – Rail	National urban rail network congestion	Near term	Urban Congestion	Proponent to be identified	34
Network Optimisation Program – Roads	National urban road network congestion	Near term	Urban Congestion	Proponent to be identified	35
National Freight and Supply Chain Strategy	National strategic planning for future freight initiatives	Near term	National Connectivity	Strategy under development	36
Preserve corridor for East Coast High Speed Rail	Future connectivity between east coast capital cities	Near term	Corridor Preservation	Proponent to be identified	37
New South Wales					
Sydney Gateway	Connection from WestConnex to Sydney Airport and Port Botany	Near term	Urban Congestion	Business case development	38
Public transport capacity: Parramatta Road and Victoria Road corridors	Sydney corridor congestion: Parramatta Road and Victoria Road	Near term	Urban Congestion	Proponent to be identified	39
Sydney rail network capacity	Sydney rail network capacity	Near term	Urban Congestion	Initiative identification and options development	40
Southern Sydney to CBD public transport enhancement	Connection between inner south urban growth area and Sydney CBD	Medium term	Urban Congestion	Initiative identification and options development	41
Sydney Metro West: Mass transit between Parramatta and SydneyCBD	Connectivity between Parramatta and Sydney CBD	Medium term	Urban Congestion	Business case development	42
Port Botany freight rail duplication	Sydney Port Botany rail freight capacity	Near term	National Connectivity	Business case development	43
Chullora Junction upgrade	Sydney freight rail network capacity	Near term	National Connectivity	Initiative identification and options development	44
Preserve corridor for Western Sydney Airport fuel pipeline	Future fuel connection to Western Sydney Airport	Near term	Corridor Preservation	Business case development	45
Preserve corridor for Western Sydney Freight Line and Intermodal Terminal access	Future freight rail capacity to Eastern Creek intermodal and Sydney Main West Line	Near term	Corridor Preservation	Business case development	46
Preserve corridor for Outer Sydney Orbital road and rail/M9, and Castlereagh Connection	Future connectivity between Western Sydney and Central Coast/ Illawarra	Near term	Corridor Preservation	Initiative identification and options development	47
Preserve corridor for Western Sydney Airport rail connection	Future rail connection to Western Sydney Airport	Near term	Corridor Preservation	Initiative identification and options development	48

High Priority Initiatives

Proposed initiative	Problem description	Timescale	Problem category	Next steps	Page
Victoria					
Improve the connection between the Eastern Freeway and CityLink	Connectivity between Melbourne's Eastern Freeway and CityLink	Near term	Urban Congestion	Proponent to be identified	49
Melbourne rail network capacity	Melbourne rail network capacity	Medium term	Urban Congestion	Proponent to be identified	50
Preserve corridor for Melbourne Outer Metropolitan Ring Road/E6	Future connectivity between Melbourne outer south-west and outer north	Near term	Corridor Preservation	Proponent to be identified	51
Queensland					
Cross River Rail A rail solution to support an integrated passenger transport network in South East Queensland	Brisbane CBD public transport capacity	Near term	Urban Congestion	Business case development	52
Ipswich Motorway Upgrade Rocklea–Darra (remaining sections)	Southern Brisbane–Ipswich road network capacity	Near term	Urban Congestion	Business case development	53
Port of Brisbane dedicated freight rail connection	Freight rail access to Port of Brisbane	Medium term	National Connectivity	Proponent to be identified	54
Western Australia					
Perth CBD – north corridor capacity	Perth northern corridor capacity	Near term	Urban Congestion	Business case development	55
Mitchell and Kwinana Freeways – widening and smart freeways technology	Perth road network capacity	Near term	Urban congestion	Initiative identification and options development	56
South Australia					
Gawler line rail upgrade	Adelaide outer north-east suburbs access to CBD	Near term	Urban Congestion	Business case development	57

Priority Initiatives

Proposed initiative	Problem description	Timescale	Problem category	Next steps	Page
National					
Advanced Train Management System implementation on ARTC network	Rail freight capacity constraint on ARTC network	Near term	National Connectivity	Business case development	60
Connect gas suppliers to eastern gas markets	Constrained East Coast gas supply	Near term	Efficient Markets	Proponent to be identified	61
New South Wales					
Active transport (walking and cycling) access to Sydney CBD	Inner city access to Sydney CBD	Near term	Urban Congestion	Business case development	62
Public transport access to Parramatta CBD	Public transport access to Parramatta CBD	Near term/ Medium term	Urban Congestion	Initiative identification and options development	63
Central Station redevelopment – rail and station infrastructure	Connection between urban and intercity rail, buses, light rail and metro	Medium term	Urban congestion	Initiative identification and options development	64
F6 Extension	Connectivity between Wollongong and Sydney CBD	Medium term	Urban Congestion	Business case development	65
Western Harbour Tunnel and Beaches Link	Sydney road network cross-harbour and Northern Beaches connectivity	Longer term	Urban Congestion	Business case development	66
Newell Highway upgrade	Melbourne–Brisbane connectivity	Near term	National Connectivity	Various stages	67
Pacific Highway (A1) – Coffs Harbour bypass	Sydney–Brisbane connectivity	Near term	National Connectivity	Business case development	68
Pacific Highway (M1) – extension to Raymond Terrace	Sydney–Brisbane connectivity	Near term	National Connectivity	Business case development	69
Western Sydney Infrastructure Plan	Access to Western Sydney and Western Sydney Airport	Near term	National Connectivity	Various stages	70
Freight rail access to Port Kembla	Freight rail access to Port Kembla	Near term	National Connectivity	Initiative identification and options development	71
Moorebank Intermodal Terminal road connection upgrade	Road network connectivity to Moorebank Intermodal Terminal	Near term	National Connectivity	Initiative identification and options development	72
New England Highway upgrade	Sydney–Brisbane connectivity	Medium term	National Connectivity	Business case development	73
Western Sydney Airport public transport connection	Access to Western Sydney Airport	Longer term	National Connectivity	Initiative identification and options development	74

Priority Initiatives

Proposed initiative	Problem description	Timescale	Problem category	Next steps	Page
New South Wales					
Northern Sydney Freight Corridor Stage 2 additional track West Ryde to Rhodes and Thornleigh to Hornsby	Sydney freight rail network capacity	Longer term	National Connectivity	Business case development	75
Southern Sydney Freight Line upgrade	Sydney South to Moorebank rail freight capacity	Longer term	National Connectivity	Business case development	76
Newcastle–Sydney and Wollongong–Sydney rail line upgrades	Connectivity between Newcastle, Wollongong and Sydney CBD	Longer term	National Connectivity	Initiative identification and options development	77
Hawkesbury-Nepean Valley flood management	Flood mitigation in Hawkesbury-Nepean Valley	Near term	Resilience	Business case development	78
Victoria					
Melbourne level crossings removal	Melbourne urban road network congestion	Near term	Urban Congestion	Various stages	79
Melbourne Airport to CBD public transport capacity	Access to Melbourne Airport	Medium term	Urban Congestion	Proponent to be identified	80
Melton Rail Line upgrade	Melbourne outer western suburbs access to CBD	Medium term	Urban Congestion	Proponent to be identified	81
North East Link	Connectivity between M80 and Eastlink in outer north-east Melbourne	Medium term	Urban Congestion	Business case development	82
Public transport access to Fishermans Bend	Connection between Fishermans Bend growth area and Melbourne CBD	Medium Term	Urban Congestion	Initiative identification and options development	83
Melbourne outer northern suburbs to CBD capacity upgrade	Melbourne outer northern suburbs access to CBD	Longer term	Urban Congestion	Proponent to be identified	84
Melbourne Airport third runway	Melbourne aviation capacity	Near term	National Connectivity	Business case development	85
Melbourne container terminal capacity enhancement	Melbourne container terminal capacity	Longer term	National Connectivity	Proponent to be identified	86
Melbourne–Geelong rail capacity enhancement	Melbourne–Geelong rail capacity	Longer term	National Connectivity	Proponent to be identified	87

Priority Initiatives

Proposed initiative	Problem description	Timescale	Problem category	Next steps	Page
Queensland					
Brisbane to Gold Coast transport corridor upgrades	Brisbane to Gold Coast transport capacity	Near term	Urban Congestion	Various stages	88
M1 Pacific Motorway Eight Mile Plains to Daisy Hill	Brisbane–Gold Coast road network capacity	Near term	Urban Congestion	Business case development	89
Gold Coast Rail Line – Kuraby to Beenleigh rail capacity improvement	Brisbane–Gold Coast rail capacity	Near term	Urban Congestion	Initiative identification and options development	90
Cunningham Highway – Yamanto Interchange to Ebenezer Creek	Cunningham Highway – Yamanto Interchange to Ebenezer Creek congestion	Near term	National Connectivity	Business case assessment	91
M1 Pacific Motorway Varsity Lakes to Tugun	M1 Pacific Motorway capacity	Near term	National Connectivity	Initiative identification and options development	92
Mount Isa–Townsville rail corridor upgrade	Mt Isa–Townsville rail capacity	Medium term	National Connectivity	Business case development	93
Gladstone Port land and sea access upgrade	Land and sea access to Port of Gladstone	Medium term	National Connectivity	Initiative identification and options development	94
Bruce Highway Upgrade	Queensland coastal cities connectivity	Near term/ Medium term	National Connectivity	Various stages	95
Lower Fitzroy River water infrastructure development	Opportunity to develop industry and agriculture in Fitzroy region	Near term	Opportunity for Growth	Business case assessment	96
Preserve corridor for Salisbury to Beaudesert rail connection	Future urban rail connection to Beaudesert	Near term	Corridor Preservation	Business case development	97
Western Australia					
Armadale Road bridge	Perth road network capacity	Near term	Urban Congestion	Initiative identification and options development	98
Perth rail network capacity	Perth rail network capacity	Near term	Urban Congestion	Initiative identification and options development	99
Bunbury Outer Ring Road	WA regional freight network capacity	Medium term	National Connectivity	Initiative identification and options development	100
Perth Airport third runway	Perth airport capacity	Medium term	National Connectivity	Proponent to be identified	101
Perth container terminal capacity and land transport access	Perth container terminal capacity	Longer term	National Connectivity	Proponent to be identified	102
Improve road access to remote WA communities	Constrained road access to remote WA communities	Near term	Remote infrastructure	Proponent to be identified	103

Priority Initiatives

Proposed initiative	Problem description	Timescale	Problem category	Next steps	Page
South Australia					
Adelaide North-South Corridor upgrade (remaining sections)	Adelaide north-south urban road network capacity	Near term	Urban Congestion	Business case development	104
AdeLINK tram network Adelaide tram network expansion	Adelaide public transport capacity	Medium term	Urban Congestion	Business case development	105
Strzelecki Track upgrade and mobile coverage	Access to Cooper Basin (South Australia)	Near term	National Connectivity	Business case development	106
South Australian regional mineral port development	South Australia bulk port capacity	Medium term	National Connectivity	Business case development	107
Sturt Highway High Productivity Vehicle capacity enhancement, including Truro bypass	South Australia road freight network capacity	Medium term	National Connectivity	Initiative identification and options development	108
Gawler Craton rail access	Freight rail connection to Gawler Craton mineral province	Longer term	National Connectivity	Initiative identification and options development	109
Melbourne–Adelaide–Perth rail upgrade	Freight connectivity Melbourne–Perth	Longer term	National Connectivity	Initiative identification and options development	110
Tasmania					
Derwent River crossing capacity	Derwent River crossing capacity	Medium term	National Connectivity	Business case development	111
Burnie to Hobart freight corridor strategy	Tasmania freight network planning	Medium term	National Connectivity	Business case development	112
Tasmanian sewerage infrastructure upgrades	Tasmanian waste water treatment environmental compliance	Near term	Waste water treatment	Initiative identification and options development	113
Second Bass Strait interconnector	Supply security in the national electricity markets	Longer term	Efficient Markets	Initiative identification and options development	114
Australian Capital Territory					
Canberra CBD to north corridor	Canberra CBD to north transport corridor congestion	Medium term	Urban Congestion	Initiative identification and options development	115
Canberra public transport improvements	Canberra public transport capacity	Medium term	Urban Congestion	Initiative identification and options development	116

Priority Initiatives

Proposed initiative	Problem description	Timescale	Problem category	Next steps	Page
Northern Territory					
Provision of enabling infrastructure and essential services to remote NT communities Wadeye, Tiwi Islands, Jabiru	Infrastructure services for remote NT communities	Near term	Remote infrastructure	Business case development	117
Upgrade Tanami Road	Constrained access to the Tanami region	Near term	Remote infrastructure	Business case development	118
Darwin region water supply infrastructure upgrades	Darwin water supply security	Medium term	Water Security	Initiative identification and options development	119

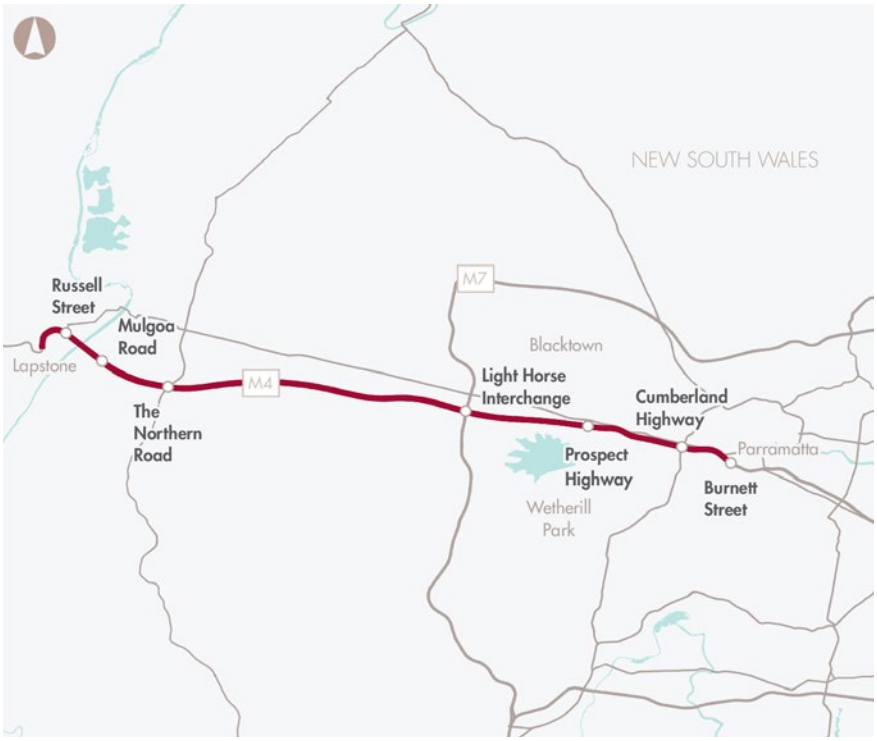
High Priority Projects

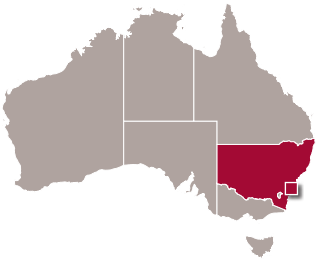
SUMMARIES

Sydney Metro, New South Wales

M4 Motorway upgrade

Parramatta to Lapstone





LOCATION
Western Sydney, NSW

INDICATIVE DELIVERY TIMEFRAME
Near term (0–5 years)

PROPONENT
NSW Government

Problem

Demand on the M4 Motorway in Sydney routinely exceeds capacity during peak periods, resulting in congestion and travel delays. Transport modelling undertaken for the Australian Infrastructure Audit 2015 noted that the corridor had a volume to capacity ratio of 1.1 in 2011 for both morning and afternoon peaks.

Greater Western Sydney currently accounts for almost 10% of Australia's population, and the M4 provides the area with an important east–west connection. The population of the main M4 catchment area is expected to grow by 44.5%, or around 490,000 people, between 2011 and 2031. Nearby developments such as the Western Sydney Airport at Badgerys Creek, and the Western Sydney Employment Area, are also likely to add to demand on the corridor. Without action, the impact of the current capacity constraint will increase over time.

Project description

The project encompasses a range of measures aimed at making better use of the existing M4 infrastructure, and increasing capacity, along a 35 km section of the M4 between Mays Hill near Parramatta, and Lapstone at the base of the Blue Mountains.

The 'better use' components include:

- the introduction of Intelligent Transport System measures, including ramp signals, vehicle detection devices, and electronic signage
- upgrades to entry and exit ramps
- new freight bypass lanes at three entry ramps, westbound at the M7 and the Prospect Highway, and eastbound at Roper Road, Colyton
- a new communications and power 'backbone' along the motorway.

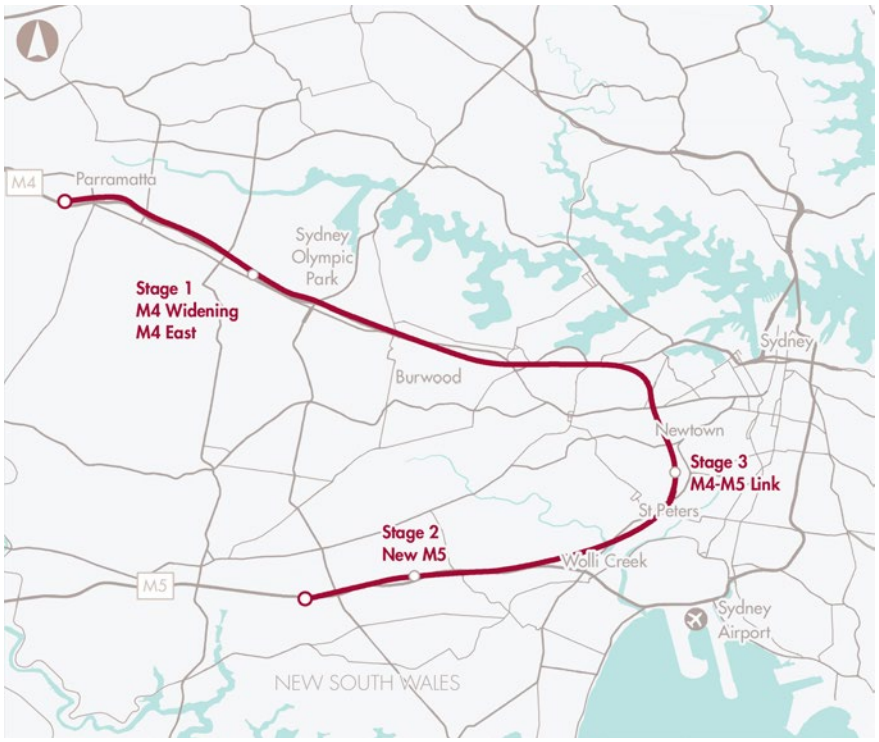
The project also includes the construction of an additional lane in each direction in the median along a 4.3 km section of the motorway between the Roper Road and Westlink M7 interchanges.

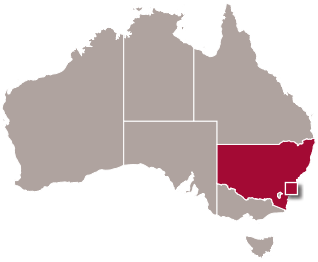
Economic, social and environmental value

Economic benefits of the project include shorter travel times, improved travel time reliability and safety, and increased journey opportunities, all of which will boost productivity. Other benefits include reduced vehicle emissions, and enhanced travellers' journey decision making by providing real-time information on road conditions. The proponent's stated benefit-cost ratio is 5.3 (7% real discount rate), not including wider economic benefits.

Capital cost of initiative stated by proponent (2015 business case) $853 million (P90, nominal, undiscounted) | **Australian Government contribution** $60 million through the Asset Recycling Initiative | **State government contribution** $400 million

WestConnex





LOCATION
Sydney, NSW

INDICATIVE DELIVERY TIMEFRAME
Near term (0–5 years)

PROPONENT
NSW Government

Problem

The Australian Infrastructure Audit 2015 projected that, in the absence of interventions to address the problem, the cost of congestion in the Sydney/Newcastle/Wollongong area would more than double from $5.6 billion in 2011 to $14.8 billion in 2031. The Audit noted that a number of corridors in Sydney's inner west, including the M5, M4 and key arterials such as King Georges Road and Parramatta Road, are severely congested now, and will become more congested in the future in the absence of additional capacity.

Project description

WestConnex is a program of interconnected road projects that involves:

- Stage 1: Widening the existing M4 Motorway and extending the motorway from Strathfield towards Sydney's inner west (13.8 km, including a 5.5 km tunnel)
- Stage 2: Widening the M5 (surface section east of Kings Georges Road) and duplicating the tunnels to St Peters (11 km, including a 9 km tunnel)
- Stage 3: Linking the two motorways with a new tunnel under the inner west suburbs of Sydney (9.2 km tunnel)
- 'Sydney Gateway': road improvements between an interchange at St Peters and the Airport precinct, which would also provide some improvement in access to Port Botany.

WestConnex was the major priority project put forward in Infrastructure NSW's 2012 State Infrastructure Strategy, and was subsequently identified in the NSW Government's Long Term Transport Master Plan as an immediate priority in a longer-term vision to complete the critical links in Sydney's motorway network.

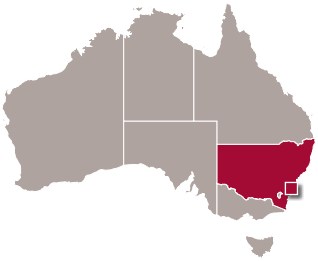
Economic, social and environmental value

The primary benefits of the project are travel time savings and vehicle operating cost savings, constituting a combined 86% of benefits. However, other benefits include reduced vehicle emissions and improved community wellbeing. The proponent's stated benefit-cost ratio for the project is 1.7 (7% real discount rate), not including wider economic benefits.

Capital cost of initiative stated by proponent (2015 business case) $16.8 billion (P50, nominal, undiscounted) | **Australian Government contribution** $1.5 billion grant; $2 billion loan for Stage 2 | **State government contribution** Commercial-in-Confidence | **Private sector contribution** Commercial-in-Confidence

Sydney Metro: City and Southwest

High frequency rail connection between Chatswood and Bankstown via Sydney CBD



LOCATION
Northern, central and south-western Sydney, NSW

INDICATIVE DELIVERY TIMEFRAME
Medium term (5–10 years)

PROPONENT
NSW Government

Problem addressed

The rail network servicing Sydney's CBD is currently near capacity at peak periods, and some key routes are expected to reach capacity in the early 2020s. By 2036, demand is expected to exceed network capacity, causing material impacts on service accessibility, dwell times, and crowding on stations and trains. This will affect the overall reliability of the rail network, particularly where it provides access to the CBD. The cost of these transport network constraints has been estimated at $2 billion in lost economic benefits per year over the next 30 years. A significant increase in transport capacity in key parts of the network, especially servicing the CBD and the corridor extending from the Airport through the CBD and north to Macquarie Park, will assist in realising employment growth and increased productivity.

Project description

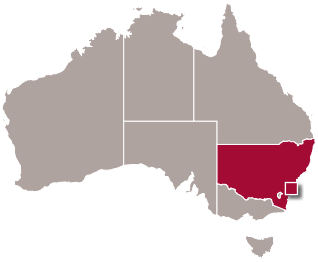
Sydney Metro City & Southwest is the second stage of the broader Sydney Metro project. It will deliver 30.5 km of metro rail between Chatswood and Bankstown. The project has two components: a 17.1 km section from Chatswood to Sydenham that is primarily tunnelled; and a 13.4 km section from Sydenham to Bankstown, involving conversion of the existing Bankstown rail line to metro operations. The project includes new underground metro stations at Crows Nest, Victoria Cross, Barangaroo, Martin Place, Pitt Street, Central and Waterloo. The project will increase rail capacity through the Sydney CBD, improve capacity and reliability on the rest of the rail network, and enhance resilience of the wider transport network by delivering a second harbour rail crossing.

Economic, social and environmental value

The project's major benefits will be for public transport users through travel time savings and reliability improvements. The proponent's stated benefit-cost ratio for conventional benefits is 1.3 (7% real discount rate).

Capital cost of initiative stated by proponent Commercial-in-Confidence | **Australian Government contribution** $1.7 billion through the Asset Recycling Initiative | **State government contribution** Commercial-in-Confidence | **Private sector contribution** To be determined

Western Sydney Airport



LOCATION
Western Sydney, NSW

INDICATIVE DELIVERY TIMEFRAME
Medium term (5–10 years)

PROPONENT
Australian Government

Problem

Sydney is Australia's primary aviation gateway, accounting for around 40% of international services, 43% of domestic services, and 45% of international air freight. Demand for airport services in the Sydney Basin is forecast to grow beyond the capacity of Sydney's Kingsford Smith Airport by the 2030s. Airports are critical economic assets, and constraints on Sydney's airport capacity would increase the cost of accessing Sydney, with a significant negative impact on Australia's economy and national productivity.

The Australian Infrastructure Audit 2015 identified the need for additional airport capacity in the Sydney Basin, and the February 2016 Infrastructure Priority List included development of a Western Sydney Airport as a High Priority Initiative.

Project description

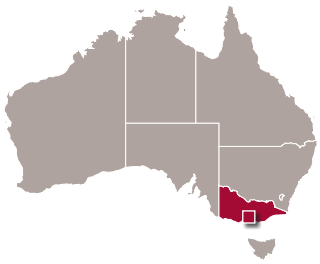
The project includes initial construction of a 3,700 m runway with a parallel taxiway, and associated aviation terminal infrastructure and support precincts. Subsequent stages of development would ensure the airport could meet longer-term passenger demand in the Sydney basin. The final design of Stage 1 and the nature and timing of subsequent developments will be determined by the airport operator, the Western Sydney Airport Corporation, subject to regulatory requirements.

Economic, social and environmental value

Addressing the identified capacity constraint would improve productivity and facilitate broader economic impacts such as increased trade, tourism and foreign direct investment, and wider economic benefits such as agglomeration benefits derived from improved connectivity between businesses (including the clustering of airport businesses). The proponent's stated benefit-cost ratio is 1.9 (7% real discount rate), not including wider economic benefits.

Capital cost of initiative stated by proponent (2016 business case) Approximately $5 billion (Stage 1 only, P50, nominal) | **Australian Government contribution** The Australian Government has committed $5.3 billion in the 2017-18 Budget | **State government contribution** N/A | **Private sector contribution** To be determined

M80 Ring Road upgrade



LOCATION
Melbourne, Vic

INDICATIVE DELIVERY TIMEFRAME
Near term (0–5 years)

PROPONENT
Victorian Government

Problem

The M80 connects major population centres in Melbourne's north and west to the CBD and elsewhere, and facilitates access to Melbourne's port, airports and other major road corridors. Congestion on the M80 is increasing average travel times, imposing significant costs on business. Congestion also produces 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 increase these problems.

The Australian Infrastructure Audit 2015 identified capacity constraints along the corridor as a significant problem, and found that, without additional investment, the annual cost of congestion along the corridor is projected to grow from $86 million in 2011 to $161 million in 2031.

Project description

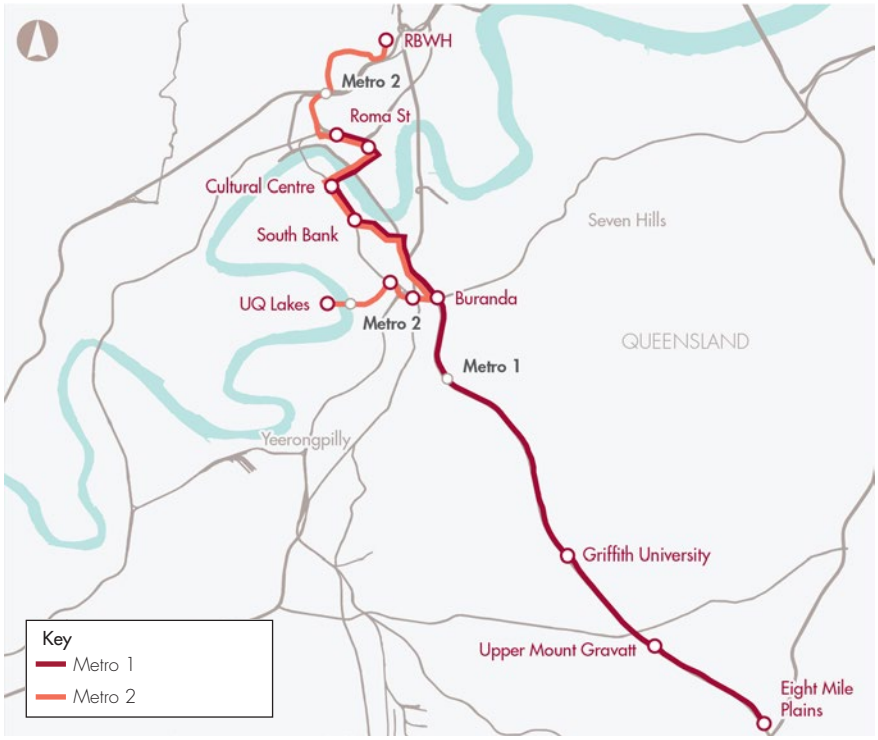
The project proposes to complete three sections of the freeway that have yet to be upgraded. These are (i) Plenty Road to Greensborough Highway (2.4 km); (ii) Princes Freeway to Western Highway (7.9 km); and (iii) Sydney Road to Edgars Road (4 km). The project would widen the existing road to a minimum of three through-lanes in each direction with auxiliary lanes between interchanges where required, and implement Intelligent Transport System infrastructure.

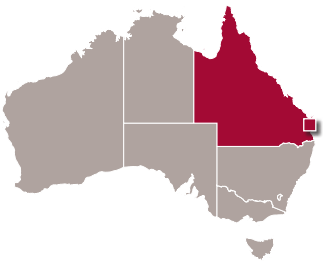
Economic, social and environmental value

The project will deliver significant economic benefits in the form of travel time savings, with associated social and environmental benefits including reduced fuel consumption costs and lower vehicle crash rates. The proponent's stated benefit-cost ratio for the current project is 2.0 (7% real discount rate).

Capital cost of initiative stated by proponent (2015 business case) $686.9 million (P50, nominal, undiscounted) | **Australian Government contribution** $500 million for four stages | **State government contribution** $178.4 million

Brisbane Metro





LOCATION
Brisbane, Qld

TIMESCALE
Near term (0–5 years)

PROPONENT
Brisbane City Council

Problem

Capacity constraints on the inner-city Brisbane bus network are leading to slower and less reliable public transport journeys. Demand for public transport is increasing, driven by employment growth centred on the inner city, while most population growth is occurring in middle-ring and outer suburbs. In 2016, an average of 368,000 passengers boarded buses each day in Brisbane. This is projected to grow to 581,000 passengers each day by 2031, a 58% increase.

The existing busway network includes 25 km of dedicated bus corridor, but buses are delayed at key intersections where they compete with other traffic. This is leading to long bus queues, and poor reliability. Bus stations are also congested, with platform capacity limits and inefficient customer boarding practices.

In the absence of additional public transport capacity, further strong growth in commuter trips into Brisbane from the fast-growing areas of South East Queensland will exacerbate congestion issues, resulting in nationally significant productivity losses.

Project description

Brisbane Metro proposes a set of infrastructure and non-infrastructure changes to bus services in inner Brisbane. These comprise removing key infrastructure bottlenecks on the South East busway, including constructing a new underground station and a tunnel, using longer, higher capacity Metro vehicles with faster and easier boarding and alighting, and revised service patterns to increase frequency and truncate lower use services.

The project would complement Cross River Rail by providing for interchange between the bus and rail networks south of the CBD, and at Roma Street.

Economic, social and environmental value

The project will deliver significant economic benefits in the form of travel time savings, decongestion benefits, and associated social and environmental benefits such as lower air pollution and greenhouse gas emissions through a mode shift from private to public transport. The stated net benefit to Australia is estimated by the proponent at $1.2 billion (net present value at 7% real discount rate), with a benefit-cost ratio of 2.4.

Capital cost of initiative stated by proponent (2017 business case) $944 million (P90, nominal, undiscounted) |
Australian Government contribution To be determined | **State government contribution** To be determined | **Private sector contribution** N/A

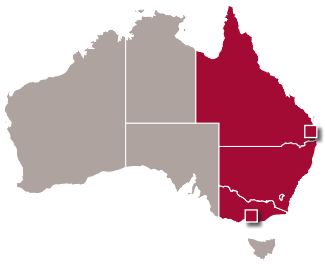
Priority Projects

SUMMARIES

Hobart Science and Technology Precinct, Tasmania

Inland Rail

Melbourne to Brisbane via inland NSW



LOCATION
Melbourne to Brisbane via inland NSW

INDICATIVE DELIVERY TIMEFRAME
Longer term (10–15 years)

PROPONENT
Australian Government

Problem

Demand for freight transport in the Melbourne to Brisbane corridor is expected to grow substantially over coming decades, from approximately 4.9 million tonnes in 2016 to around 13 million tonnes, or 1.1 million containers (Twenty-Foot Equivalent Units), by 2050. This increased demand will require additional freight capacity in the corridor.

The current rail connection between Melbourne and Brisbane, via Sydney, cannot offer the transit times and reliability required by industry. This is largely a function of poor rail alignments and capacity constraints, particularly on the section between Sydney and Brisbane, and delays on freight transiting the Sydney metropolitan area. The current road connection between Melbourne and Brisbane via inland NSW offers faster transit times than rail via Sydney. However, much of the road is two-lane single carriageway, with limited passing lanes. Without additional capacity, transit times on this corridor will increase as freight volumes rise.

Project description

The project involves constructing a freight rail line of approximately 1,700 km between Melbourne and Brisbane via inland Victoria, New South Wales and Queensland. Around 40% of the proposed route would be constructed as new railway, or converted from narrow gauge to dual gauge in Queensland, maintaining the existing narrow gauge connections between Brisbane and regional centres. The remainder of the route would utilise and, where necessary, upgrade existing standard gauge track in Victoria and New South Wales.

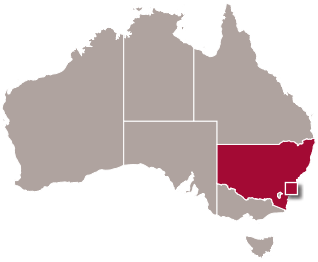
Trains operating the service would have capacity to carry up to 485 containers (TEU) when capacity for longer, double-stacked trains is introduced over time.

Economic, social and environmental value

Key benefits of the proposed project include improved productivity, improved network efficiency and reliability, shorter transit times, safety improvements, sustainability benefits, and reduced lifecycle costs. The proponent's stated benefit-cost ratio is 1.1 (7% real discount rate).

Capital cost of initiative stated by proponent (2016 business case) $9.89 billion (P50, nominal, undiscounted) | **Australian Government contribution:** $9.3 billion (including pre-construction and corridor acquisition costs of $893.7 million) | **State government contribution** To be determined | **Private sector contribution** To be determined

The Northern Road upgrade



LOCATION
Western Sydney, NSW

INDICATIVE DELIVERY TIMEFRAME
Near term (0–5 years)

PROPONENT
NSW Government

Problem addressed

Growth in south-west Sydney is being driven by employment growth associated with the Western Sydney Priority Growth Area, and population growth associated with the South West Priority Land Release Areas. Development of the Western Sydney Airport at Badgerys Creek is expected to accelerate this growth. While current levels of service on the road are adequate, significant growth over the next 20 years will lead to higher levels of congestion, poor accessibility and adverse safety conditions for users, particularly during peak periods. The future operation of the Western Sydney Airport will exacerbate these issues.

Project description

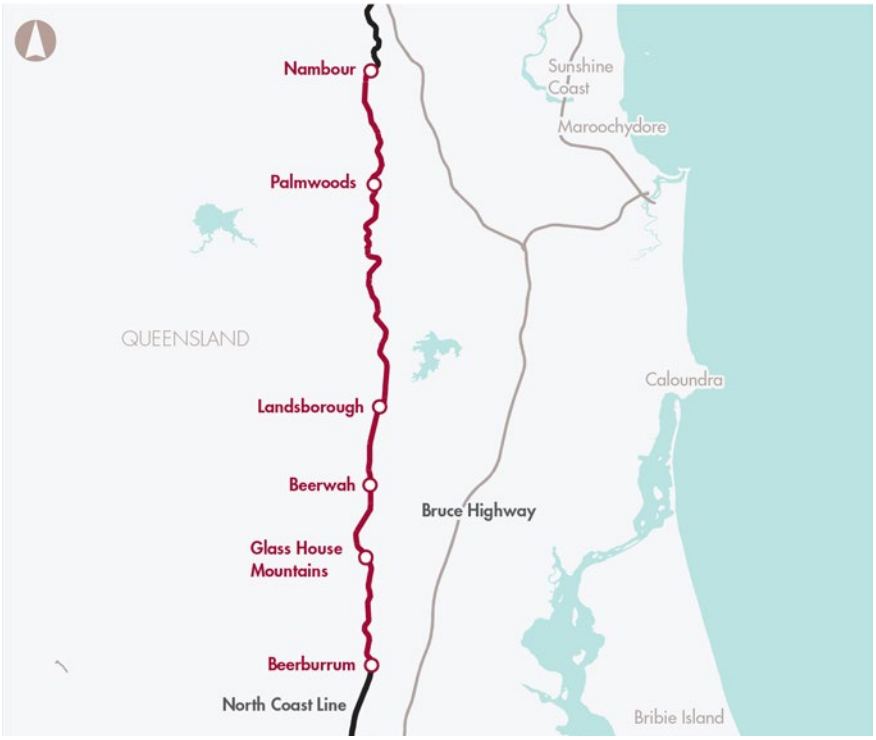
The Northern Road project involves staged upgrades to 35 km of road, with construction expected to be completed by 2020. The project will increase capacity and improve journey times with additional lanes and intersection improvements, as well as dedicated north–south bus lanes and other bus priority measures. The project also provides for cyclists and pedestrians. The Northern Road will also play an important role in providing access to the site of the Western Sydney Airport at Badgerys Creek during the construction period. This project is part of the broader Western Sydney Infrastructure Plan, which is listed on the Infrastructure Priority List as a Priority Initiative.

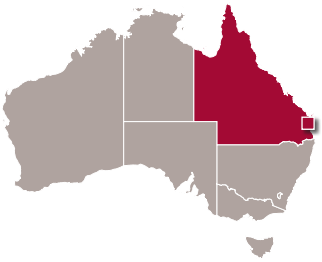
Economic, social and environmental value

The major source of benefit for the project is travel time savings, followed by safety benefits, vehicle operating cost savings and journey time reliability improvements. The proponent's stated benefit-cost ratio is 1.3 (7% real discount rate).

Capital cost of initiative stated by proponent (2016 business case) $1.63 billion (P50, nominal, undiscounted); $1.75 billion (P90, nominal, undiscounted)
Australian Government contribution $1.2 billion | **State government contribution** Balance of project costs | **Private sector contribution** N/A

Beerburrum to Nambour Rail Upgrade





LOCATION
Sunshine Coast to Brisbane, Qld

INDICATIVE DELIVERY TIMEFRAME
Near term (0–5 years)

PROPONENT
Queensland Government

Problem

Capacity issues on the North Coast Line between Beerburrum and Nambour were identified as a priority in the Queensland Government's Moving Freight strategy, and the Northern Australia Infrastructure Audit. As Queensland's major north–south rail corridor, the line facilitates freight and passenger movements between Queensland's coastal population centres from Brisbane to Cairns. This section of the line also has an important role in carrying commuter traffic and will be a key enabler of future public transport developments within the Sunshine Coast.

The Northern Australia Infrastructure Audit indicates that northern Queensland's population is expected to grow by 1.9% on average per year to 2031, driving an expansion of the freight task along the north–south corridor.

Further to the south, the Sunshine Coast's population is expected to grow by two-thirds between 2016 and 2041, according to the South East Queensland Regional Plan 2017. Modelling undertaken suggests that passenger demand on this route could grow by between 3% and 9% per annum until 2036.

The existing rail line will not provide enough capacity to meet future levels of passenger and freight demand. The route's configuration as a single track with limited passing loops constrains capacity on the line. Without rail network enhancements, increased commuter movements between the Sunshine Coast and Brisbane are likely to significantly increase traffic on the constrained Bruce Highway.

Project description

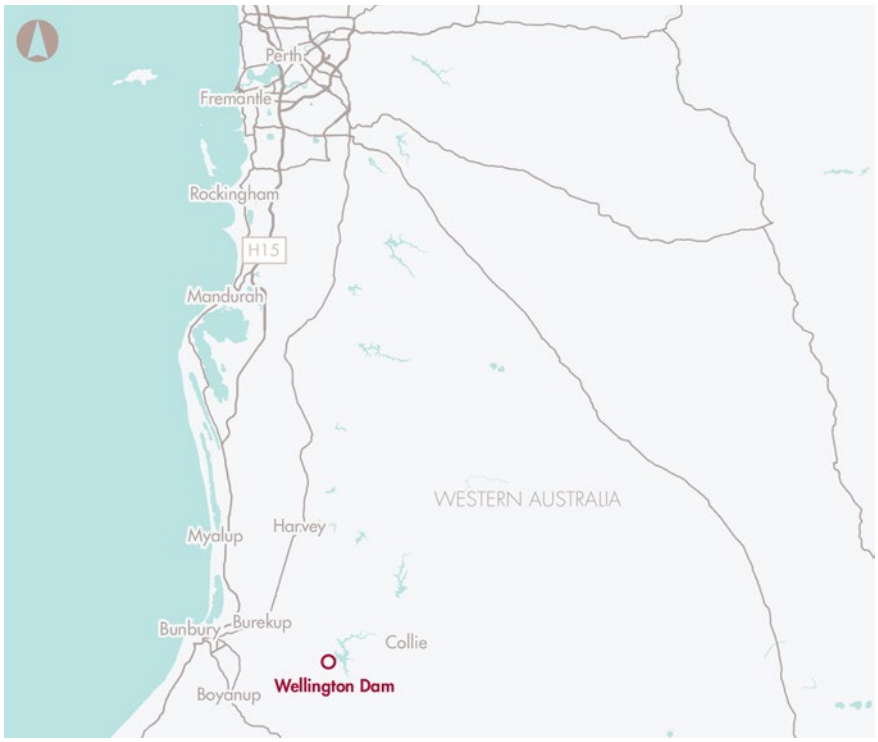
The proposed project is located on the North Coast Line between Beerburrum and Nambour stations. This project involves duplicating the 20 km section from Beerburrum to Landsborough, extending existing passing loops between Landsborough and Nambour, route realignments, level crossing removals, station improvements, and supporting works. The proposed improvements will improve the efficiency of both passenger and freight services, and take pressure off the Bruce Highway.

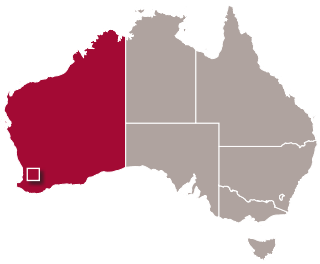
Economic, social and environmental value

The project will deliver significant economic benefits in the form of travel time savings, with associated social and environmental benefits including reduced air and noise pollution and lower vehicle crash rates. The net benefit to Australia is estimated by the proponent at $262 million (net present value), with a stated benefit-cost ratio of 1.5 using a 7% real discount rate and P50 cost estimate.

Capital cost of initiative stated by proponent $722.4 million (nominal, undiscounted) | **Australian Government contribution** To be determined | **State government contribution** To be determined | **Private sector contribution** N/A

Myalup–Wellington Water Project





LOCATION
South-west WA

INDICATIVE DELIVERY TIMEFRAME
Near term (0–5 years)

PROPONENT
Western Australian Government

Problem

The Myalup–Wellington Water Project is a response to increased salinity in the Wellington Dam catchment and in the dam itself, and inefficiency in the water distribution network below the dam. Increased salinity and reduced reliability of groundwater has resulted in a reduction of high yield fruit and vegetable agricultural activity in the Myalup Irrigated Agricultural Precinct (MIAP), and a progressive abandonment of agricultural activity in the Collie River Irrigation District, as growers return water entitlements.

The MIAP is a key part of Western Australia's agriculture industry, responsible for over 60% of the south-west's horticultural production. It is considered integral to domestic supply, and potential increased Australian exports. Growers have expressed concerns about high salinity levels on their properties, and difficulty in achieving crop germination. They are also experiencing a shortage of water supply which limits capacity for increased productivity, and expansion. The impacts of salinity and/or reduction in water allocations restrict production in the region and constrain potential export growth opportunities.

Project description

The proposed project is located in the south-west of Western Australia, approximately 200 km south of Perth, east of Bunbury. The project is made up of a number of integrated above – and below – dam components, targeted at reducing salinity in Wellington Dam and the surrounding area, and increasing the efficiency of water distribution infrastructure.

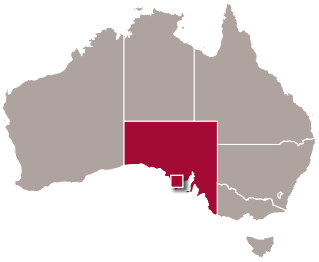
Economic, social and environmental value

Economic benefits include those for irrigators and water producers. Irrigators would benefit through increased production value due to an increase in the number of hectares farmed and a shift to more valuable products. The producer, Collie Water, would benefit from the sale of potable water to Water Corporation. The proponent's stated benefit-cost ratio is 1.6 (7% real discount rate).

Capital cost of initiative stated by proponent (2017 Business Case) $394.1 million (nominal, undiscounted) | **Australian Government contribution** To be determined | **State government contribution** To be determined | **Private sector contribution** To be determined

Eyre Infrastructure Project

Iron Road



LOCATION
Eyre Peninsula, SA

INDICATIVE DELIVERY TIMEFRAME
Near term (0–5 years)

PROPONENT
Iron Road Limited

Opportunity

Iron Road Limited, a publicly listed company, is proposing to develop an iron ore mine in South Australia's Central Eyre Peninsula. When operating at full capacity, the mine is expected to produce 24 million tonnes per annum of 67% iron concentrate ore. The project would facilitate the transport of the ore from the mine to the coast, and its export through a deep water port facility at Cape Hardy.

Project description

The company is proposing to develop a deep water port at Cape Hardy, and a 148 km heavy-haul, standard gauge rail connection between the mine and the port. The proposed infrastructure would be available for other users ('open access'), including grain exporters and other miners in the region, and the new rail line could potentially be connected to the National Rail Network.

Development of the rail and port infrastructure is subject to the mine development proceeding. The project is supported by the South Australian Government.

Economic, social and environmental value

Without the port and rail infrastructure, the economic activity associated with the mine, and the royalties and tax receipts expected to be derived from it, would not be realised.

The public net benefit to Australia is estimated by the proponent at $3.8 billion (net present value at 7% real discount rate). Iron Road Limited's stated benefit-cost ratio for the project is 1.3, from an Australian economy perspective.

Capital cost of initiative stated by proponent (2015 business case) $6 billion (real, undiscounted) | **Private sector contribution** $6 billion

Hobart Science and Technology Precinct

LOCATION
Hobart, Tasmania

INDICATIVE DELIVERY TIMEFRAME
Near term (0–5 years)

PROPONENT
University of Tasmania

Problem addressed

Tasmania faces a number of economic challenges. The state's rate of economic growth is significantly below the Australian average. Unemployment is relatively high, productivity is relatively low, as are rates of education attainment and population growth.

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.

The University of Tasmania's existing science, technology, engineering and mathematics facilities at the Sandy Bay campus are fragmented, and nearing the end of their usable life. The facilities struggle to attract Tasmanian students, and have very limited appeal to interstate and international students. The facilities lack the modern technical infrastructure that characterises a high-end research environment.

Project description

The project would relocate the University of Tasmania's Faculty of Science, Engineering and Technology from the existing campus at Sandy Bay to a purpose-built facility for education, research and training in the Hobart CBD. The proposed 45,050 m^2 facility would initially accommodate 3,000 students and 700 staff. The University anticipates that the project would result in a 60% increase in undergraduate student demand, and enable improved research outcomes. The project would be supported by ongoing university and government programs and policies to increase higher education participation in Tasmania. The development would also contribute to the urban regeneration of Hobart's CBD.

The project is supported by the Tasmanian Government.

Economic, social and environmental value

The primary benefit of the project is derived from attracting new students to tertiary education. Other benefits include improved accessibility and amenity for existing students and research benefits, and development of the Hobart CBD. The proponent's stated benefit-cost ratio is 1.95 (7% real discount rate).

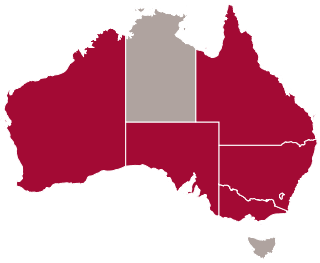
Capital cost of initiative stated by proponent (2016 business case) $400 million (single point cost estimate, nominal, undiscounted)) | **Australian Government contribution** To be determined | **State Government contribution** To be determined | **Private sector contribution** To be determined

High Priority Initiatives

SUMMARIES

Perth, Western Australia

Network Optimisation Program – Rail



LOCATION
National

TIMESCALE
Near term (0–5 years)

PROPONENT
Infrastructure Australia identified initiative

Problem

The Australian Infrastructure Audit 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 this problem through a program approach would enable the consistent use of data to maximise the productivity of smaller investments and enable a consistent definition of service levels across jurisdictions.

Proposed initiative

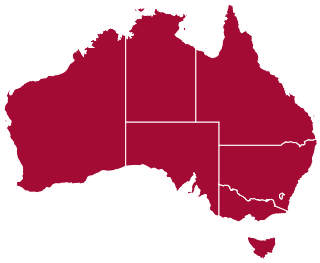
As with the Network Optimisation Program – Roads initiative, this initiative would involve a program of works focused on addressing capacity constraints and improving service levels on urban and regional rail networks. These works could use data and technology to improve network operations including signalling, timetabling, level crossing upgrades, sectorisation of freight and passenger corridors, and segregation of express and local passenger services, where appropriate.

The initiative would identify and prioritise a program of works nationally to help maximise the existing productive capacity of the rail network and could delay the need for some large-scale investments.

Next steps

Proponent to be identified.

Network Optimisation Program – Roads



LOCATION
National

TIMESCALE
Near term (0–5 years)

PROPONENT
Infrastructure Australia identified initiative

Problem

The Australian Infrastructure Audit 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

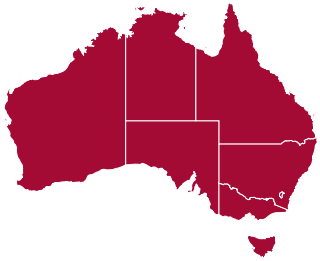
A future Network Optimisation Program for roads would focus on addressing congestion on urban road networks with comparatively high public transport and freight use. These works could use data and technology to improve network operations by, for example, optimising traffic flow through intersection treatments, traffic light sequencing, clearways and incident management.

The initiative would build on existing work being undertaken in this field to identify and prioritise a program of works nationally to help maximise the existing productive capacity of the road network, with a focus on urban motorways, major urban arterials, and access to central business districts. These works could delay the need for some large scale investments.

Next steps

Proponent to be identified.

National Freight and Supply Chain Strategy



LOCATION
National

TIMESCALE
Near term (0–5 years)

PROPONENT
Infrastructure Australia identified initiative

Problem

The Australian Infrastructure Audit 2015 found that population and economic growth will increase demand for freight transport, with the national land freight task expected to increase by 86% over the 15 years to 2031.

While there has been significant work undertaken on national strategies for land transport and ports in the past, this work needs to be further progressed, 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

A National Freight and Supply Chain Strategy would provide the appropriate framework to support end-to-end planning of key freight and supply chains, to:

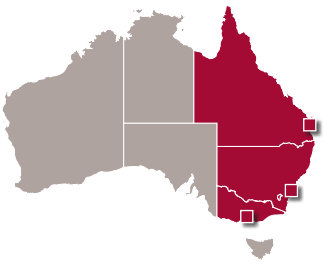
- guide future investment
- support better use of existing infrastructure assets
- enable a program of regulatory reforms and capital initiatives to be developed.

In 2017, the Australian Government led an inquiry into National Freight and Supply Chain Priorities. The Inquiry will inform the development of a National Freight and Supply Strategy that will determine the best options to lift the productivity and efficiency of Australia's freight supply chain.

Next steps

The Australian Government is currently developing a strategy.

Preserve corridor for East Coast High Speed Rail



LOCATION
Melbourne to Brisbane via Sydney

TIMESCALE
Near term (0–5 years)

PROPONENT
Infrastructure Australia identified initiative

Problem

By 2075, the combined 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.

Modelling by Infrastructure Australia in 2017 estimates the net cost of protecting and acquiring the corridor as $2.8 billion ($2016) using a 7% real discount rate.

Proposed initiative

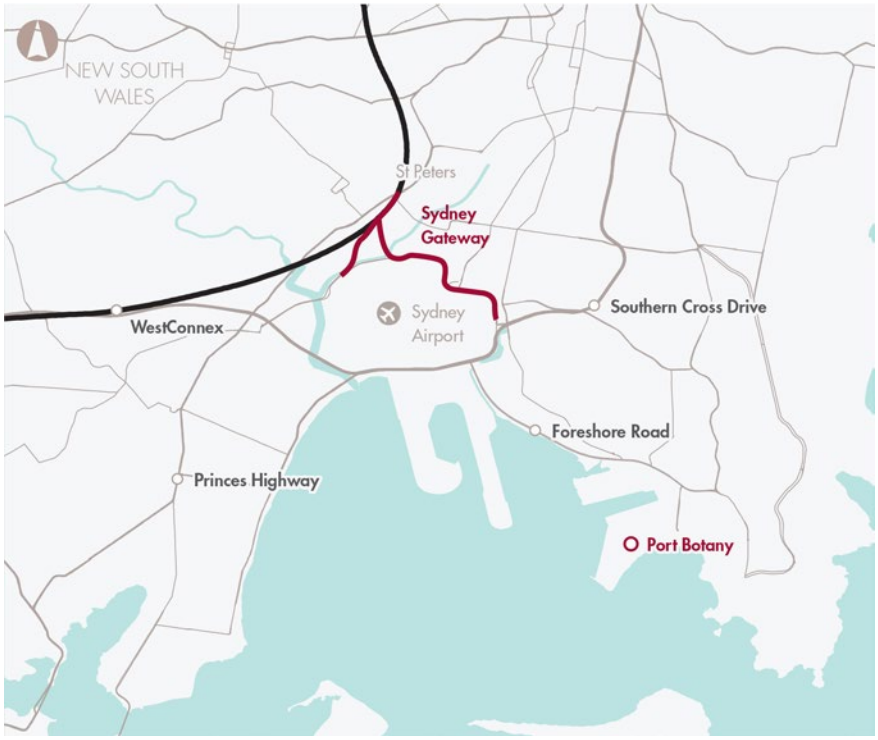
Confirm and begin the preservation of a corridor, based on the corridor set out in the Australian Government's High Speed Rail Study Phase 2, for a high speed rail link between Melbourne, Sydney and Brisbane.

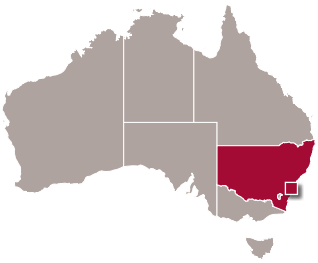
Next steps

Proponent to be identified.

Sydney Gateway

Connection between WestConnex at St Peters and Sydney Airport/Port Botany





LOCATION
Sydney, NSW

TIMESCALE
Near term (0–5 years)

PROPONENT
NSW Government

Problem

Road congestion on the arterial road network in and around Port Botany and Sydney Airport is growing as port and airport throughput increases, causing 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% 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 2 million Twenty Foot Equivalent Units (TEU) per annum at Port Botany is projected to increase to 7 million TEU by 2031, an annual growth rate of approximately 7%
- high growth rates for passenger air travel, estimated by Sydney Airport at 4.2% per year and 2.9% per year for international and domestic travel respectively.

Increasing rail's share of both passenger and freight traffic through the precinct will reduce potential demand on the road network over coming years; however, the road network will still need substantial expansion to cater for traffic to and from locations that are only effectively serviced by road.

Proposed initiative

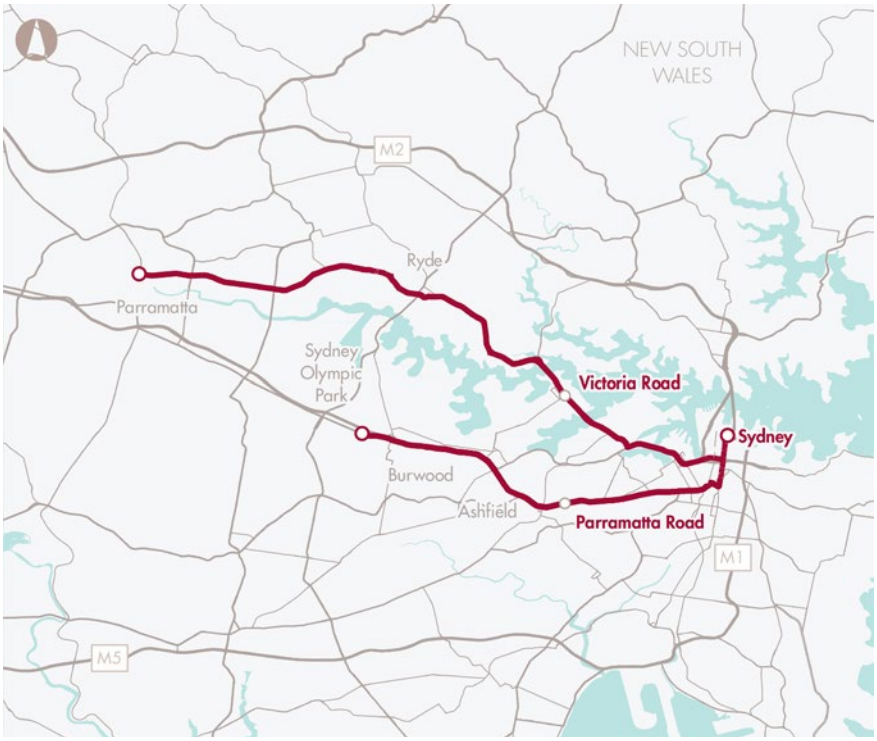
The initiative aims to provide a high capacity road connection between the WestConnex St Peters interchange and Sydney Airport and Port Botany. This will provide substantial additional capacity in and out of the Sydney Airport and Port Botany precinct, allowing airport and port traffic to avoid local arterial roads when accessing WestConnex and the broader Sydney Motorway network.

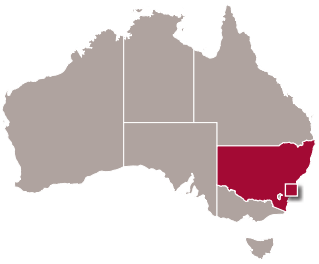
Next steps

Business case development.

Public transport capacity[1]

Parramatta Road and Victoria Road corridors





LOCATION
Sydney, NSW

TIMESCALE
Near term (0–5 years)

PROPONENT
Infrastructure Australia identified initiative

Problem

The Australian Infrastructure Audit 2015 identified that some of Sydney's highest congestion delay costs are along the Burwood to Sydney CBD via Parramatta Road corridor and the Parramatta/Ryde/Sydney CBD via Victoria Road corridor. 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. The need for public transport improvements for both corridors is identified in the NSW Government's Draft Future Transport 2056 Strategy.

The population of Local Government Areas (LGAs) along the Parramatta Road corridor will grow by approximately 116,000 people between 2016 and 2036. For the Victoria Road corridor, the population of LGAs will grow by approximately 68,000 people in the same period.

While both corridors are served by rail, and some sections may in future be served by Sydney Metro West, other parts are only practically served by road. For these sections of the corridors, additional public transport capacity will be required.

Efficient management of the transport network on these two corridors is a priority issue. Inadequate investment in public transport along these corridors will result in greater reliance on and use of private passenger vehicles, in turn leading to further road congestion and delays at the expense of economic efficiency.

Proposed initiative

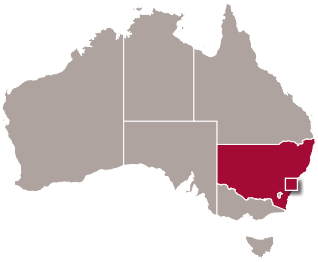
The provision of high-capacity public transport infrastructure is potentially an effective method of improving connectivity along priority corridors and alleviating congestion on Sydney's urban transport network.

Next steps

Proponent to be identified.

1 This broad public transport initiative replaces the previous NSW Government Bus Rapid Transport initiative to reflect the newly constructed B-Line Bus project for the Northern Beaches corridor, and planning underway for Sydney Metro West.

Sydney rail network capacity



LOCATION
Sydney, NSW

TIMESCALE
Near term (0–5 years)

PROPONENT
NSW Government

Problem

Rapid growth in demand for rail transport in the Sydney Basin is leading to crowding and displacement on major parts of the Sydney rail network. Sydney's one-hour peak passenger rail demand was approximately 190,000 in 2017, after growing an average of 3.5% per year from 2006 to 2016. Rail patronage is expected to continue growing by at least 3% per year over the next 10 years.

Current forecasts predict that demand on the North Shore, Inner West & South, Airport and Illawarra lines will exceed capacity by 2021. The Western line is expected to reach capacity by 2031. Without significant additional capacity, crowding during peak periods will substantially impact on the reliability of the key lines by the mid-2020s.

In addition, signalling systems are reaching the end of their effective life, with unsustainable maintenance costs and high risk of asset failures, and passenger and operational disruption. Long travel times due to worsening congestion and reduced reliability will result in nationally significant losses in productivity.

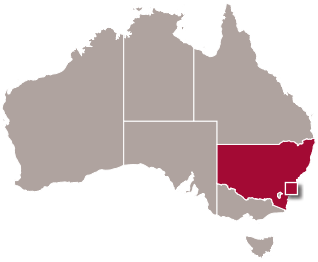
Proposed initiative

Potential solutions to accommodate the strong future growth in rail patronage could include significant investment in new services, advanced signalling, infrastructure upgrades and additional fleet.

Next steps

Initiative identification and options development.

Southern Sydney to CBD public transport enhancement



LOCATION
Sydney Inner City, NSW

TIMESCALE
Medium term (5–10 years)

PROPONENT
City of Sydney[2]

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. The population of the Green Square Precinct is projected to grow from 33,000 in 2016 to 61,000 in 2031. 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 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

A high-capacity rapid transport link, which could be bus or light rail, would provide significant additional capacity between the Sydney CBD and the unserved parts of the area.

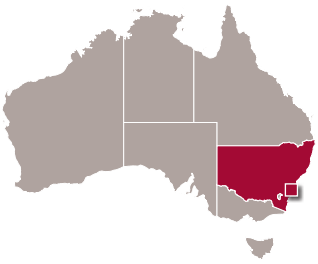
Next steps

Initiative identification and options development.

2 The proponent for this initiative was previously the NSW Government.

Sydney Metro West

Mass transit between Parramatta and Sydney CBD



LOCATION
Sydney to Parramatta, NSW

TIMESCALE
Medium term (5–10 years)

PROPONENT
NSW Government

Problem

Demand for transport service in the corridor between Sydney CBD and Parramatta is high, and growing. This reflects high levels of employment and population growth in the corridor, and the corridor's role as a conduit for servicing growing transport demand from Western Sydney to the Sydney CBD.

An extra 420,000 people are expected to move into the corridor between Greater Parramatta and central Sydney over the next 20 years, and more than 300,000 jobs are expected to be created in this corridor by 2036.

Future employment and population growth in the corridor will be driven in part by four key precincts: Parramatta, Sydney Olympic Park, The Bays precinct and Sydney CBD.

The Australian Infrastructure Audit 2015 projected that passenger demand on the existing T1 Western Line – which is more than a century old – would increase by about 50% between 2011 and 2031. Currently, the T1 Western Line moves around 40,000 people in the morning peak hour and is operating at 135% of seated capacity.

Proposed initiative

The initiative would provide a direct connection between Parramatta and Sydney CBD, linking communities not previously serviced by rail as well as supporting growth between the two CBDs. Investigations are focused on a corridor between the Parramatta River and existing T1 Western Line, because of the potential to transform communities, create new ones and link them using a new state-of-the-art public transport system.

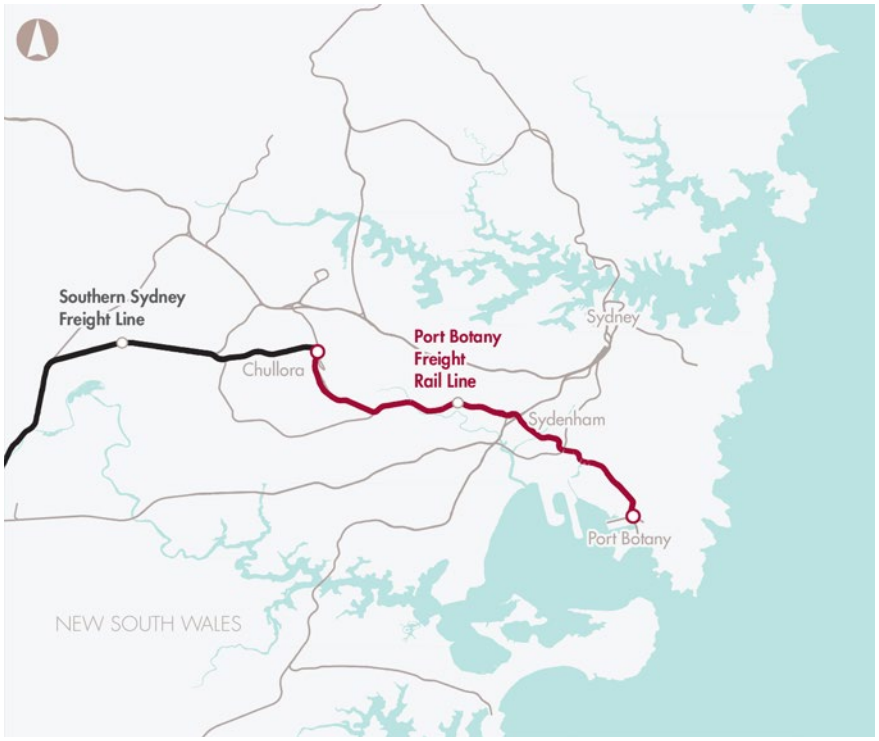
A new metro rail service would be able to move about 40,000 people an hour in each direction, and would work together with the T1 Western Line to service the growing needs of Western Sydney, effectively doubling the rail capacity of the Parramatta to Sydney CBD corridor.

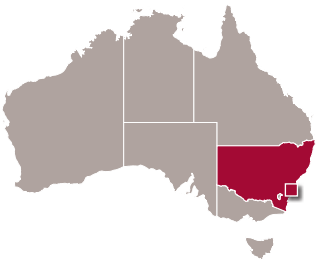
The initiative would be integrated with long-term transport and land use planning for Western Sydney, including rail needs currently being investigated around the future Western Sydney Airport.

Next steps

Business case development.

Port Botany freight rail duplication





LOCATION
Sydney, NSW

TIMESCALE
Near term (0–5 years)

PROPONENT
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 NSW Ports Master Plan (2015) estimated that container movements through the port would grow from 2.3 million twenty-foot equivalent units (TEU) in 2015 to between 7.5 and 8.4 million TEU by 2045.

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, around 19% of Port Botany containerised freight is moved using the rail network. Increasing this mode share will require additional capacity on the Port Botany line and the broader Sydney freight rail network.

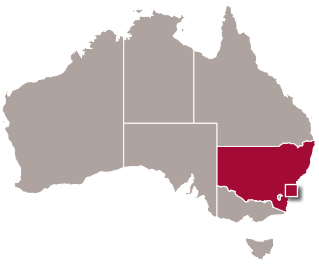
Proposed initiative

The proposed initiative aims to upgrade the capacity of the Port Botany rail line by duplicating 2.8 km of the line. The proposed initiative will form part of a broader strategy designed to drive growth in rail mode share for freight to and from the port.

Next steps

Business case development.

Chullora Junction upgrade



LOCATION
Sydney, NSW

TIMESCALE
Near term (0–5 years)

PROPONENT
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 (such as 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 on 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.

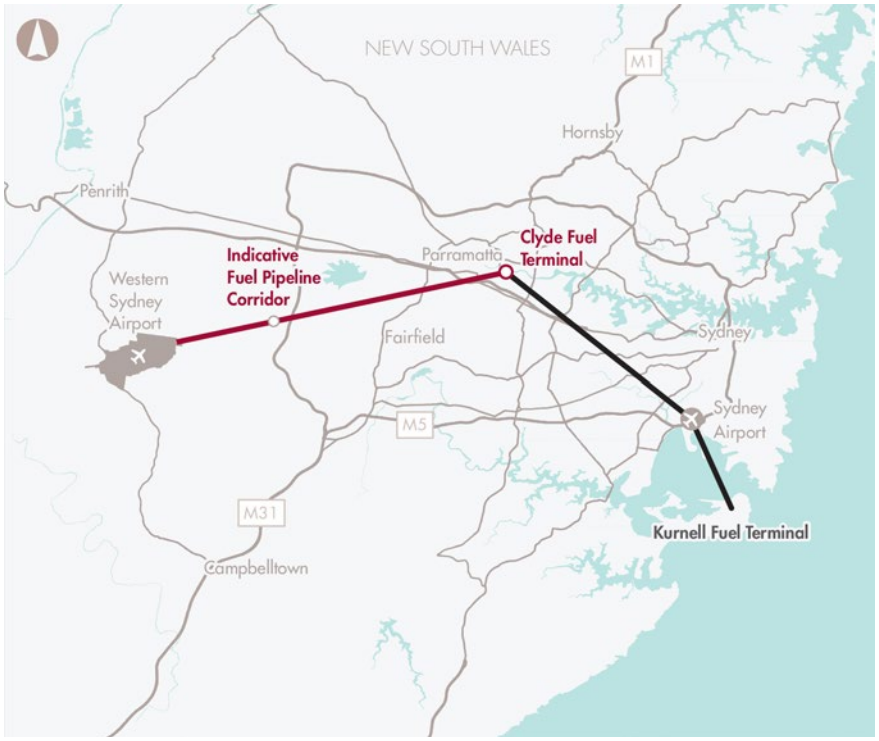
Proposed initiative

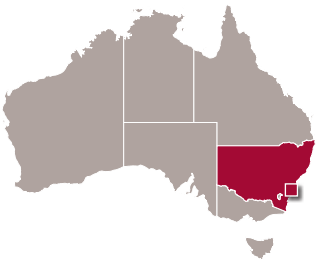
A future upgrade would improve current low speed at grade junctions at Chullora, and include possible duplication of the Chullora North/Chullora West connection and a holding road between Chullora Junction and Flemington Junction. This could form part of a broader strategy to drive growth in rail mode share.

Next steps

Initiative identification and options development.

Preserve corridor for Western Sydney Airport fuel pipeline





LOCATION
Western Sydney, NSW

TIMESCALE
Near term (0–5 years)

PROPONENT
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 airport operations, 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.

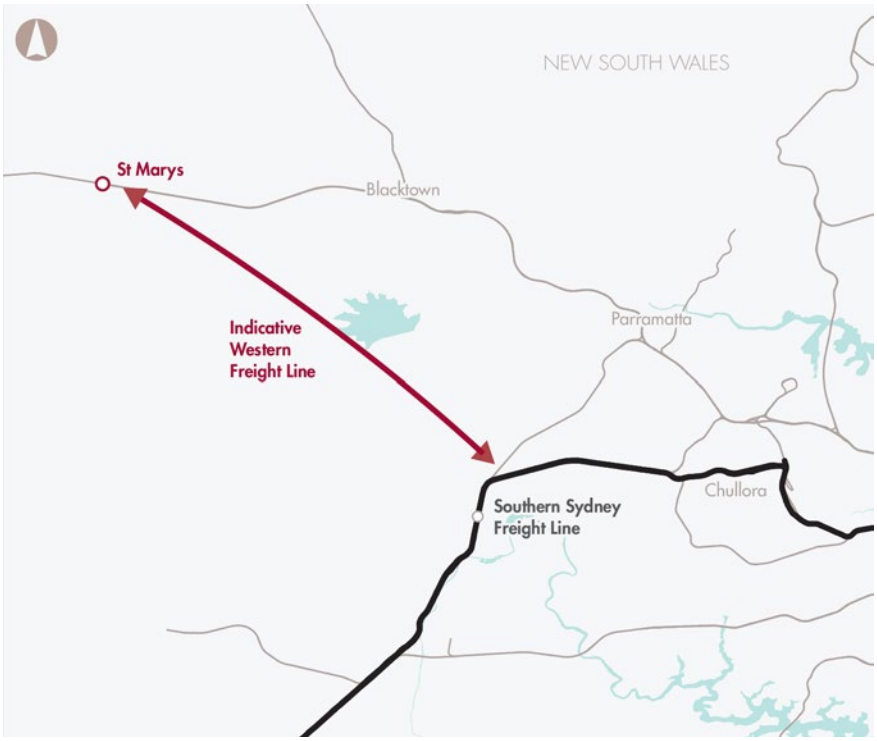
Proposed initiative

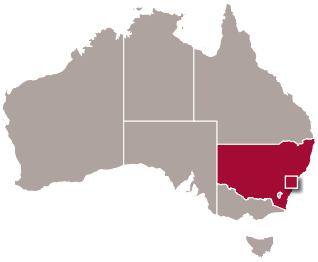
Identify and preserve a corridor for a fuel pipeline connection between the Sydney fuel pipeline network and Western Sydney Airport.

Next steps

The NSW Government is currently undertaking preliminary work to identify route options for a fuel pipeline connection.

Preserve corridor for Western Sydney Freight Line and Intermodal Terminal access





LOCATION
Western Sydney, NSW

TIMESCALE
Near term (0–5 years)

PROPONENT
NSW Government

Problem

The national land freight task is expected to grow by 86% between 2011 and 2031. The Australian Infrastructure Audit 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 19% (in 2016–17) of 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.

Modelling by Infrastructure Australia in 2017 estimates the net cost of protecting and acquiring the Western Sydney freight line corridor and intermodal terminal as $3.6 billion ($2016) using a 7% real discount rate.

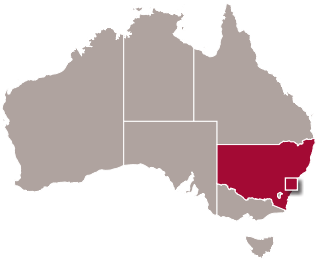
Proposed initiative

The Western Sydney Freight Line is a proposed dedicated rail freight line connecting Western Sydney to the Sydney Metropolitan Freight Network at the Southern Sydney Freight Line, 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

Business case development.

Preserve corridor for Outer Sydney Orbital road and rail/ M9, and Castlereagh Connection



LOCATION
Western Sydney, Illawarra, Central Coast, NSW

TIMESCALE
Near term (0–5 years)

PROPONENT
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 140,000 people are expected to live in the Illawarra and Central Coast, and an additional 1 million people in Western Sydney by 2031. The broader Western Sydney Employment Area is expected to accommodate 378,000 new jobs in the long term.

Traffic modelling undertaken as part of the Australian Infrastructure Audit 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.

Modelling by Infrastructure Australia in 2017 estimates the net cost of protecting and acquiring the corridor between Richmond and east of Picton as $0.3 billion ($2016) using a 7% real discount rate.

Proposed initiative

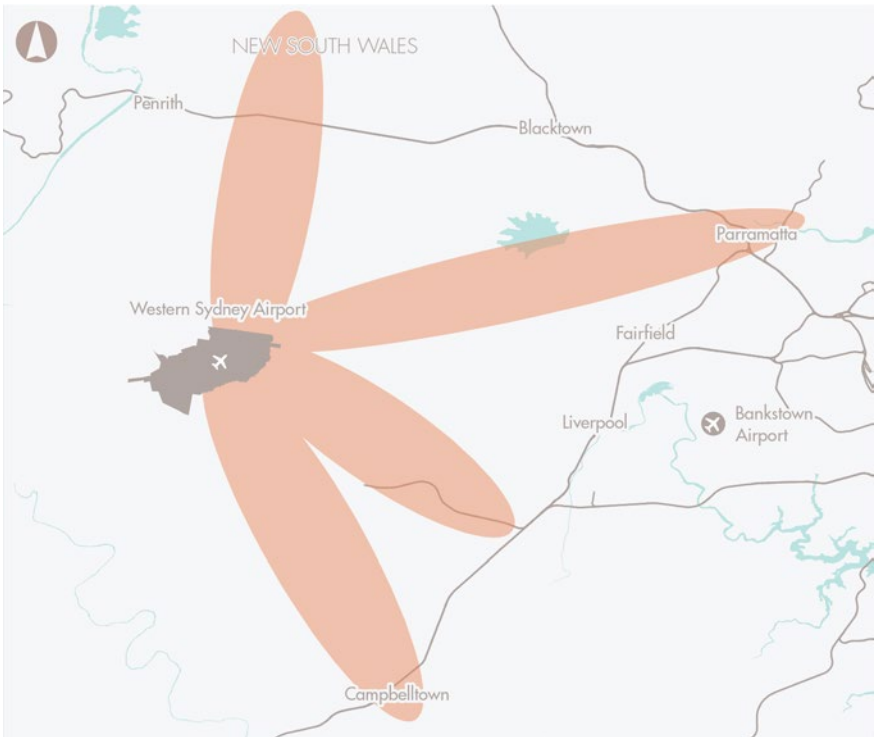
A future initiative would include a planning study to identify and ultimately preserve a preferred alignment for a multi-modal transport corridor comprising a motorway, a north–south freight rail line, and where practical, passenger rail.

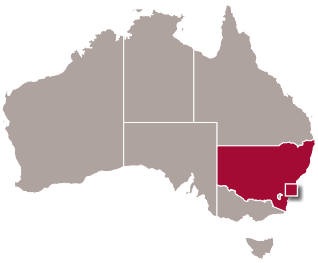
A future initiative could also consider preservation of a corridor between the M7 Motorway, the Outer Sydney Orbital corridor and Bells Line of Road in the vicinity of Kurrajong Heights to improve road connectivity and transport efficiency within Western Sydney and to regional areas west of Sydney.

Next steps

The NSW Government is currently developing options and identifying the initiative.

Preserve corridor for Western Sydney Airport rail connection





LOCATION
Western Sydney, NSW

TIMESCALE
Near term (0–5 years)

PROPONENT
NSW Government

Problem

Over the next two decades, the population of Western Sydney will increase by 900,000 people, with around half of all Sydney Basin residents expected to be living in the region within 25 years. Preliminary analysis indicates that passenger demand at Western Sydney Airport could reach 10 million per year within five years from commencement of operations in the mid 2020s.

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

Modelling by Infrastructure Australia in 2017 estimates the net cost of protecting and acquiring an indicative corridor from St Marys to the Western Sydney Airport, then to Macarthur and Leppington line, as $0.3 billion ($2016) using a 7% real discount rate.

Proposed initiative

Identify and preserve rail corridors connecting the Western Sydney Airport with the Sydney rail network.

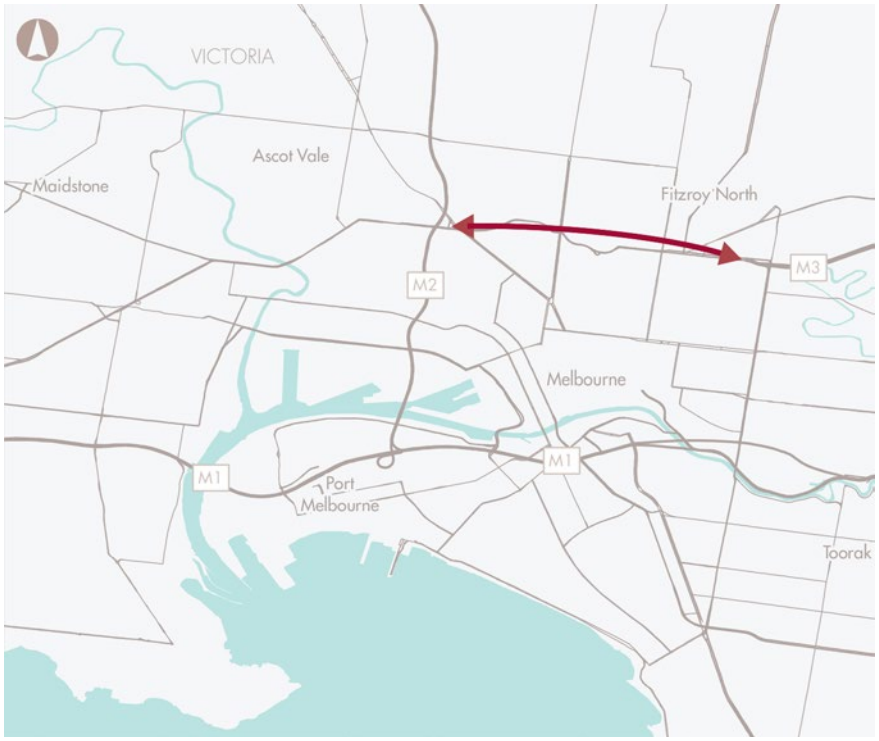
The Australian and New South Wales Governments jointly released a scoping study which considered six options for rail services to the Western Sydney Airport. Three options have subsequently been shortlisted:

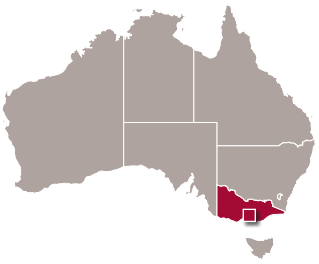
- North–South line between Schofields and Macarthur via the airport
- Extension of the South West Rail Link
- An East–West Line between the Western Sydney Airport and Parramatta.

Next steps

The NSW Government is currently developing options and identifying the initiative.

Improve the connection between the Eastern Freeway and CityLink





LOCATION
Melbourne, Vic

TIMESCALE
Near term (0–5 years)

PROPONENT
Infrastructure Australia identified initiative

Problem

The Australian Infrastructure Audit 2015 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 road congestion delay cost in Melbourne in 2011, with a delay cost of $73 million. This is expected to worsen by 2031, with the delay cost projected to increase to $144 million ($2011).

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.

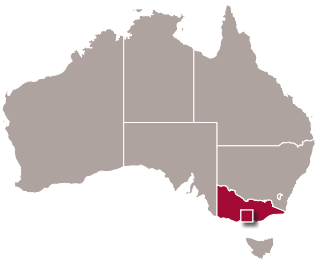
Proposed initiative

An improved connection between the Eastern Freeway and CityLink would help to address congestion in the area.

Next steps

Proponent to be identified.

Melbourne rail network capacity



LOCATION
Melbourne, Vic

TIMESCALE
Medium term (5–10 years)

PROPONENT
Infrastructure Australia identified initiative

Problem

Future growth of Melbourne's outer suburban population and the centralisation of jobs in the CBD will increase demand for Melbourne's rail network. While rail capacity in the south-east and north-west of the metropolitan area is being increased through the Melbourne Metro development, lines in the north-east, the west and the south-west will need additional capacity in the coming decades.

Modelling by Infrastructure Victoria indicates that, by 2031, demand on the South Morang line will exceed supply in the morning peak, with lines in the west and south-west also reaching capacity.

A more congested rail network will lead to nationally significant productivity losses associated with longer travel times and worsening conditions for passengers, with some passengers potentially switching to road vehicles and causing additional road congestion.

Increased rail capacity would encourage car users to switch to public transport, reducing environmental impacts and encouraging more people to walk to train stations.

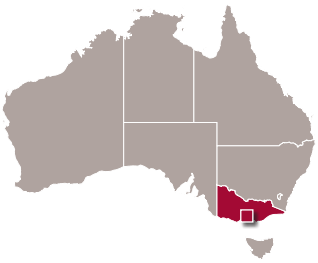
Proposed initiative

Potential solutions to the emerging capacity constraints could include upgrading the signalling and rolling stock, and augmentations to key lines and stations on the network with the possibility of an additional tunnel through Melbourne's CBD, bypassing the city loop.

Next steps

Proponent to be identified.

Preserve corridor for Melbourne Outer Metropolitan Ring Road/E6



LOCATION
Melbourne, Vic

TIMESCALE
Near term (0–5 years)

PROPONENT
Infrastructure Australia identified initiative

Problem

There is a need to preserve transport corridors to ensure cost-effective transport infrastructure can be provided in the future. Preserving transport corridors is a multi-step process that 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.

Modelling by Infrastructure Australia in 2017 estimates the net cost of protecting and acquiring the Outer Metropolitan Ring Road/E6 and intermodal terminal as $2.3 billion ($2016) using a 7% real discount rate.

Proposed initiative

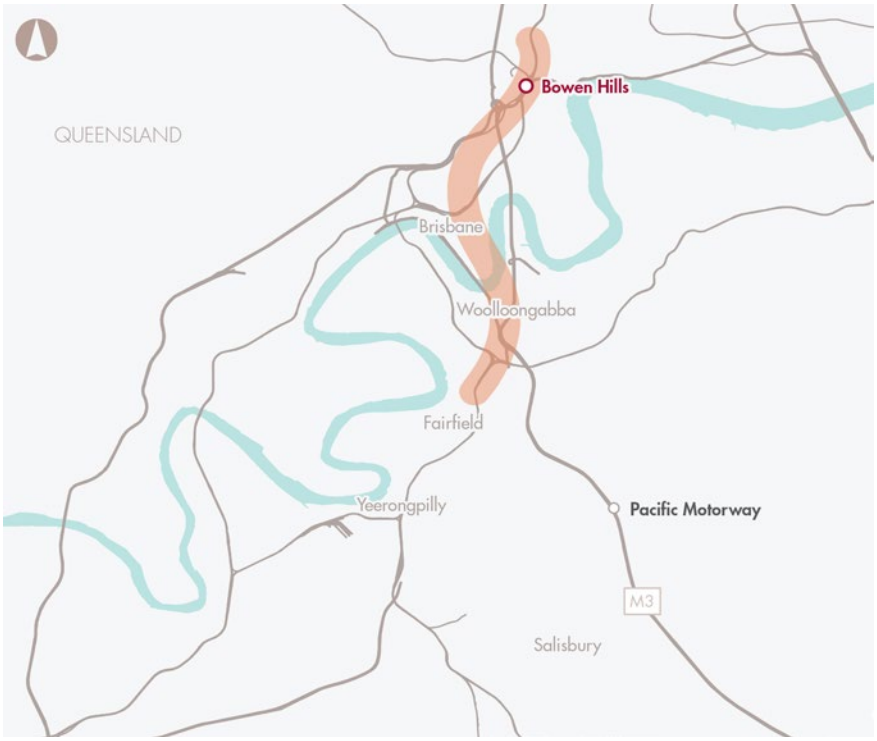
The initiative is corridor preservation for the Outer Metropolitan Ring Road and E6 in Melbourne. The corridor has provision for a freeway (four to six lanes in each direction) and four rail tracks. The land required for the corridor was defined and preserved in 2010 through a Public Acquisition Overlay.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

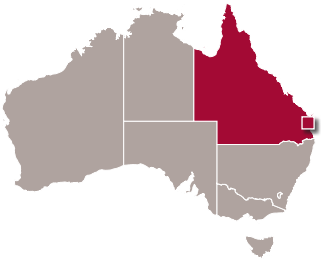
Next steps

Proponent to be identified.

Cross River Rail

A rail solution to support an integrated passenger transport network in South East Queensland





LOCATION
Brisbane, Qld

TIMESCALE
Near term (0–5 years)

PROPONENT
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 and through 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 growing over coming decades. This growth, together with jobs growth centred on the CBD, will drive additional demand for trips to and from the CBD.

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

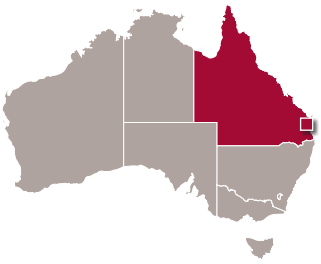
Proposed initiative

The Cross River Rail initiative would provide a north-south passenger rail line through Brisbane's inner city from Bowen Hills (north of the CBD) to Dutton Park, 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 Upgrade
Rocklea to Darra (remaining sections)



LOCATION
Western Brisbane, Qld

TIMESCALE
Near term (0–5 years)

PROPONENT
Queensland Government

Problem

The initiative seeks to address congestion and extensive delays in the Ipswich Motorway corridor. Modelling undertaken for the Australian Infrastructure Audit 2015 estimates the direct cost of congestion along the corridor at around $30 million to $40 million in 2011, which is projected 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% of all traffic.

Proposed initiative

A suite of road upgrades along 7 km of the Ipswich Motorway between Rocklea and Darra, including:

- widening the corridor to six lanes
- improved flood immunity
- ramp rationalisation
- improved east–west local connectivity
- enhancement of cross motorway connections
- managed motorway treatments.

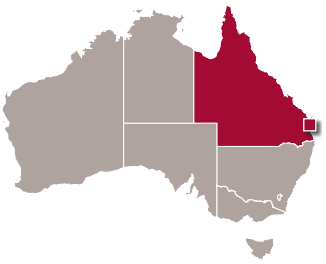
A business case for Stage 1c of the Initiative (Package 1) was assessed by Infrastructure Australia in May 2016, and the project is currently under construction.

Package 2 proposes the upgrade of the Oxley/Blunder Road interchange, and Package 3 proposes to construct a new Boundary Road connection across Oxley Creek.

Next steps

Business case development.

Port of Brisbane dedicated freight rail connection



LOCATION
Brisbane, Qld

TIMESCALE
Medium term (5–10 years)

PROPONENT
Infrastructure Australia identified initiative

Problem

Container trade at the Port of Brisbane is forecast to increase by 300%, representing an increase of 4.8% per year to 2045. The Australian Infrastructure Audit 2015 identified that growth at the Port of Brisbane is likely to become constrained by the lack of a dedicated rail freight connection.

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

The rail connection to the Port of Brisbane is shared between passenger and freight trains. Passenger trains take priority over freight trains, with freight trains operating to and from the port only in the out-of-peak periods. As freight and passenger demands grow, this shared connection will become constrained, and additional capacity for freight trains will be required.

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.

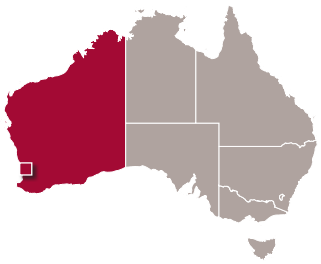
Proposed initiative

A future upgrade would seek 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. This would aim to meet the projected increase in freight volumes, while facilitating a modal shift from road to rail.

Next steps

Proponent to be identified.

Perth CBD – north corridor capacity



LOCATION
Perth, WA

TIMESCALE
Near term (0–5 years)

PROPONENT
Infrastructure Australia identified initiative

Problem

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

The Australian Infrastructure Audit 2015 projected that transport delay costs in Perth are expected to grow at an average annual rate of around 11% over the next 20 years, from $2 billion in 2011 to $16 billion in 2031.

In the absence of additional capacity, the northern corridor is likely to become the most congested corridor in Perth, with demand expected to exceed capacity well before 2031. The Audit estimated that delay cost on the corridor, including the Mitchell Freeway, Marmion Ave/West Coast Highway and Wanneroo Road, would reach $2 billion ($2011) by 2031. While the projected rate of population growth in the region has been scaled back compared to the rate used in the Audit, reflecting the slower rate of growth in Western Australia following the mining boom, growth is still projected to average around 2.6% per year.

This growth will continue to drive increased demand for both road and public transport.

Proposed initiative

The Western Australian Government is considering a number of options to increase capacity and to manage demand in the corridor, including:

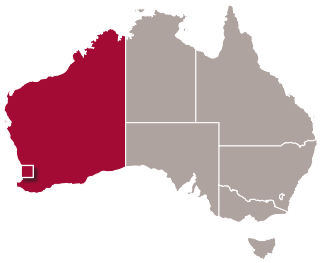
- an extension of the Joondalup Line from Butler to Yanchep
- further extending the Mitchell Freeway between Hester Avenue and Romeo Road.

The Western Australian Government has also committed to upgrades to Marmion Avenue and Wanneroo Road.

Next steps

The Western Australian Government is currently developing business cases for the proposed rail extension to Yanchep, and the proposed Mitchell freeway extension to Romeo Road.

Mitchell and Kwinana Freeways – widening and smart freeways technology



LOCATION
Perth, WA

TIMESCALE
Near term (0–5 years)

PROPONENT
Western Australian Government

Problem

The Mitchell and Kwinana Freeways form the main north–south arterial road corridor through Perth, serving both commuter and freight trips. Congestion is already an issue across the network during peak hours, particularly at the Swan River crossing between Perth City and South Perth.

In the absence of additional capacity, the Australian Infrastructure Audit 2015 projected that the Mitchell Freeway would become the most congested corridor in Australia, with demand expected to exceed capacity well before 2031. Congestion in the corridor is driven by strong population growth in the North West sub-region.

Congestion is currently characterised by frequent stop–start conditions that are directly contributing to an increasing number of rear-end crashes, and compromising road safety. The travel time delays associated with these events will increasingly result in nationally significant losses to productivity. However, in the inter-peak period, there is surplus capacity across the network. This suggests some scope for demand management to spread peak period transport flows.

Proposed initiative

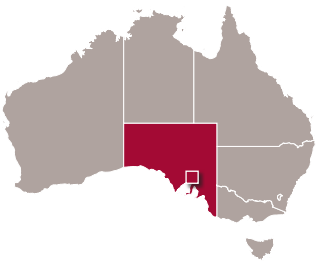
Implementing Intelligent Transport System technologies to actively manage traffic flow on the freeway network. This would enhance road capacity and improve safety, maximising the existing productive capacity of the road network and delaying the need for further large-scale investments in the corridor.

A number of projects to increase capacity are also currently underway on sections of the Kwinana and Mitchell Freeways.

Next steps

Initiative identification and options development.

Gawler line rail upgrade



LOCATION
Gawler to Adelaide CBD, SA

TIMESCALE
Near term (0–5 years)

PROPONENT
South Australian Government

Problem

The Australian Infrastructure Audit 2015 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% along the busiest sections of the rail line and network capacity is expected to be reached within five to 10 years.

Increased patronage is being 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 to and from the maintenance facility, 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, which will encourage densification around stations.

Next steps

Business case development for Salisbury to Gawler section.

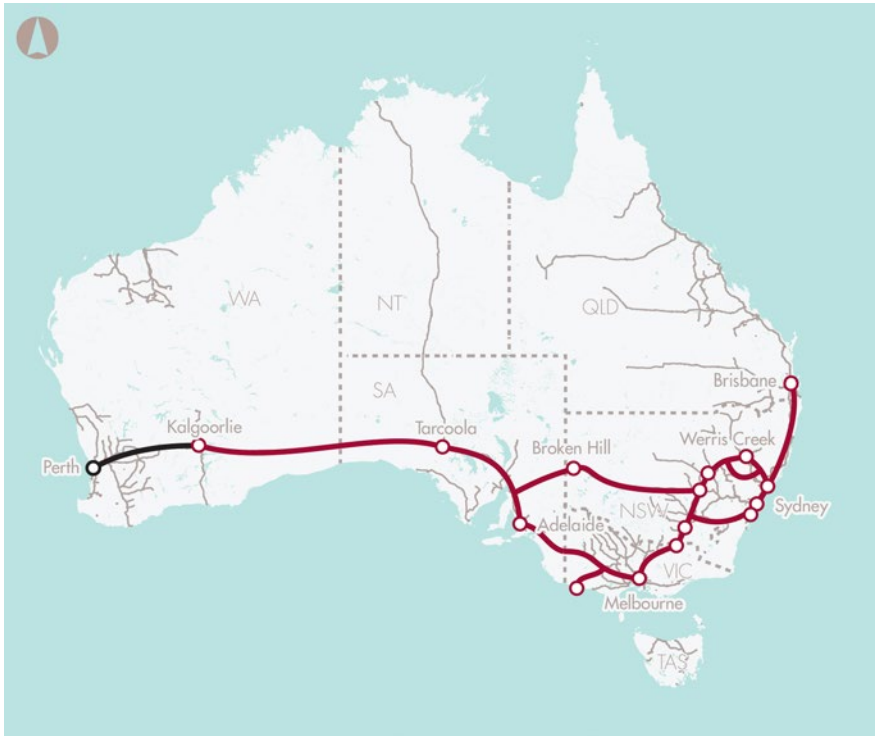
Work on upgrading the line between Adelaide and Salisbury is set to commence in 2018.

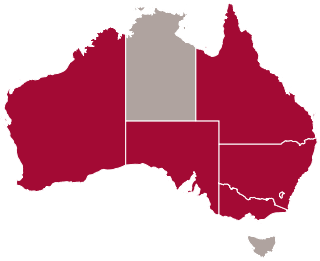
Priority Initiatives

SUMMARIES

Adelaide, South Australia

Advanced Train Management System implementation on ARTC network





LOCATION
Australian interstate rail network

TIMESCALE
Near term (0–5 years)

PROPONENT
Australian Rail Track Corporation

Problem

Australia's 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

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

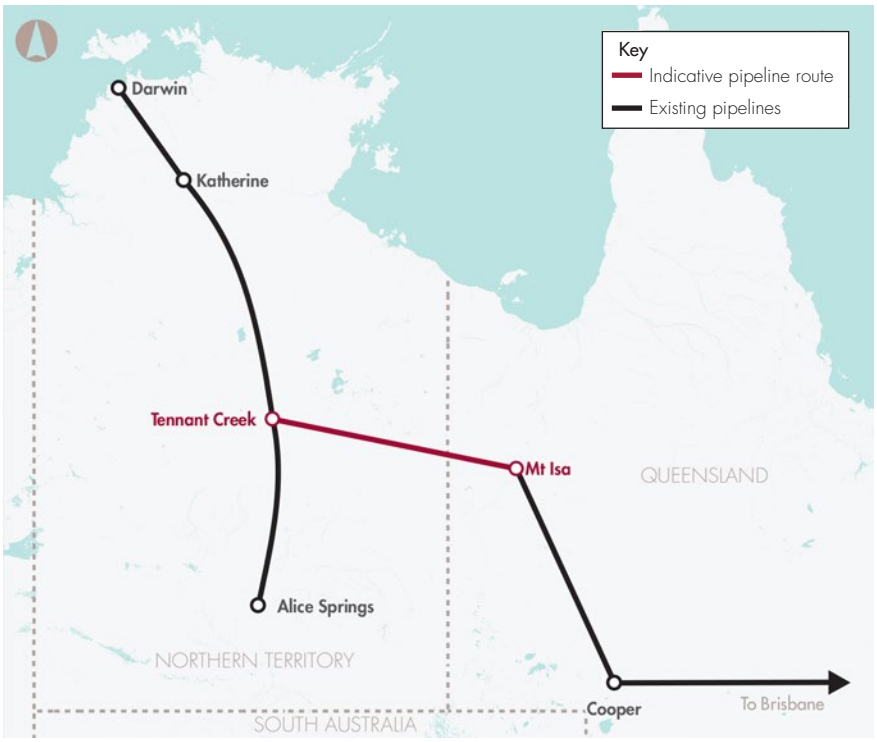
- more train paths on single tracks
- improved line capacities
- reduced transit times and improved competition with road
- improved rail safety
- improved system reliability.

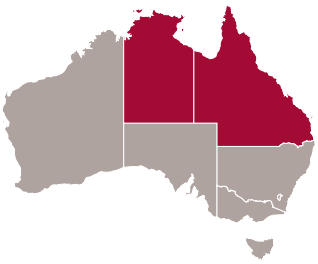
ATMS will improve the safety and efficiency of train operation between metropolitan centres and between national ports.

Next steps

Business case development.

Connect gas suppliers to eastern gas markets





LOCATION
National

TIMESCALE
Near term (0–5 years)

PROPONENT
Infrastructure Australia identified initiative

Problem

The Australian Infrastructure Audit 2015 identified a potential gas supply shortfall in the eastern gas market as a result of increased domestic and export demand. In the absence of additional supply, this increased demand is expected to lead to higher prices. The Northern Territory and Western Australia have price-competitive gas available, but are not directly linked to the eastern gas pipeline network.

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 support the resilience of the national economy.

Proposed initiative

Develop infrastructure to connect northern and/or western Australian gas reserves to the eastern gas markets.

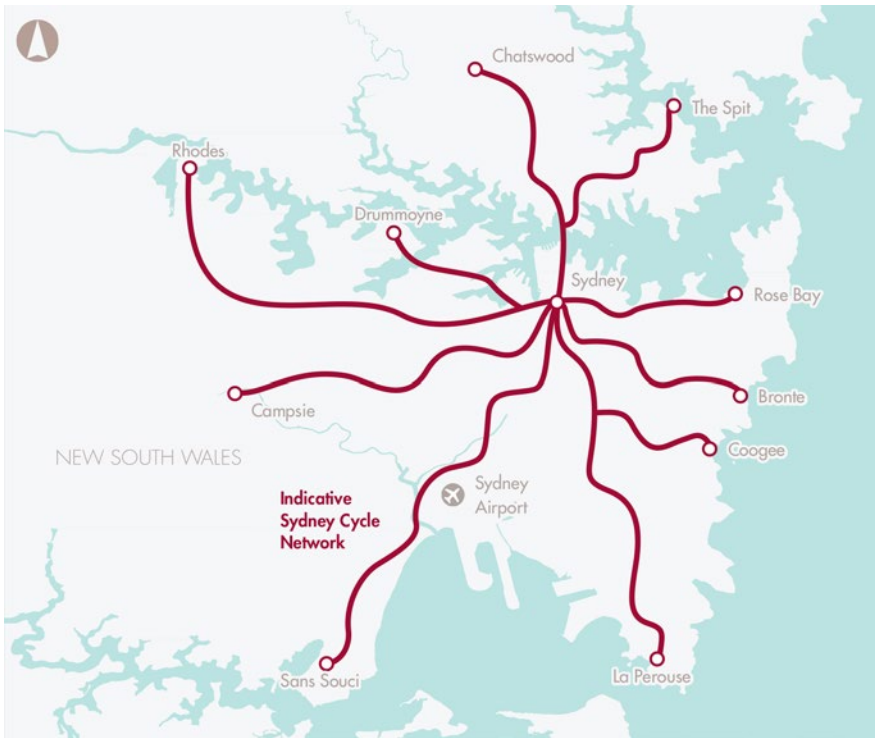
A project to construct a pipeline between Tennant Creek and Mount Isa, connecting the Northern Territory gas supply with the eastern gas market, is currently underway. This will provide some additional supply to the eastern states, and support economic growth in the Northern Territory.

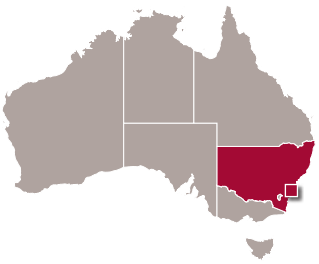
However, it is not clear whether this link will be sufficient, on its own, to address the shortfall in the eastern gas market. Additional capacity between the Northern Territory and the eastern states, or a pipeline connection to Western Australia, may be required in the future.

Next steps

Proponent to be identified.

Active transport (walking and cycling) access to Sydney CBD





LOCATION
Inner Sydney, NSW

TIMESCALE
Near term (0–5 years)

PROPONENT
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 km radius of Sydney's CBD. The public transport network in Inner Sydney is also projected to reach or exceed current capacity by 2031.

There are more than 1 million daily short distance trips (that is, less than 5 km) undertaken by private motor vehicles and taxis within 10 km of the CBD. Safety concerns, along with disparate travel routes, are current barriers to other forms of short distance or active transport.

A 2% to 5% shift of short distance car trips within 10 km of the CBD to active transport may result in a reduction of between 20,000 and 50,000 motor vehicle trips per day on Inner Sydney's congested corridors.

Proposed initiative

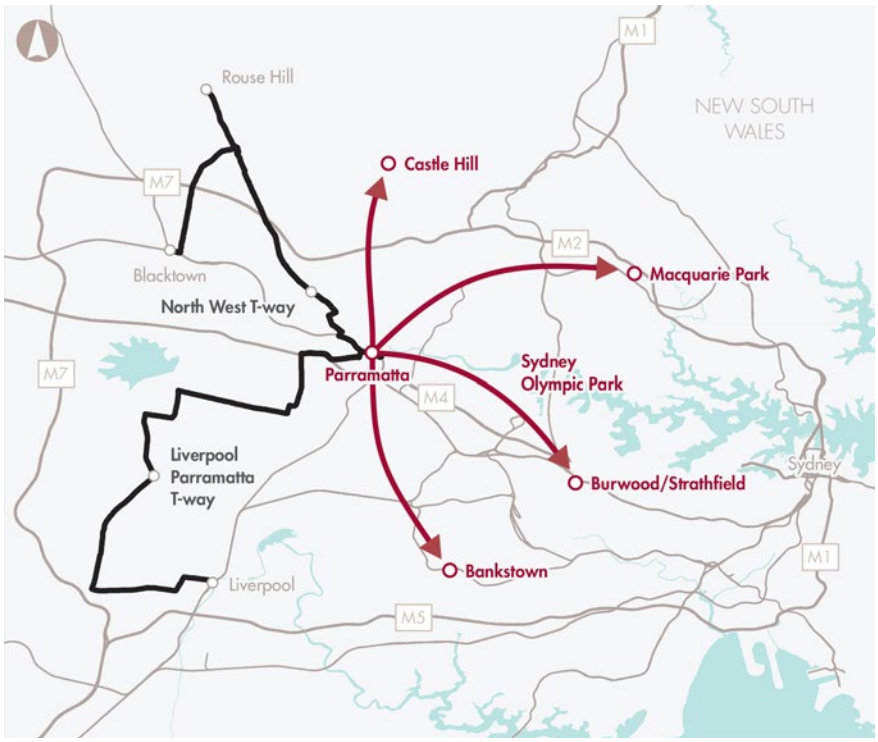
Upgrade a network of 284 km of dedicated cycling and shared cycling/walking paths, on existing radial and cross regional corridors within a 10 km radius of the CBD.

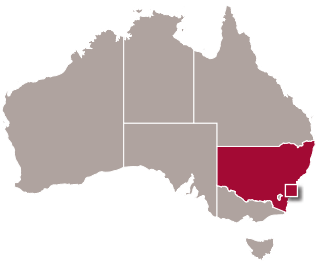
In the longer term, there may be sufficient intra-regional trip volumes to support an extension of the network west to Parramatta.

Next steps

Business case development.

Public transport access to Parramatta CBD





LOCATION
Western Sydney, NSW

TIMESCALE
Near to medium term (0–10 years)

PROPONENT
NSW Government

Problem

The NSW Government's Draft Future Transport 2056 Strategy identifies the need for additional mass transit links connecting Parramatta with strategic centres across Western Sydney.

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

The Parramatta CBD and several other precincts including the Westmead health precinct, 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 30% by 2031, from 114,000 people in 2016.

Without investment in public transport, population and jobs growth will lead to increased congestion on the road and rail networks.

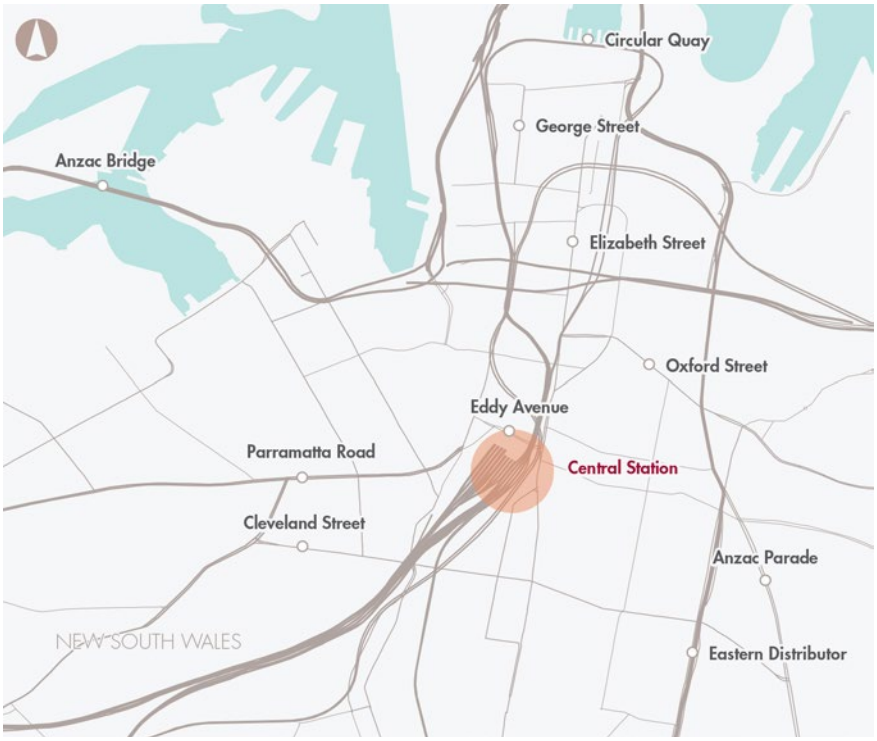
Proposed initiative

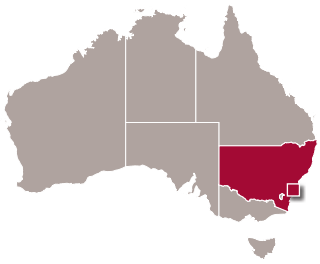
Additional public transport, which could include mass transit (heavy rail and metro) and intermediate transit (bus or light rail), to connect Parramatta to strategic centres and residential areas in Western Sydney, would help alleviate congestion on the road and public transport networks. Some public transport solutions could also facilitate urban renewal in Western Sydney.

Next steps

Initiative identification and options development.

Central Station redevelopment – rail and station infrastructure





LOCATION
Central Station, Sydney, NSW

TIMESCALE
Medium term (5–10 years)

PROPONENT
NSW Government

Problem

Central Station is Sydney's busiest transport interchange. It serves as a critical multimodal transport interchange for suburban and intercity rail services, country and interstate coaches, suburban buses and light rail services. From 2019, Central will be an interchange point for the CBD and South East light rail line, and from 2024 Central will also be an interchange station for the Sydney Metro (rapid transit) service.

Day-to-day customer experience of the station is poor in terms of circulation, navigation, legibility, access, capacity and crowding. These problems are expected to get worse as total passenger movements are projected to increase by 67% between 2014 and 2036, and passenger interchanges between rail services in the morning peak are projected to increase by 106% in the same period.

Proposed initiative

The initiative comprises upgrades to rail and station infrastructure to support passenger movement and interchange, including potential access improvements to connect the new Metro station with the rest of Central Station, and other enhancements to the station's functionality.

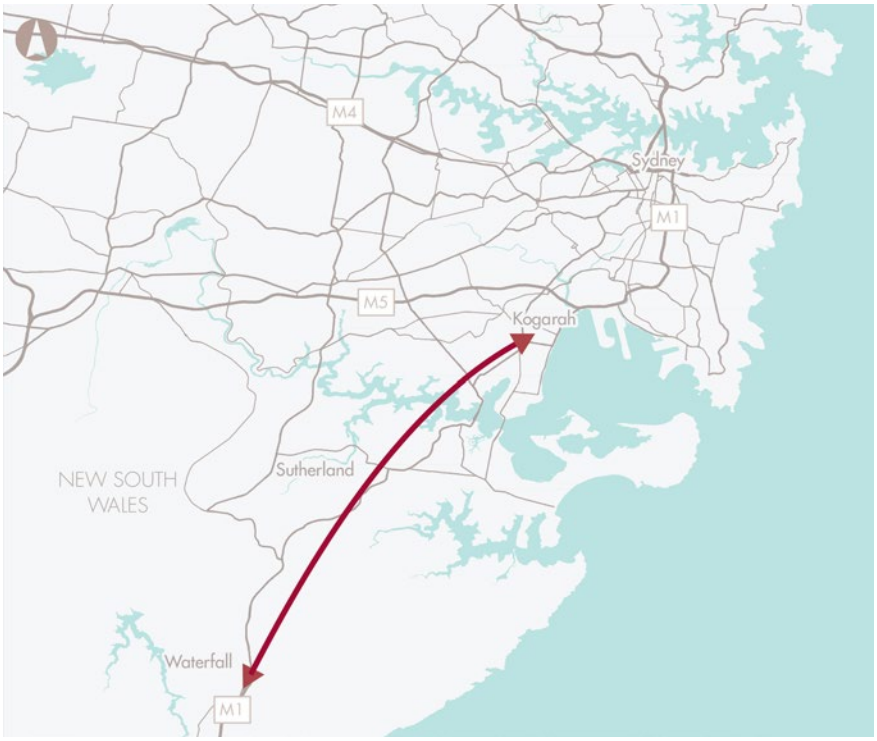
A proposed second stage of the initiative deals with the renewal of the broader station precinct. This second stage has not been assessed for inclusion on the Infrastructure Priority List at this time.

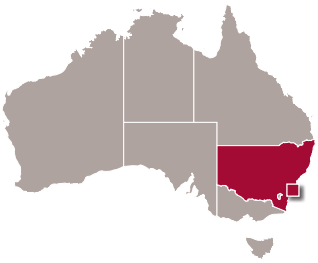
Next steps

The NSW Government is currently developing options and identifying the initiative.

F6 Extension

Connection between the M1 at Waterfall and the Sydney motorway network





LOCATION
Southern Sydney, NSW

TIMESCALE
Medium term (5–10 years)

PROPONENT
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 2015 identified the Sutherland–Ryde/Parramatta corridor as being the fifth most congested in the greater Sydney area in 2011, and forecast to be the sixth most congested in 2031. The King Georges Road Corridor, from Princes Highway to the M4, was ranked as the second most congested in 2011 and third most congested in 2031.

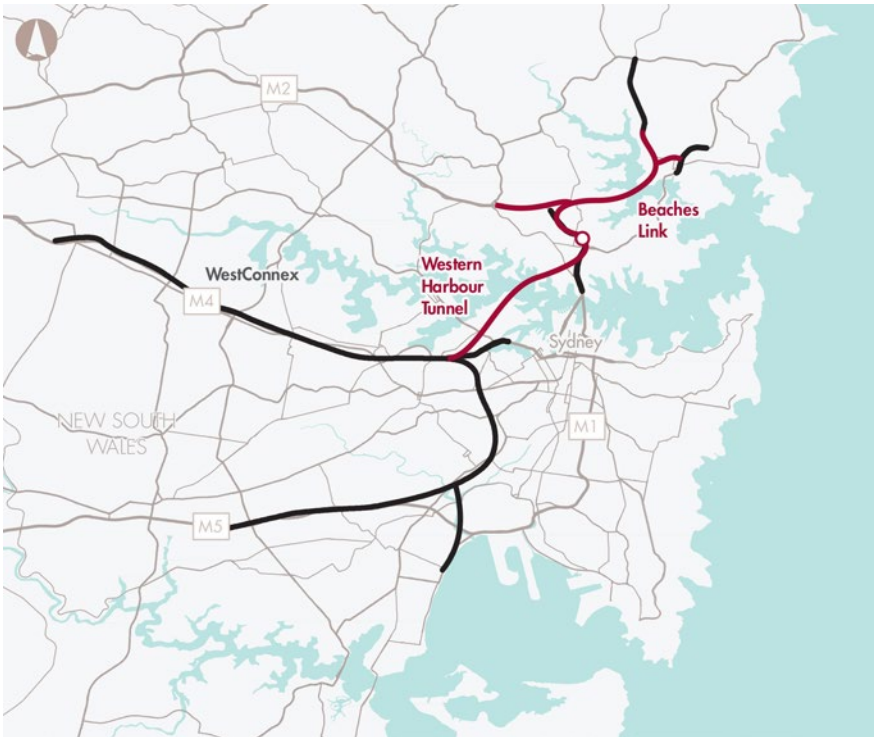
Proposed initiative

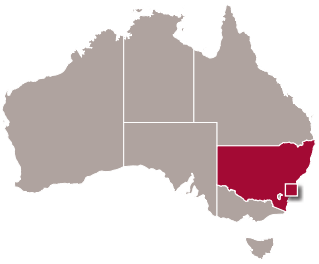
The initiative is a motorway connection from the M1 at Waterfall to the Sydney motorway network.

Next steps

Business case development.

Western Harbour Tunnel and Beaches Link





LOCATION
Sydney, NSW

TIMESCALE
Longer term (10–15 years)

PROPONENT
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 Sydney Harbour Bridge and Tunnel across Sydney Harbour, and Spit Bridge across Middle Harbour.

The Australian Infrastructure Audit 2015 ranked the North Sydney–Northern Beaches corridor as the 10th most congested corridor in the wider Sydney region in 2011, and predicted 11th in 2031. The Gore Hill/Warringah Freeway/Sydney Harbour Bridge/Eastern Distributor was ranked 12th in 2011, and, in the absence of additional capacity, it is projected to become the most congested corridor in NSW in 2031.

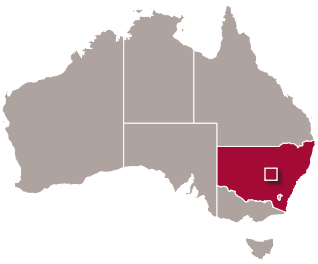
Proposed initiative

The initiative proposes a motorway crossing underneath Sydney Harbour, connecting WestConnex with the Warringah Freeway, and a motorway connection from the Warringah Freeway to Seaforth/Balgowlah on the northern side of Middle Harbour.

Next steps

Business case development.

Newell Highway upgrade



LOCATION
NSW section of Melbourne–Brisbane inland route

TIMESCALE
Near term (0–5 years)

PROPONENT
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 movements on the corridor are expected to grow strongly, supported by robust population growth in both Melbourne and Brisbane.

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

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 Higher Productivity Vehicle access, and improve safety and reliability.

The initiative will also consider first/last mile issues faced by Higher Productivity Vehicle operators in the corridor.

Realignment of a 6.5km section of the Highway at Trewilga is due for completion in the first half of 2018.

Strategic planning has commenced for a range of further works:

- Bypasses of Boggabilla, Parkes and Coonabarabran.
- Heavy duty pavement provision (North Moree, Narrabri to Moree).
- Road widening (Boggabilla to Goondiwindi and Coonabarabran to Narrabri).
- Upgrade of intersection with Mitchell Highway at Dubbo.
- New Dubbo Bridge and realignment.
- Additional overtaking lanes.

Next steps

The NSW Government is developing business cases for some elements of the initiative.

Pacific Highway (A1) – Coffs Harbour bypass

LOCATION
Coffs Harbour, NSW

TIMESCALE
Near term (0–5 years)

PROPONENT
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 CBD. 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 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 year.

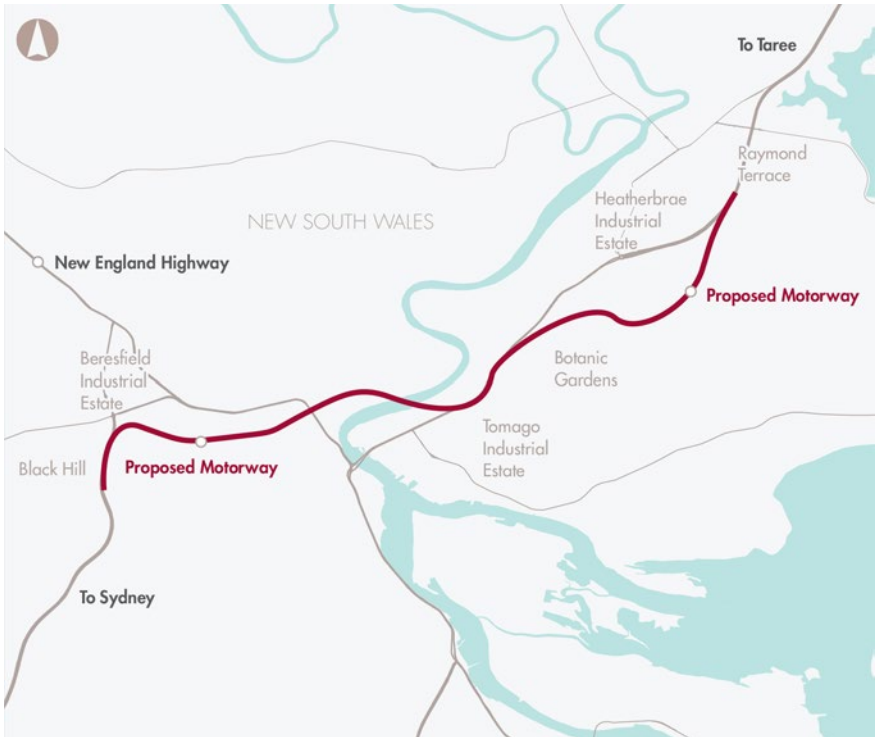
Proposed initiative

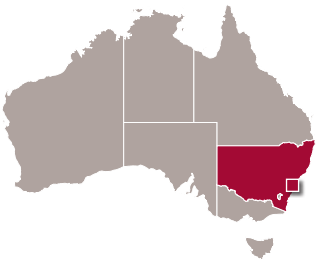
Construct a bypass around Coffs Harbour. This would also include an upgrade to an existing section of highway to deliver a total of 13.2 km of motorway standard dual carriageway on the Pacific Highway.

Next steps

Business case development.

Pacific Highway (M1) – extension to Raymond Terrace





LOCATION
Beresfield to Raymond Terrace, NSW

TIMESCALE
Near term (0–5 years)

PROPONENT
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.

This section of the Pacific Highway is also part of a strategic junction where the north–south traffic flows between Sydney and Brisbane cross the east–west traffic flows between the Hunter and New England region and the Port of Newcastle.

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, dropping 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% 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. 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 Higher Productivity Vehicles is estimated to generate significant productivity benefits.

It is estimated that these vehicles could perform the freight task with up to 37% fewer trucks and kilometres travelled.

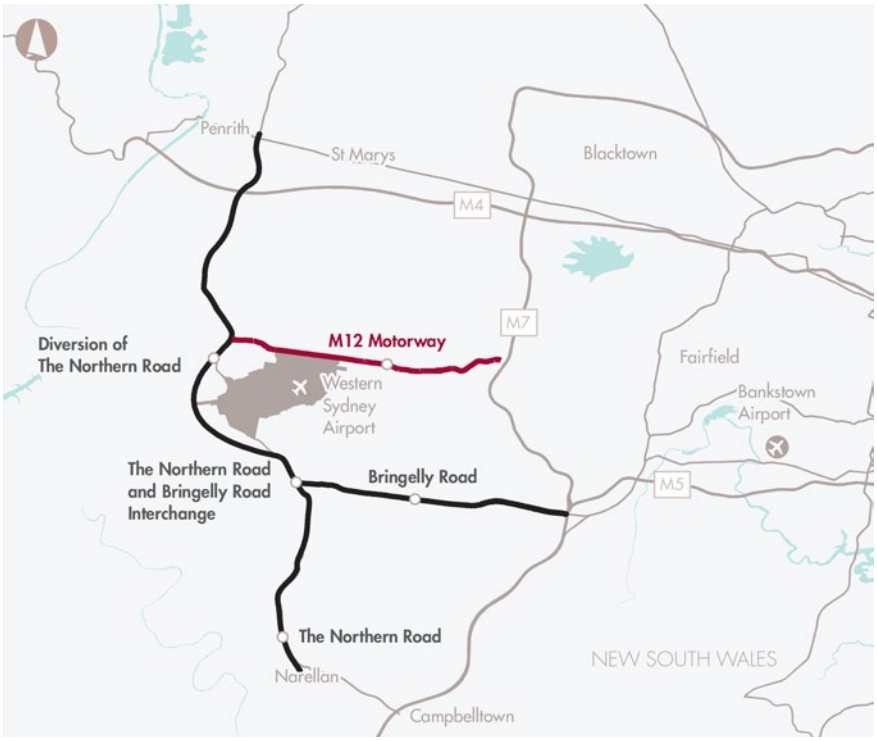
Proposed initiative

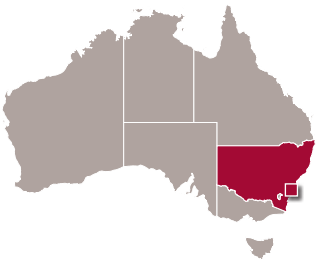
Upgrade of the Pacific Highway between John Renshaw Drive and Raymond Terrace to motorway standard. This would lead to productivity benefits from faster freight movements north–south in the Sydney to Brisbane corridor and for intersecting east–west traffic flows to and from Port of Newcastle.

Next steps

Business case development.

Western Sydney Infrastructure Plan





LOCATION
Western Sydney, NSW

TIMESCALE
Near term (0–5 years)

PROPONENT
Infrastructure Australia identified initiative

Problem

Over the next two decades, the population of Western Sydney will increase by around 900,000 people, with around half of all Sydney Basin residents expected to be living in the region within 25 years. Preliminary analysis indicates that initial demand at the Western Sydney Airport will be about 3 million passengers per year from commencement of airport operations in the mid-2020s.

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

Proposed initiative

The initiative includes 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 to provide access to the Western Sydney Airport between the M7 and The Northern Road
- upgrading Bringelly Road to a minimum of four lanes
- a package for local roads upgrades.

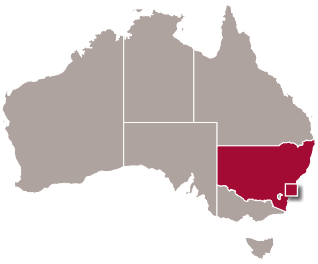
A project to upgrade The Northern Road is included on the Infrastructure Priority List. The Bringelly Road upgrade was formerly on the Infrastructure Priority List and is now under construction.

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

Next steps

The NSW Government is developing a business case for the M12 Motorway component of the Plan. Other components of the initiative are under delivery.

Freight rail access to Port Kembla



LOCATION
Illawarra/Southern Highlands region, NSW

TIMESCALE
Near term (0–5 years)

PROPONENT
NSW Government

Problem

The Australian Infrastructure Audit 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% 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 Twenty-foot Equivalent Units per annum by road. This is around 10% 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.

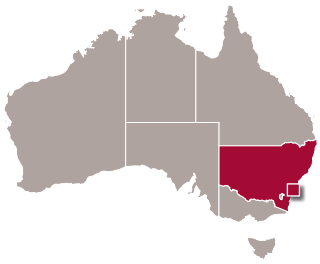
Proposed initiative

Improve rail freight access to Port Kembla. This could be through enhancements to the Illawarra and/or Moss Vale–Unanderra lines, or through future development of an alternative rail alignment to the port.

Next steps

Initiative identification and options development.

Moorebank Intermodal Terminal road connection upgrade



LOCATION
Western Sydney, NSW

TIMESCALE
Near term (0–5 years)

PROPONENT
NSW Government

Problem

The Australian Infrastructure Audit 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 kilometre in the corridor is projected to be the 10th 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).

Proposed initiative

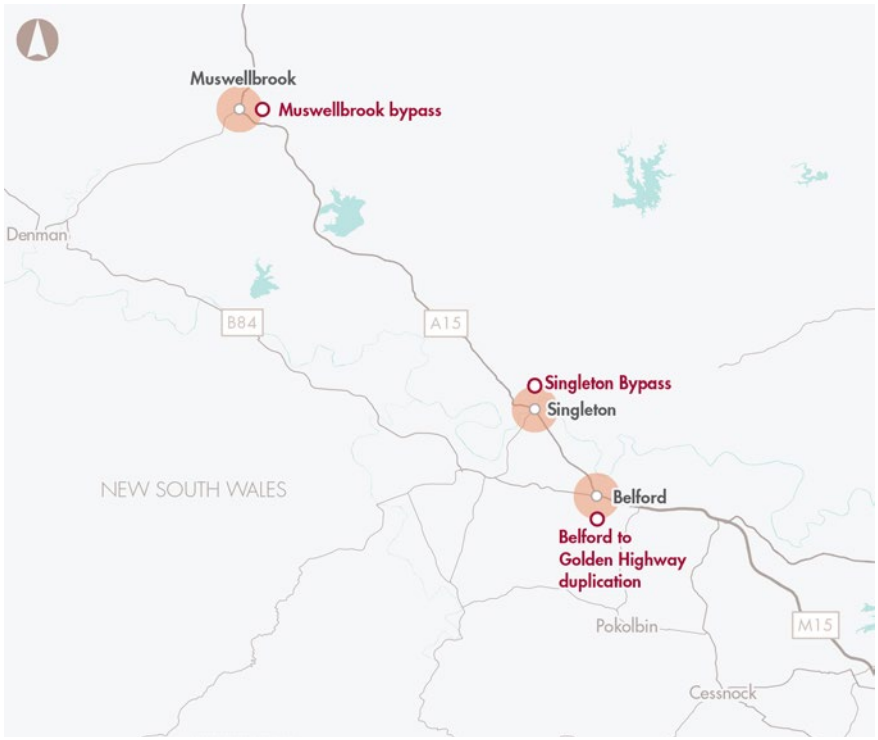
The initiative proposes a package of inter-related road infrastructure improvements to increase network efficiency and improve access to the MIT. The major components include:

- upgrades to the M5 interchanges at the Hume Highway and Moorebank Avenue
- duplication and extension of Cambridge Avenue from Moorebank Avenue westward to The Hume Highway (M31).

Next steps

The NSW Government is currently developing options and identifying the initiative.

New England Highway upgrade



LOCATION
Belford to Muswellbrook, NSW

TIMESCALE
Medium term (5–10 years)

PROPONENT
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 road 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 issues (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:

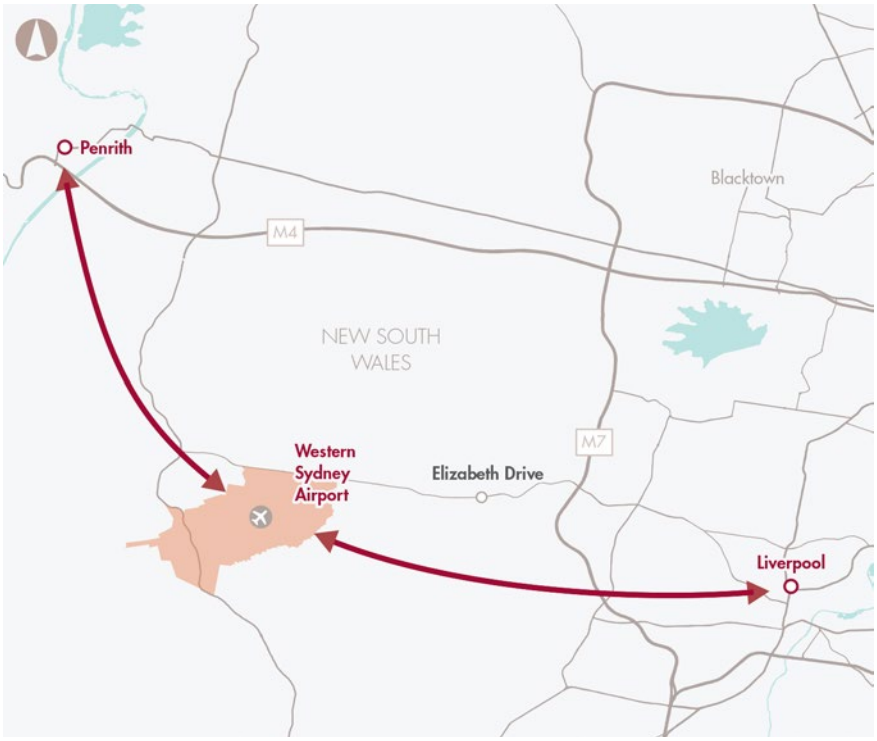
- Bypasses of the towns of Singleton and Muswellbrook.
- Duplication between Belford and Singleton.
- Duplication between Singleton and Muswellbrook.
- Realignment at Rocky Cut (north of Scone).

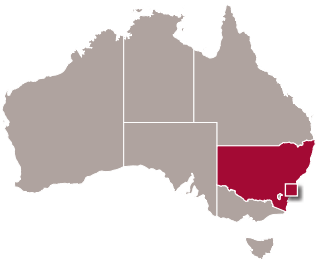
The initiative is designed to contribute to the efficient movement of freight from regional exporters to the Port of Newcastle, which is essential to supporting economic growth and productivity in New South Wales.

Next steps

Business case development.

Western Sydney Airport public transport connection





LOCATION
Western Sydney, NSW

TIMESCALE
Longer term (10–15 years)

PROPONENT
NSW Government

Problem

As identified in the Australian Infrastructure Audit 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 Western Sydney Airport at Badgerys Creek.

Upon opening, Western Sydney Airport will 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 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 future, and should be viewed as a potential complementary investment to preserving a rail corridor.

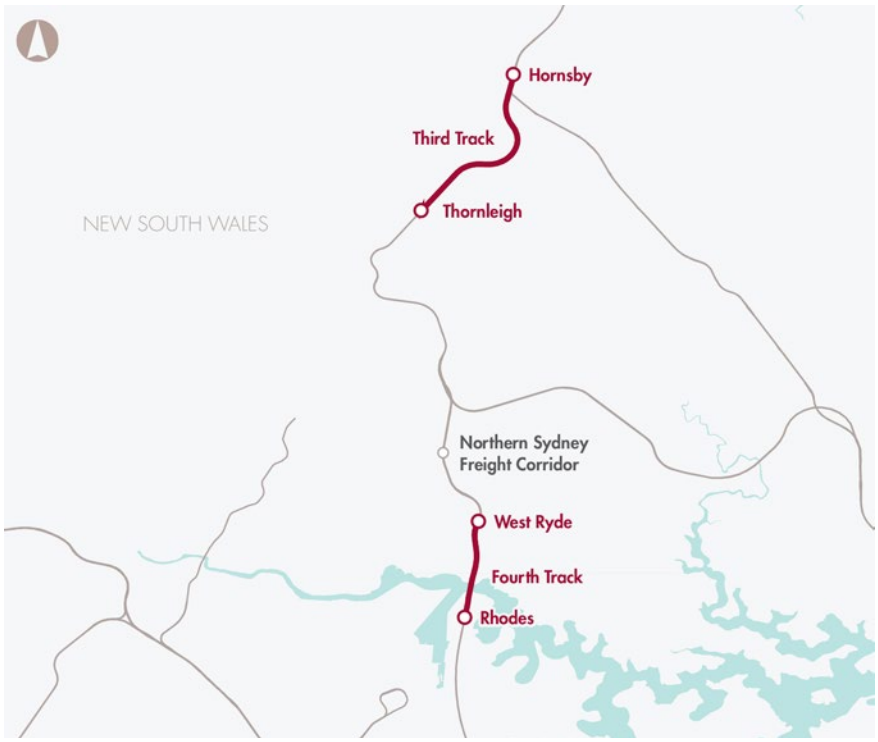
The Australian and New South Wales Governments have jointly released a scoping study that shortlists three options for rail services to the Western Sydney Airport, including the proposed South West Rail Link extension.

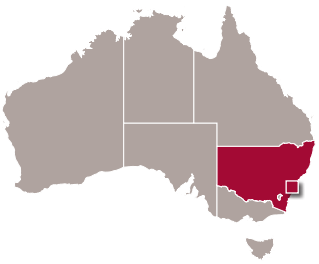
Next steps

Initiative identification and options development.

Northern Sydney Freight Corridor Stage 2

Additional track West Ryde to Rhodes and Thornleigh to Hornsby





LOCATION
Sydney, NSW

TIMESCALE
Longer term (10–15 years)

PROPONENT
NSW Government

Problem

Demand for rail freight in the Newcastle to Sydney corridor is projected to continue growing over the coming decades.

Recent improvements to the Northern Sydney Freight Corridor have increased the corridor's capacity by 50%, from 29 to 44 freight trains each day. This will accommodate growth in demand for rail freight up until 2028. In the longer term, the Sydney metropolitan rail network will again become a point of bottleneck for the rail freight network, mainly because of priority given to passenger rail services.

Proposed initiative

A second package of infrastructure improvements in the corridor would build on the earlier package to deliver a significant increase to core period (0500 hours to 2200 hours) rail freight capacity, along with improved average transit times for freight services. This would also improve freight and passenger service reliability along the Strathfield to Broadmeadow corridor.

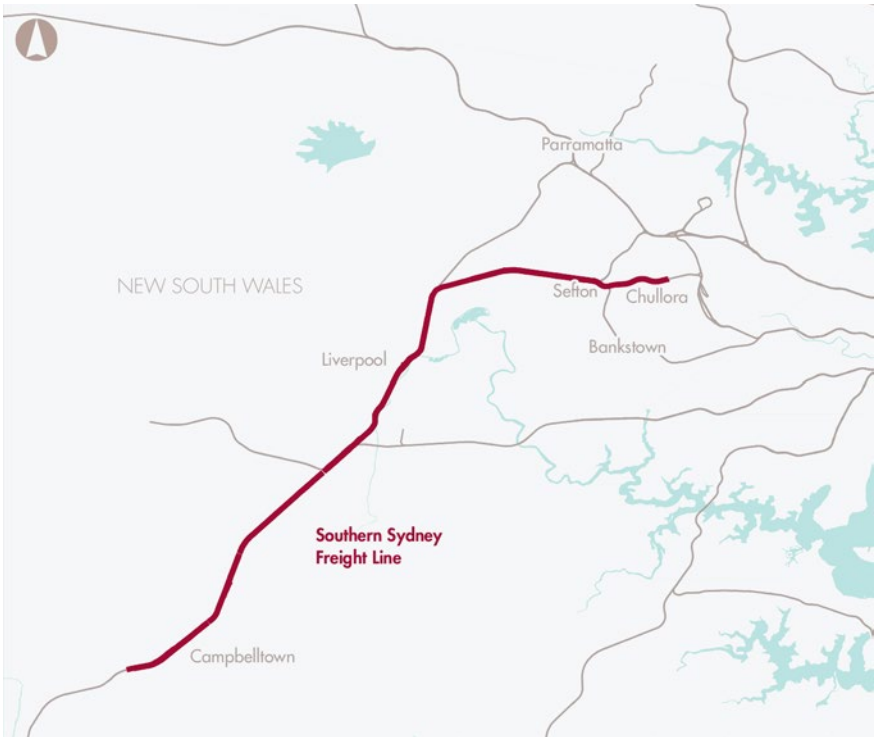
The candidate projects for the second package include Rhodes to West Ryde quadruplication and a third track between Thornleigh and Hornsby.

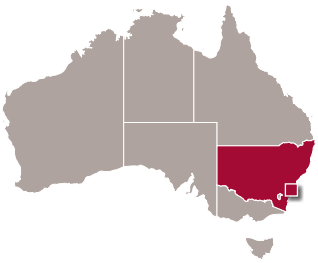
The NSW Government has completed a preliminary design for Rhodes to West Ryde quadruplication. A preliminary design for Thornleigh to Hornsby Third Track is being progressed.

Next steps

Business case development.

Southern Sydney Freight Line upgrade





LOCATION
Sydney, NSW

TIMESCALE
Longer term (10–15 years)

PROPONENT
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. The potential future development of the Western Sydney Freight Line, which is proposed to connect Sydney's rail freight network at the SSFL, would further exacerbate capacity constraints on the SSFL.

Currently, only 19% (in 2016–17) 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 2015 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.

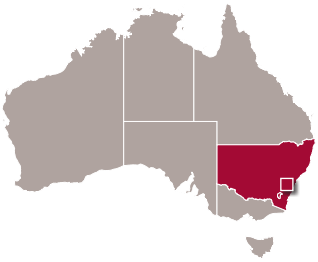
Proposed initiative

The SSFL is a 36 km 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 and a future Western Sydney Freight Line. It forms part of a broader strategy designed to sustain and drive growth in rail mode share.

Next steps

Business case development.

Newcastle–Sydney and Wollongong–Sydney rail line upgrades



LOCATION
Newcastle–Sydney–Wollongong, NSW

TIMESCALE
Longer term (10–15 years)

PROPONENT
NSW Government

Problem

Slow regional passenger rail speeds along the Newcastle–Sydney and Wollongong–Sydney rail lines result in lengthy travel times that are generally longer than car travel. Express services take 1 hour 28 minutes between Wollongong and Sydney, and 2 hours 37 minutes between Newcastle and Sydney.

This service level reduces accessibility to the Sydney employment market from the Wollongong and Newcastle regions, which have above average unemployment. It also limits opportunities to develop greater economic synergies between the three cities, which would benefit productivity.

Uncompetitive rail services also add to road congestion on key roads linking the three cities.

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 includes a range of options for improvements to the lines:

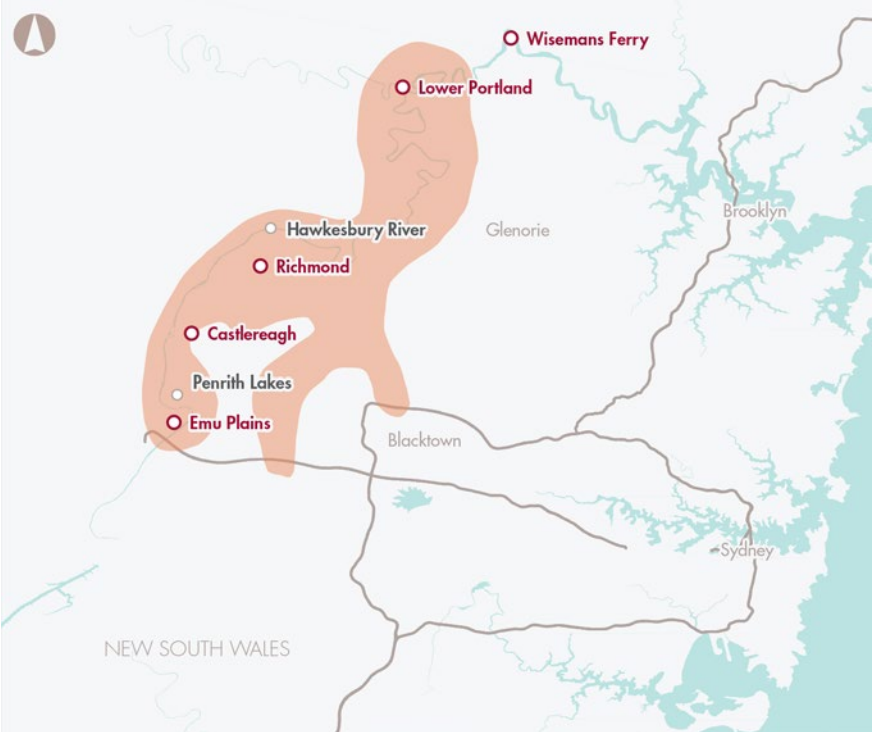
- An initial set of operational and fleet improvements.
- Targeted fixed infrastructure improvements (e.g. new deviations to eliminate curvatures and flatten grades).
- New rail crossing of the Hawkesbury River and Illawarra Escarpment.
- Capacity enhancing track amplifications.

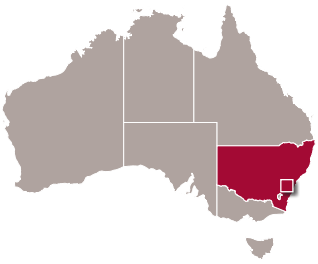
The Newcastle–Sydney and Wollongong–Sydney rail corridors were identified in the Australian Government's Faster Rail Connecting Capital Cities and Orbital Regional Centres prospectus, which was announced as part of the 2017–18 Budget.

Next steps

Initiative identification and options development.

Hawkesbury-Nepean Valley flood management





LOCATION
Hawkesbury-Nepean Valley, NSW

TIMESCALE
Near term (0–5 years)

PROPONENT
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 cost of 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 m above mean sea level, compared to the normal river level which is less than 0.5 m 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

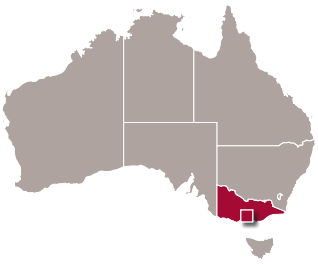
The Hawkesbury-Nepean Valley Integrated Flood Management Strategy presents a series of initiatives and investments to reduce flood risk in the valley. Elements of the strategy being investigated include:

- 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.

Melbourne level crossings removal



LOCATION
Melbourne, Vic

TIMESCALE
Near term (0–5 years)

PROPONENT
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 that 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 2015 projected 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 planned to be introduced to the network to cater for increased demand. Longer and more frequent trains at level crossings will increase 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.

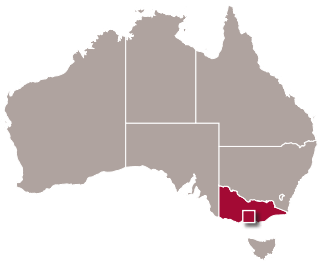
Proposed initiative

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

The Victorian Government has already commenced construction on several sites, and planning and early consultation is underway for the delivery of the entire project.

Melbourne Airport to the CBD public transport capacity



LOCATION
Melbourne, Vic

TIMESCALE
Medium term (5–10 years)

PROPONENT
Infrastructure Australia identified initiative

Problem

The Australian Infrastructure Audit 2015 noted that the corridor between the Melbourne CBD and Melbourne Airport is already one of the most heavily congested 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 (even when the current project to widen the freeway is completed).

Travel time by car in the morning peak from the CBD to the airport is projected to increase by nine minutes, from 33 minutes to 42 minutes, while travel times by car from Werribee and Doncaster are projected to increase from an average 61 minutes to 90 and 74 minutes 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 to Melbourne Airport corridor.

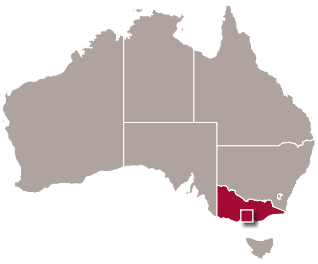
Proposed initiative

Develop options for increasing public transport capacity to Melbourne Airport.

Next steps

Proponent to be identified.

Melton Rail Line upgrade



LOCATION
Western Melbourne, Vic

TIMESCALE
Medium term (5–10 years)

PROPONENT
Infrastructure Australia identified initiative

Problem

Melbourne's long-term growth strategy identifies Melton to Bacchus Marsh as a key growth area. The Australian Infrastructure Audit 2015 estimates that population growth in the Melton–Bacchus Marsh region will grow at an average annual rate of 3.9% per year 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. 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

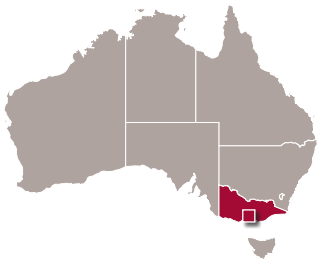
The proposed initiative would involve upgrading the Melton line to expand capacity to service additional demand associated with population growth. Options that may be considered as part of the upgrade include, but are not limited to:

- preservation of corridors for extensions and/or duplication of the Melton line
- duplication of the Melton line
- electrification of the Melton line
- capacity upgrades where the Melton line meets the metropolitan network at Sunshine Station (part of the Sunbury line).

Next steps

Proponent to be identified.

North East Link[3]



LOCATION
Melbourne, Vic

TIMESCALE
Medium term (5–10 years)

PROPONENT
Victorian Government

Problem

The option for freeway travel between Melbourne's north and south-east is currently limited, and requires passing through Melbourne's inner city, which is regularly congested with 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 km – is congested and operating close to capacity during peak periods, making it inadequate for supporting commercial and freight transport activities.

The Australian Infrastructure Audit 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

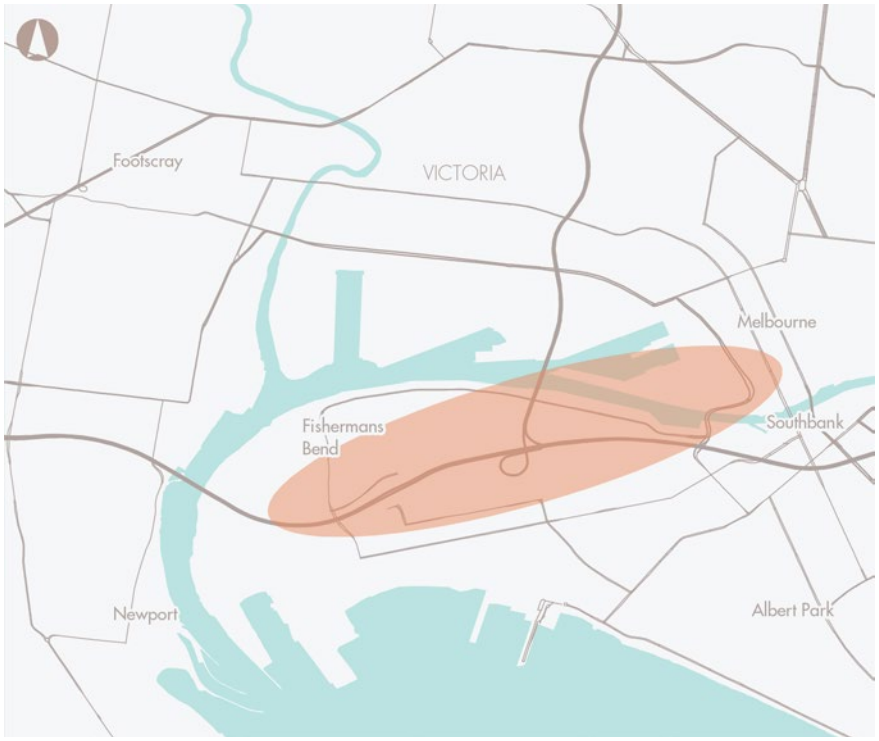
Development of a new motorway-standard connection between the Metropolitan Ring Road and Eastern Freeway ('North East Melbourne Corridor') to reduce congestion and capacity constraints.

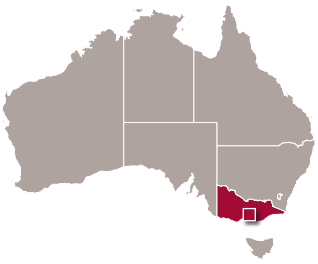
Next steps

The Victorian Government is currently finalising a business case.

3 This initiative was previously referred to as 'Complete Metro Ring Road from Greensborough to the Eastern Freeway'.

Public transport access to Fishermans Bend





LOCATION
Melbourne, Vic

TIMESCALE
Medium term (5–10 years)

PROPONENT
Victorian Government

Problem

Fishermans Bend, located south-west of Melbourne's CBD, is Australia's largest urban renewal project, covering an area of approximately 480 hectares. The precinct is planned to accommodate up to 80,000 residents and 60,000 jobs by 2051.

This level of development would increase transport demand in and out of the precinct well beyond the capacity of current transport infrastructure. Access to Fishermans Bend is currently heavily dependent on car travel, reflecting the area's legacy of industrial land uses. Current public transport access to the area is limited to low frequency bus services.

In the absence of additional public transport capacity, the transport network serving Fishermans Bend would become increasingly congested, limiting the site's potential as a location for residential and employment development. Increasing public transport capacity to the area would address a significant emerging capacity shortfall, and enable full development of the site, with nationally significant benefits to productivity.

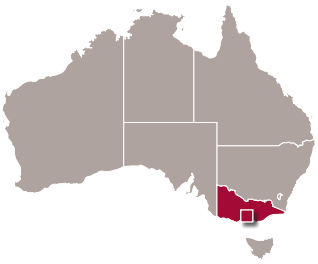
Proposed initiative

A high-capacity, rapid transport link connecting Fishermans Bend with the Melbourne CBD. This could be an extension of Melbourne's tram/light rail network, or an alternative solution.

Next steps

Initiative identification and options development.

Melbourne outer northern suburbs to CBD capacity upgrade



LOCATION
Melbourne, Vic

TIMESCALE
Longer term (10–15 years)

PROPONENT
Infrastructure Australia identified initiative

Problem

The Australian Infrastructure Audit 2015 noted that by 2031 the Hume Freeway would become the most congested corridor in Victoria, 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 line would become the most crowded in Melbourne by 2031.

Traffic demand growth along the corridor is expected to be driven by population and employment growth in the area. Victorian Government projections indicate that population in the corridor is expected to almost double between 2015 and 2031, while the Northern Growth Corridor Plan indicates the corridor has the capacity to accommodate between 83,000 and 105,000 new jobs.

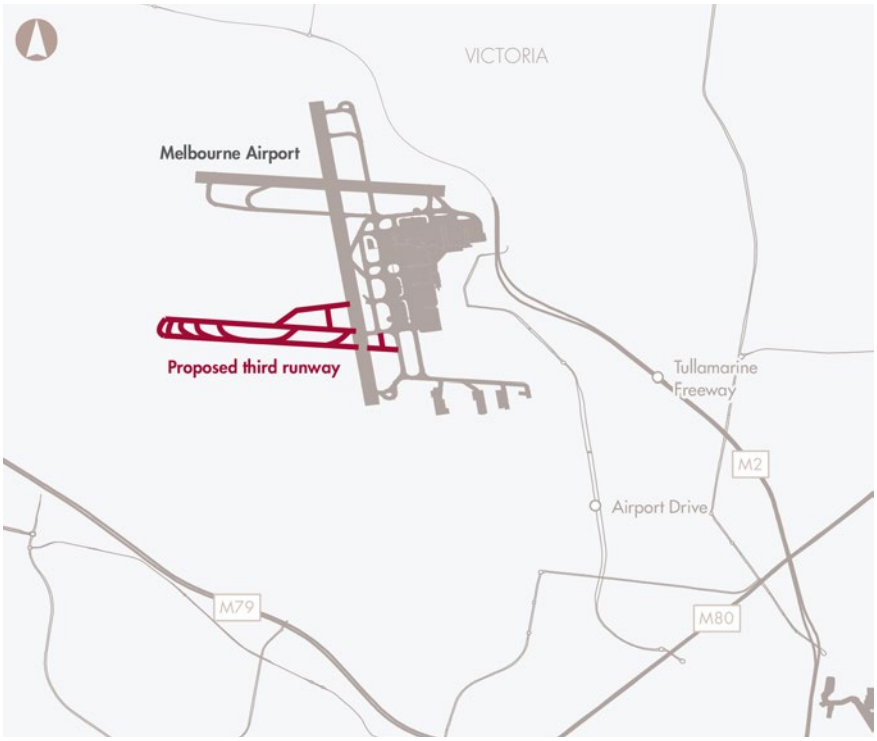
Proposed initiative

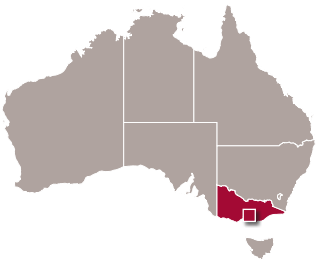
Develop options to address demand for transport services in the corridor.

Next steps

Proponent to be identified.

Melbourne Airport third runway





LOCATION
Melbourne Airport, Vic

TIMESCALE
Near term (0–5 years)

PROPONENT
Melbourne Airport

Problem

Melbourne Airport is Australia's second-busiest airport, handling almost 35 million passengers and 237,000 aircraft movements in 2016–17. The airport's contribution to Gross State Product is forecast to increase from $1.47 billion in 2013 to $3.21 billion by 2033 ($2012), 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.

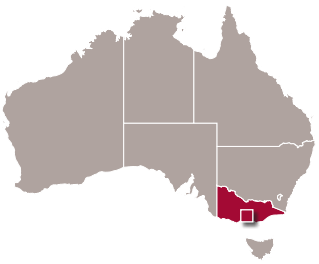
Proposed initiative

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

Business case development.

Melbourne container terminal capacity enhancement



LOCATION
Melbourne, Vic

TIMESCALE
Longer term (10–15 years)

PROPONENT
Infrastructure Australia identified initiative

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 6% per year over the last two decades. The Australian Infrastructure Audit 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

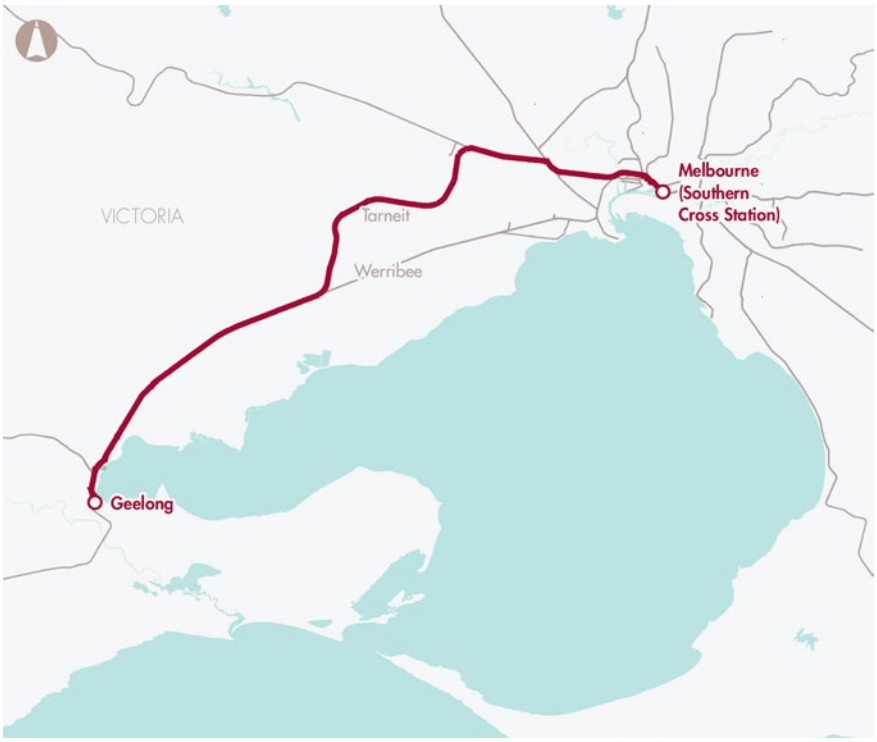
Planning and construction of additional container terminal capacity in Melbourne to cater for projected increases in containerised freight volumes.

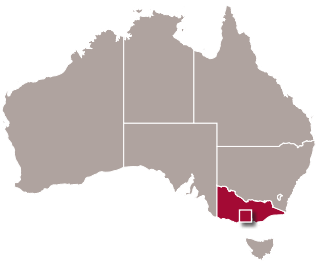
This initiative includes optimising the capacity of existing ports, as well as longer-term planning and potential site preservation for future facilities. Infrastructure Victoria has advised the Victorian Government that Bay West should be the preferred location for a second major container port.

Next steps

Proponent to be identified.

Melbourne–Geelong rail capacity enhancement





LOCATION
Melbourne–Geelong, Vic

TIMESCALE
Longer term (10–15 years)

PROPONENT
Infrastructure Australia identified initiative

Problem

Geelong is Victoria's second-largest city, with a population projected to increase from 286,000 in 2016 to 445,000 by 2046. The existing passenger rail line between Melbourne and Geelong is expected to become capacity constrained in peak periods as more people travel between the two economic centres.

Limited capacity, and limited train speeds resulting from the inability to run express services between the two centres, will limit Geelong's potential to grow as an economic hub to complement Melbourne. Increased rail capacity between the two cities, and faster travel times, would not only address emerging demand, but would also provide a nationally significant opportunity to facilitate growth in a key regional city.

Proposed initiative

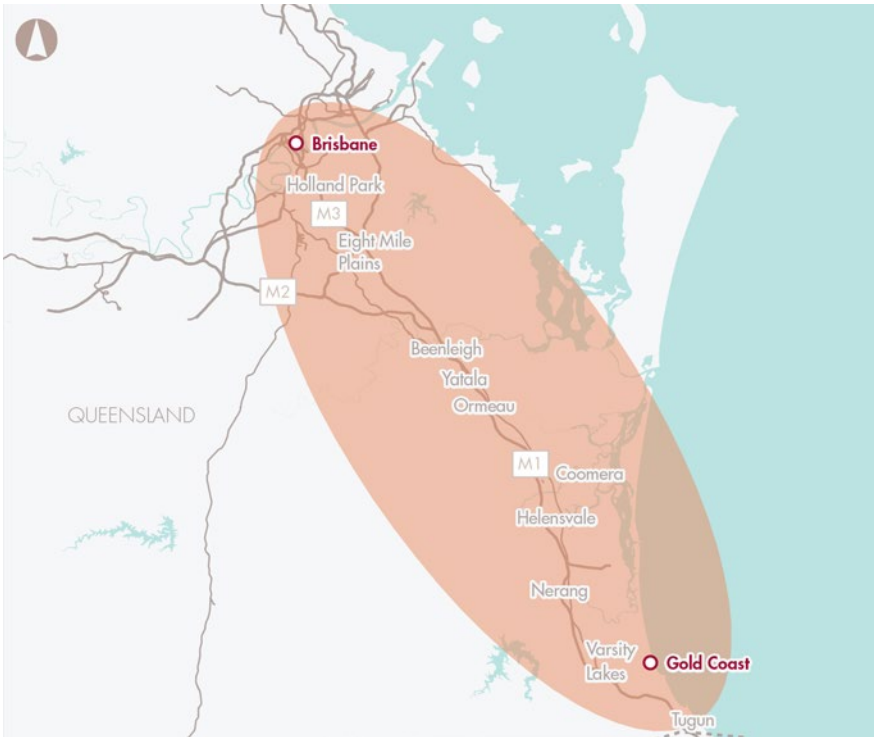
There are a number of opportunities to address this emerging capacity gap. The current rail service is provided by diesel trains with limited capacity. Electrification of the line would allow operation of higher capacity trains with increased reliability and interoperability with the Melbourne metropolitan rail system. Duplicating the existing single track pair would also allow for express services to operate through the suburban Melbourne sections of the line, providing faster journey times between Geelong and Melbourne.

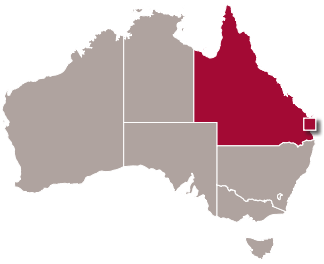
Future growth in the region will need to be monitored to determine the optimal timing for and scope of infrastructure upgrade appropriate for the corridor.

Next steps

Proponent to be identified.

Brisbane to Gold Coast transport corridor upgrades





LOCATION
Brisbane–Gold Coast, Qld

TIMESCALE
Near term (0–5 years)

PROPONENT
Queensland Government

Problem

The Brisbane to Gold Coast corridor is subject to high levels of demand, leading to congestion at peak and inter-peak times across both road and rail networks. The Australian Infrastructure Audit 2015 projected that, without intervention, the cost of congestion on key corridors in the Gold Coast region would increase by over $1 billion between 2011 and 2031.

On certain sections of the M1 Pacific Motorway, daily traffic volume exceeds 150,000 vehicles, around 40% of which is heavy and light commercial vehicles. During peak periods, users experience poor reliability and increasing journey times, particularly where congestion creates bottleneck sections. Road incidents are a major contributor to poor reliability, with over 12,000 incidents reported on the M1 and Pacific Motorway annually.

In the absence of proper planning and investment, future growth in population, employment, tourism and freight will lead to an increase in the cost of congestion in the corridor, with an adverse impact on the region's productivity.

Proposed initiative

The initiative sets out a 10-year network-wide program for upgrades to transport infrastructure in the corridor. It identifies 33 proposed infrastructure upgrades to the road, rail, cycling and bus transport networks to deliver more efficient, reliable and safe transport. Three of these proposals are separately listed on the Infrastructure Priority List:

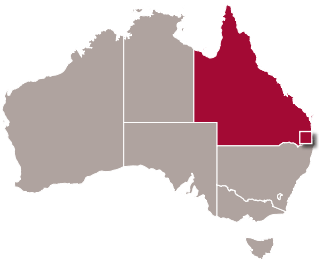
- Widening of the M1 Pacific Motorway from six to eight lanes between Eight Mile Plains and Daisy Hill.
- Widening of the M1 Pacific Motorway from four to six lanes between Varsity Lakes and Tugun.
- Capacity improvements to the Gold Coast Rail Line between Kuraby and Beenleigh.

Next steps

Different upgrades in the initiative are at various stages of development.

M1 Pacific Motorway

Eight Mile Plains to Daisy Hill



LOCATION
Eight Mile Plains to Daisy Hill, Qld

TIMESCALE
Near term (0–5 years)

PROPONENT
Queensland Government

Problem

The M1 Pacific Motorway is a vital component of the National Land Transport Network and serves as the main route for long distance freight and passenger traffic between Brisbane and Sydney. The South East Queensland section of the M1 Pacific Motorway is the primary north–south arterial that connects the key population and employment centres of Brisbane, Logan and the Gold Coast. The M1 also services and connects major transport hubs and industrial precincts, including the Gold Coast and Brisbane International Airports, and the Port of Brisbane.

The M1 Motorway is one of the busiest roads in Australia, carrying in excess of 150,000 vehicles per day, including over 12,000 heavy vehicles. The Motorway cannot currently accommodate this volume of traffic and, as a result, experiences frequent and prolonged periods of congestion. The section between Eight Mile Plains and Daisy Hill, which is just south of the M1/Gateway merge, is heavily congested on most days as vehicles travel in and out of Brisbane from the rapidly growing Gold Coast, northern New South Wales and Logan regions. As this congestion increases over time, the resulting delays will have nationally significant impacts on productivity.

Proposed initiative

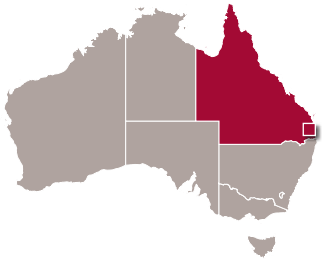
The M1 Pacific Motorway (Eight Mile Plains to Daisy Hill) initiative focuses on resolving capacity, efficiency and safety issues on 9 km of the Motorway between Eight Mile Plains and Daisy Hill.

Next steps

Business case development.

Gold Coast Rail Line capacity improvement

Kuraby to Beenleigh



LOCATION
Kuraby to Beenleigh, Qld

TIMESCALE
Near term (0–5 years)

PROPONENT
Queensland Government

Problem

The Brisbane to Gold Coast rail line connects Gold Coast City and Logan City with the Brisbane CBD and Brisbane Airport. The rail line moves approximately 20,000 passengers during the combined morning and afternoon peaks each day. The rail line is subject to strong growth in passenger demand, driven by population growth in the Brisbane to Gold Coast corridor.

The existing rail line is two tracks south of Kuraby station, and subject to a range of constraints including tight curves which limit line speeds, and level crossings. During peak periods, express services that travel from the Gold Coast into Brisbane must share a single track with 'all stops trains' between Kuraby and Beenleigh. This limits the number of services that can be provided to support growth in travel demand between the cities of Brisbane, Logan and the Gold Coast.

Infrastructure and operational constraints on the line have already resulted in overcrowding during peak periods. Failure to address these capacity constraints is likely to lead more potential rail users to instead using the already congested M1 Motorway. This will lead to additional travel times, with nationally significant impacts on productivity.

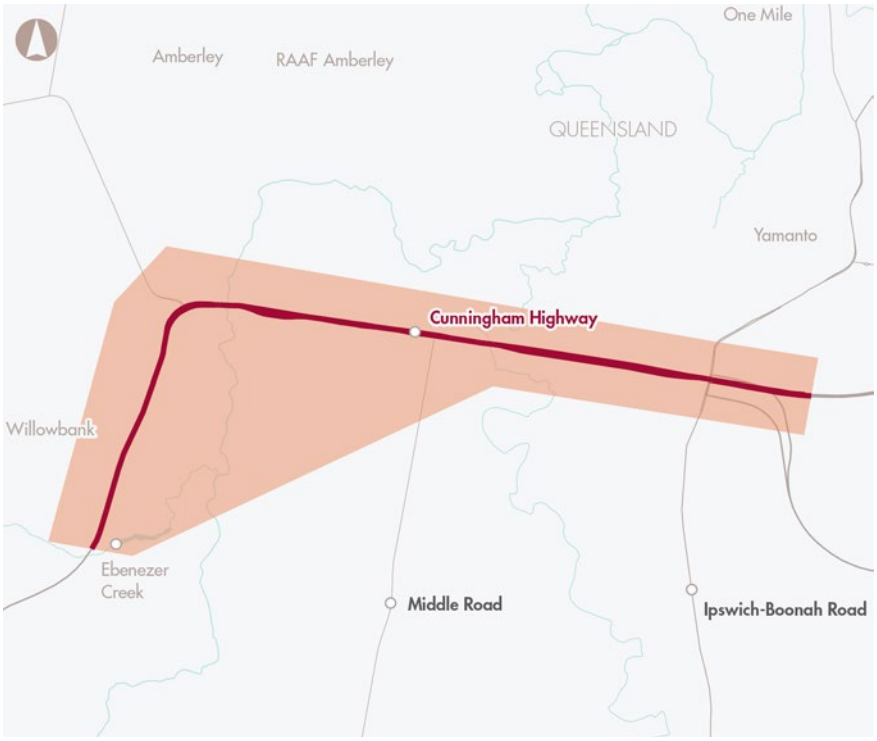
Proposed initiative

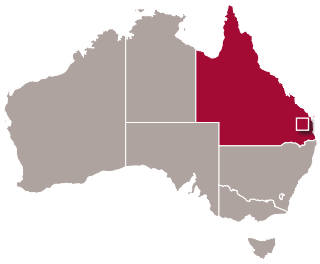
Additional capacity between Kuraby and Beenleigh would allow for the separation of express and all stops services, with associated travel time savings and reliability improvements for passengers.

Next steps

Initiative identification and options development.

Cunningham Highway – Yamanto Interchange to Ebenezer Creek[4]





LOCATION
Yamanto to Ebenezer, Qld

TIMESCALE
Near term (0–5 years)

PROPONENT
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 meet 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 km 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.

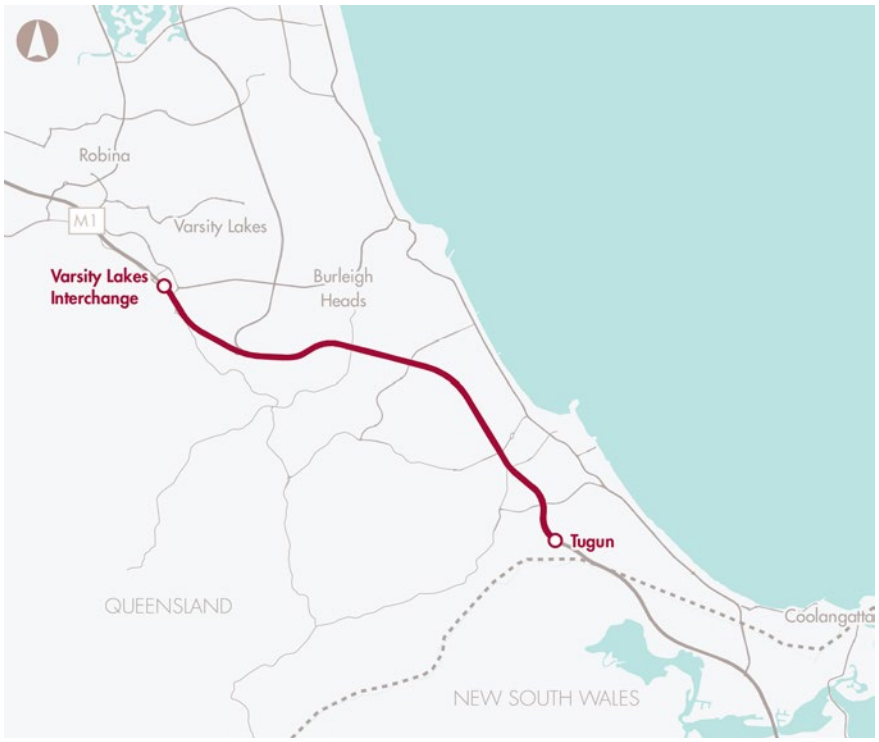
Next steps

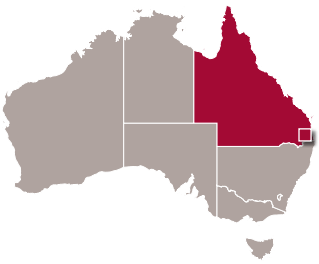
The business case has been submitted to Infrastructure Australia for evaluation in 2017.

4 This initiative was previously referred to as the 'Cunningham Highway – Yamanto to Ebenezer/Amberley upgrade'.

M1 Pacific Motorway

Varsity Lakes to Tugun





LOCATION
Varsity Lakes to Tugun, Qld

TIMESCALE
Near term (0–5 years)

PROPONENT
Queensland Government

Problem

The M1 Pacific Motorway is the primary road corridor connecting Brisbane to the Gold Coast and south to New South Wales. The M1 Motorway carries passenger, commercial and freight vehicles and provides access to Brisbane and Gold Coast International Airports, the Port of Brisbane and residential, industrial and commercial precincts along the Brisbane to Gold Coast corridor.

The section of the M1 Motorway between Varsity Lakes and Tugun is two lanes in each direction and currently carries in excess of 90,000 vehicles per day. Current traffic volumes exceed the design capacity of the Motorway, creating congestion with nationally significant costs. The lack of an alternative route exacerbates congestion issues when there are incidents on the Motorway. By 2036, congestion impacts are expected to worsen and result in over 6,600 vehicle hours of delay each day. Average vehicle speeds over the 10 km section are expected to drop to between 50-60 km/hour for up to 8 hours each day, resulting in nationally significant losses in productivity.

Over the medium- to long-term, population growth is expected to remain strong in the Gold Coast area, while employment growth is expected to be strongest in Brisbane. Given this projection, the Varsity to Tugun section of the M1 corridor will continue to be critical in connecting residential areas in the south to job prospects in Brisbane.

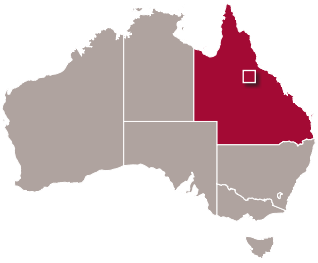
Proposed initiative

Widening the Varsity Lakes to Tugun section of the M1 Pacific Motorway would provide significant additional capacity for freight trips between Brisbane and northern New South Wales, and regional trips accessing Gold Coast Airport, and tourism and employment destinations.

Next steps

Initiative identification and options development.

Mount Isa–Townsville rail corridor upgrade



LOCATION
Far North Queensland

TIMESCALE
Medium term (5–10 years)

PROPONENT
Queensland Government

Problem

The current rail line between Townsville and Mount Isa is capacity constrained 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 a moderate scenario, estimated to be 20 million tonnes per year. In 2011, the line carried 6 million tonnes and had a theoretical capacity of 7.5 million tonnes.

Proposed initiative

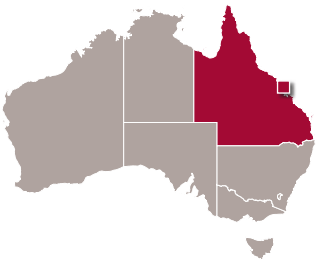
The initiative proposes the following works:

- Enhancements to western sections of the Mount Isa to Townsville Rail Corridor.
- Construction of a new 6.5 km 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.

Gladstone Port land and sea access upgrade



LOCATION
Gladstone, Qld

TIMESCALE
Medium term (5–10 years)

PROPONENT
Gladstone Ports Corporation

Problem

The Australian Infrastructure Audit 2015 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.

Gladstone Port handled 121.2 million tonnes in 2016–17. The Port's most recent 50-year plan (2012) envisages the port's capacity will ultimately grow to 250–300 million tonnes per year. The Audit noted that Gladstone Port handled around 7.5% of Australia's total bulk imports and exports (measured in gross mass tonnes) in 2012–13.

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

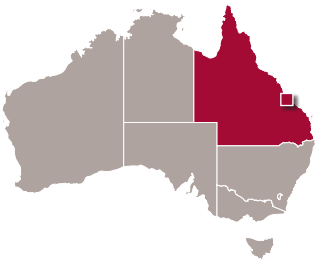
The proposal covers a range of potential projects including:

- 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

Initiative identification and options development.

Bruce Highway Upgrade



LOCATION
Brisbane to Cairns, Qld

TIMESCALE
Various

PROPONENT
Queensland Government

Problem

The Bruce Highway is Queensland's major north–south corridor, connecting coastal population centres from Brisbane to Cairns. The Highway is part of Queensland's Priority Freight Network and forms part of the National Land Transport Network.

With Queensland's freight task expected to double over the next 20 years, the highway is expected to have to accommodate a significant increase in freight volumes. The Highway's roles in connecting regional centres and facilitating significant freight movement were identified as key regional priorities for Queensland in the Australian Infrastructure Audit 2015.

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. This diminishes Queensland's freight productivity.

Proposed initiative

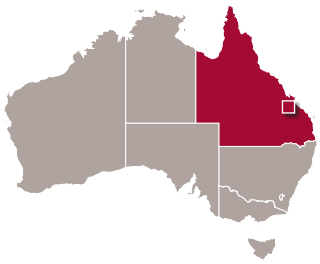
Progressive priority upgrades to the Bruce Highway to address specific capacity constraints, flood resilience and safety concerns. Major planned works include:

- Cooroy to Curra (Section D)
- Townsville Ring Road Stage 5
- Burdekin deviation
- Edmonton to Gordonvale duplication
- Maroochydore Road interchange
- Ingham to Cardwell Range deviation.

Next steps

Individual upgrade projects are at various stages of development.

Lower Fitzroy River water infrastructure development



LOCATION
Fitzroy River, Central Queensland

OPPORTUNITY TIMESCALE
Near term (0–5 years)

PROPONENT
Gladstone Area Water Board and SunWater

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 year by 2020.

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

Proposed initiative

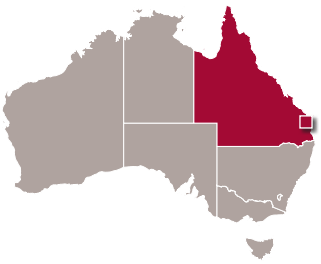
The initiative proposes increasing water storage in the region by constructing a new weir at Rookwood on the Fitzroy River.

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

Next steps

The business case has been submitted to Infrastructure Australia for evaluation in 2018.

Preserve corridor for Salisbury to Beaudesert rail connection



LOCATION
Brisbane to Beaudesert, Qld

TIMESCALE
Near term (0–5 years)

PROPONENT
Queensland Government

Problem

The South East Queensland region's population is projected to increase by 2 million people between 2015 and 2041. Under current Queensland Government plans, much of this growth will be accommodated in the south-west of the region. The Logan Local Government Area (LGA) is expected to accommodate an additional 277,300 people, and the Scenic Rim LGA is expected to accommodate an additional 22,200 people, bringing its population to 62,000. Further growth beyond 2041 is anticipated.

Without improvements to public transport, much of the associated growth in transport demand from this area will need to be accommodated on a road network that will become progressively more congested. Unless a corridor for improved rail transport is protected, opportunities to provide sufficient rail capacity could be 'built out'.

Proposed initiative

The 54 km proposed corridor would link Salisbury to Beaudesert in Brisbane's south-west region. The corridor largely aligns with the existing interstate rail line between Salisbury and Kagaru. The initiative is aimed at providing for electrified passenger rail services, with 12 stations, and additional space for duplication of the existing interstate freight line. A cycleway is proposed along sections of the corridor.

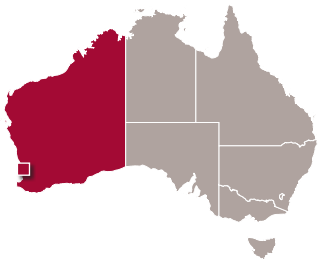
The initiative is close to the alignment for a section of the proposed east coast high speed rail line (also a corridor protection initiative on the Infrastructure Priority List). Subject to further design development, the initiative could be adapted to provide sufficient space for a high speed rail line.

The Queensland Government is now progressing proposed planning for the Salisbury to Beaudesert Rail Corridor by confirming land requirements and staging to support future passenger demand and land-use changes.

Next steps

Business case development.

Armadale Road bridge



LOCATION
Perth, WA

TIMESCALE
Near term (0–5 years)

PROPONENT
Western Australian Government

Problem

Cockburn Central is an employment, activity and transport hub in south-west Perth. The key east–west route through the centre is Armadale Road, and the major north–south link is the Kwinana Freeway. Residential, commercial and retail growth in the Cockburn Central area is increasing the volume of traffic seeking to access the area.

The existing road configuration does not separate traffic getting on and off the Freeway from traffic seeking to access Cockburn Central. The busy and congested road network fragments the activity centre, with network impacts that affect the movement and productivity of vehicles, including general traffic, bus network access to the heavy rail connection at Cockburn Central, and freight and emergency response vehicles. As congestion in the region increases in the future, increased travel time and reduced travel time reliability will have nationally significant impacts on productivity.

Efforts to ease congestion in this area have so far focused on widening Armadale Road. Construction to convert the last remaining single carriageway section of Armadale Road to dual carriageway is due to commence in 2018. However, widening Armadale Road without creating additional capacity for through traffic accessing the Kwinana Freeway will exacerbate congestion at Cockburn Central.

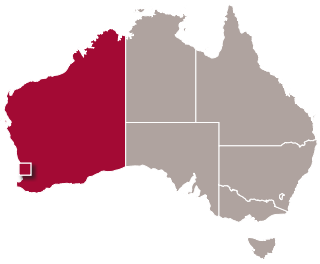
Proposed initiative

A new bridge and freeway interchange bypassing traffic around Cockburn Central would provide easier access to the Kwinana Freeway and Armadale Road.

Next steps

Initiative identification and options development.

Perth rail network capacity



LOCATION
Perth, WA

TIMESCALE
Near term (0–5 years)

PROPONENT
Western Australian Government

Problem

Perth's population is projected to grow from approximately 2 million people in 2016 to 2.5 million by 2026. This growth is expected to occur through the densification of existing urban areas as well as from limited expansion of Perth's overall urban footprint.

Perth's urban rail network will play a vital role in supporting this growth. There were approximately 206,000 daily rail boardings in 2015. This figure is projected to double over the next 15 years. The rail network will need additional capacity to service the city's major growth areas.

In the absence of additional public transport capacity, further strong growth in demand for travel will need to be absorbed by Perth's road network, which is already constrained in peak periods. This would increase congestion, resulting in nationally significant productivity losses associated with high and rising travel time costs.

Proposed initiative

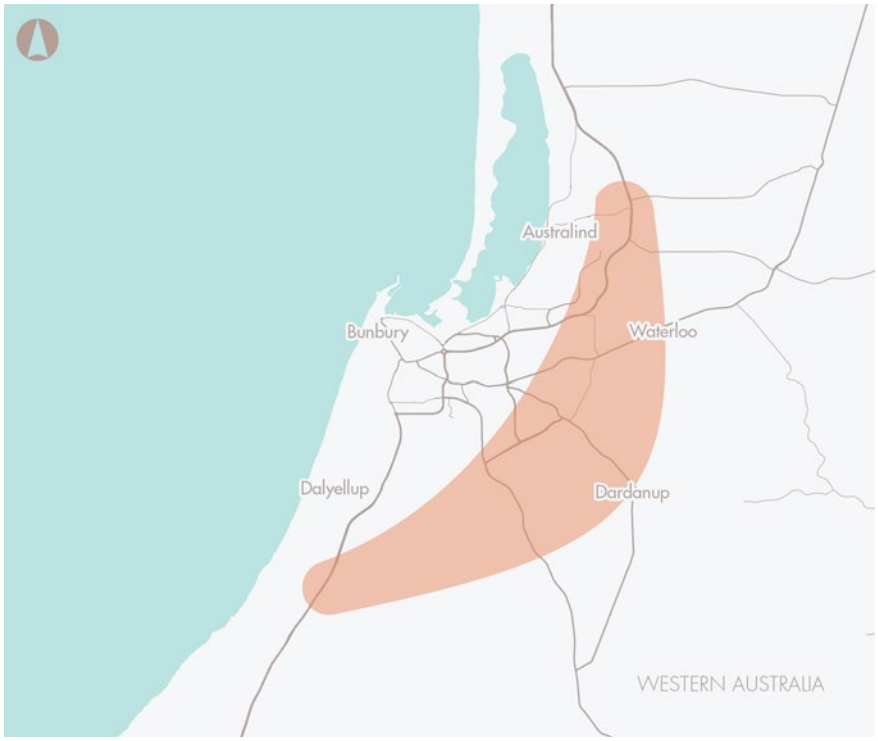
Additional rail network capacity could be realised through line and station upgrades, line extensions, train control and signalling upgrades, level crossing removals, and rolling stock upgrades. These investments will need to align with broader land use and transport planning across the city to deliver an efficient and attractive transport system.

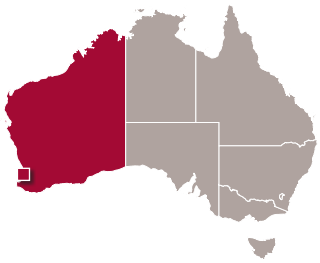
Next steps

Initiative identification and options development.

The Western Australian Government has established the METRONET office to develop business cases for a number of Perth rail network projects.

Bunbury Outer Ring Road





LOCATION
Perth, WA

TIMESCALE
Medium term (5–10 years)

PROPONENT
Western Australian Government

Problem

Bunbury is the second-largest city in Western Australia and one of the fastest growing regional cities in Australia. The Port of Bunbury is Western Australia's fourth-largest port by throughput, accommodating export growth of 3.4% annually between 2012 and 2017.

The Port of Bunbury is located adjacent to the Bunbury CBD and is serviced by five major highways that converge on the eastern outskirts of the city. The location of the Port, in combination with the layout of the road infrastructure, results in freight vehicles passing through urban areas and at-grade intersections and rail crossings. This is leading to travel time delays, increases in vehicle operating costs and issues with safety, noise and air pollution.

Traffic volumes are forecast to continue to increase as a result of population growth, and commercial and industrial growth across the region. Future growth in Port traffic and other traffic streams, along with increasing demand for higher productivity and larger vehicles will exacerbate existing inefficiencies, with increasing costs resulting in nationally significant impacts on productivity, and potentially compromising the competitiveness of the Port and the South West region.

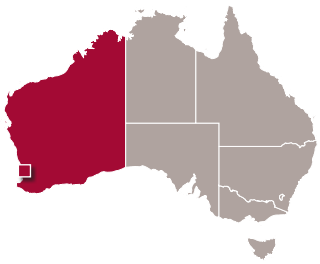
Proposed initiative

Development of a ring road on the outskirts of Bunbury would allow the separation of regional traffic (including vehicles accessing the Port of Bunbury) and local traffic, thereby providing road safety, travel time and freight efficiency benefits.

Next steps

Initiative identification and options development.

Perth Airport third runway



LOCATION
Perth, WA

TIMESCALE
Medium term (5–10 years)

PROPONENT
Infrastructure Australia identified initiative

Problem

Perth Airport is the fourth busiest in the country. The Australian Infrastructure Audit 2015 found Perth Airport will need additional capacity to meet projected growth in demand. 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 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 fly-in fly-out workforce, passenger movements in and out of Perth Airport are concentrated around peak periods.

The high level of demand during peak periods leads to delays, which can lead to higher operating costs for business travellers and fly-in fly-out workers, reducing Australia's international competitiveness.

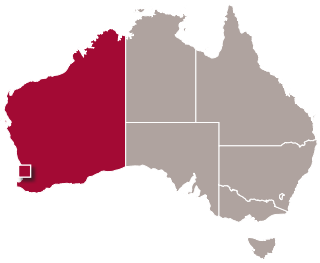
Proposed initiative

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

Next steps

Proponent to be identified.

Perth container terminal capacity and land transport access



LOCATION
Perth, WA

TIMESCALE
Longer term (10–15 years)

PROPONENT
Infrastructure Australia identified initiative

Problem

Fremantle Port handles most of Western Australia's container trade. Throughput at the current container terminal at Fremantle Port is limited by urban development that constrains the road and rail connections into the port.

In 2016–17, the port handled 715,949 containers. Assuming port container traffic continues to grow at 3.5% per year, in line with the average annual growth rate over the decade to 2016–17, the current facility could reach capacity in around 15 years.

These constraints will need to be addressed if the freight supply chain is to remain efficient. These issues were formerly addressed on the Infrastructure Priority List by the Perth Freight Link initiative but are now included as part of this combined container terminal capacity and land transport access initiative.

Additional container terminal facilities, whether located at the current port site, or at a new outer harbour site south of Fremantle at Kwinana, will need to be served by road and rail connections that provide capacity for growth over the economic life of the facilities.

Proposed initiative

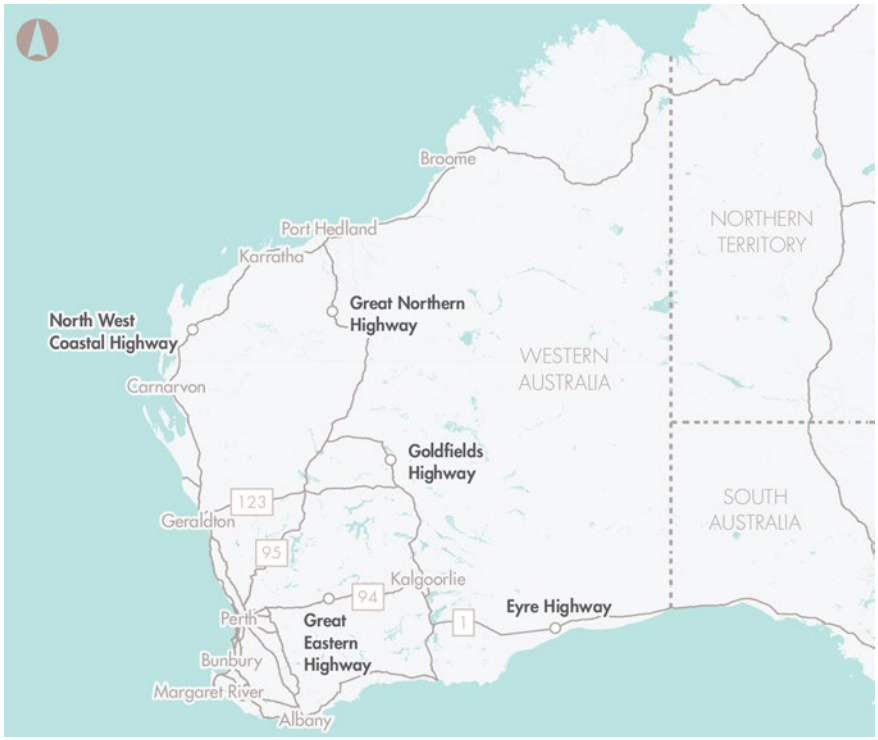
Planning, and potentially corridor and site preservation, for additional container terminal capacity, and road and rail access, to accommodate future demand in Perth.

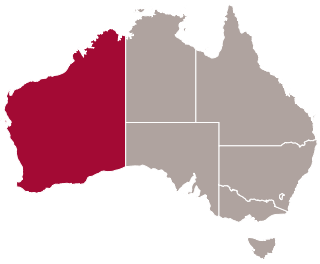
The Westport Taskforce was announced in September 2017 to deliver an integrated strategy to meet the future freight and trade logistics needs for Perth and surrounding regions.

Next steps

Proponent to be identified.

Improve road access to remote WA communities





LOCATION
Remote areas of WA

TIMESCALE
Near term (0–5 years)

PROPONENT
Infrastructure Australia identified initiative

Problem

There are approximately 270 remote communities in Western Australia, many of which are in the Kimberley region, 2,000 km 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 2015 noted that lower levels of infrastructure service in remote areas can reinforce social and economic inequalities.

Proposed initiative

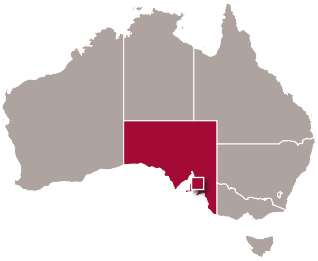
A program of works to improve road access to remote Western Australian areas. This could consider:

- providing higher standard gravel roads
- sealing gravel roads
- floodway improvements
- improvements to remote and regional airstrips.

Next steps

Proponent to be identified.

Adelaide North-South Corridor upgrade (remaining sections)



LOCATION
Adelaide, SA

TIMESCALE
Near term (0–5 years)

PROPONENT
South Australian Government

Problem

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

Sections of the north–south corridor that have not been upgraded are subject to slow travel times and reduced travel time reliability. The Australian Infrastructure Audit 2015 found that South Road, which is part of the north–south corridor, is projected 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 (projected delay cost of $97 million in 2031) and Goodwood Road (projected 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

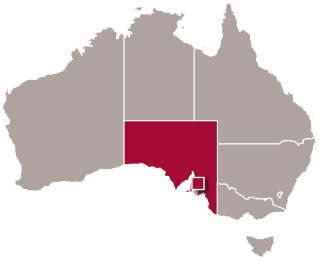
This initiative focuses on the remaining unfunded sections of the north–south corridor: Anzac Highway to Darlington; River Torrens to Anzac Highway; and Regency Park to Torrens Road. When completed, the north–south corridor will be the major transport spine for Adelaide's north–south traffic over a total distance of 78 km.

Next steps

Business case development

AdeLINK tram network

Adelaide tram network expansion



LOCATION
Adelaide, SA

TIMESCALE
Medium term (5–10 years)

PROPONENT
South Australian Government

Problem

The Australian Infrastructure Audit 2015 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 under 9% whereas it is 11.6% in Brisbane, 15.6% in Melbourne and 22.8% in Sydney.

Adelaide's recent employment growth has been centred on the inner and middle suburbs, whereas population growth has been strongest in the middle and outer suburbs. Existing public transport services do not support urban density. A continuation of existing land use patterns 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 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.

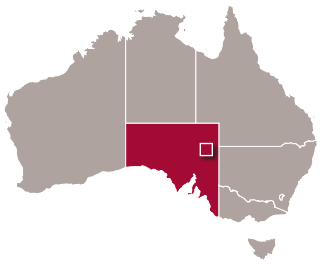
The completed initiative would constitute tram services across inner Adelaide and the CBD, including:

- to Outer Harbour, Port Adelaide, Semaphore, Grange and West Lakes
- to Adelaide Airport and Henley Beach
- to Unley and the south
- to Norwood and Magill Campus
- to Prospect and the north
- a tram loop around the CBD.

Next steps

Business case development.

Strzelecki Track upgrade andmobile coverage



LOCATION
Lyndhurst to Innamincka, SA

TIMESCALE
Near term (0–5 years)

PROPONENT
South Australian Government

Problem

The Strzelecki Track was identified in the Australian Infrastructure Audit 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 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.

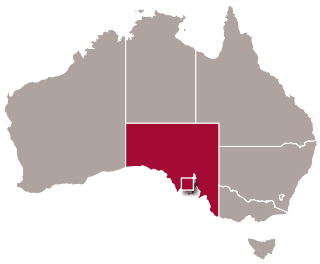
Proposed initiative

Upgrade 426 km of the Strzelecki Track between Lyndhurst and Innamincka, and 26 km of the Nappa Merrie Access Road. This will provide an upgraded connection between South Australia and Queensland. Improvements to mobile phone coverage along the route are also proposed.

Next steps

Business case development.

South Australian regional mineral port development



LOCATION
Spencer Gulf region, SA

TIMESCALE
Medium term (5–10 years)

PROPONENT
South Australian Government

Problem

To date, South Australian mining and resource operations have been accommodated within existing ports and landside transport infrastructure. The Australian Infrastructure Audit 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 that 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.

Proposed initiative

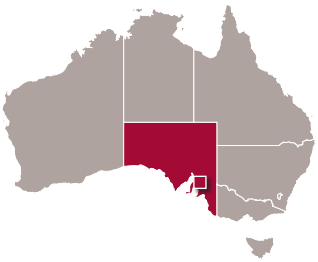
Consider options for the development of bulk commodity port capacity in the Spencer Gulf region. A business case completed in September 2015 identified three sites that could meet potential demand:

- The existing Whyalla Port in the northern Spencer Gulf.
- The Cape Hardy Port on the central eastern Eyre Peninsula, proposed to be developed by Iron Road Limited.
- 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



LOCATION
Truro, SA

TIMESCALE
Medium term (5–10 years)

PROPONENT
South Australian 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. The absence of a fully developed High Productivity Vehicle 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 the main route between Adelaide and Sydney. Freight growth on the Sturt Highway is expected to increase at 1.6% per year. 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.

High Productivity Vehicles have the potential to carry over 30% 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.

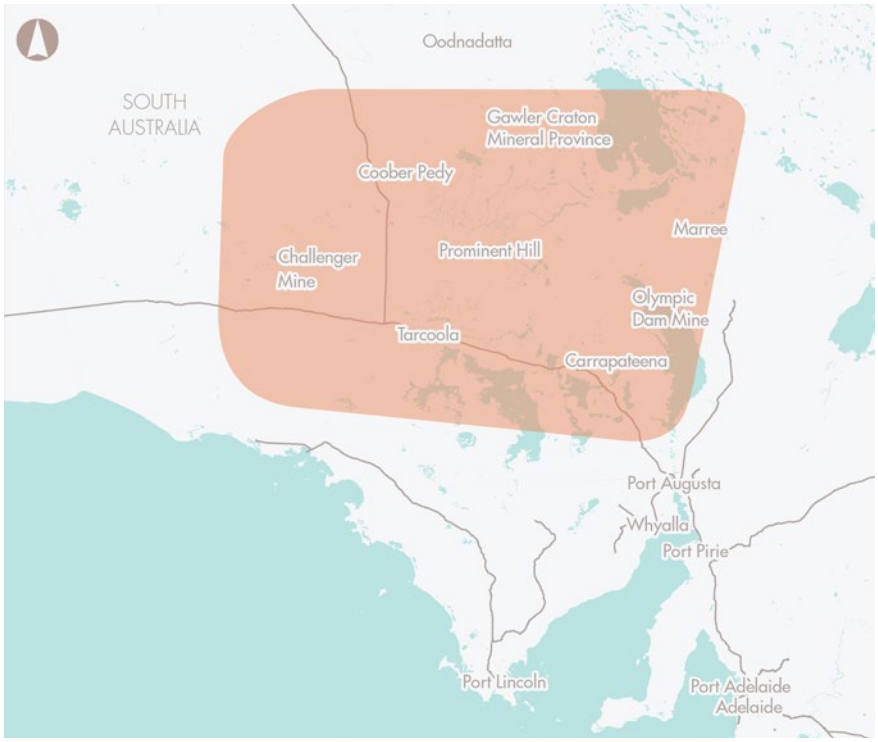
Proposed initiative

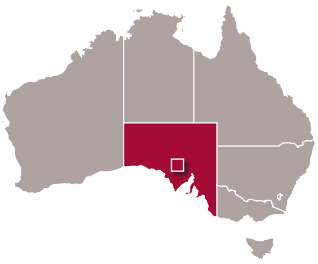
Realignment of the Sturt Highway through the Truro Hills, including a bypass of the town of Truro, to improve safety and allow use of High Productivity Vehicles on the highway.

Next steps

Initiative identification and options development.

Gawler Craton rail access





LOCATION
Gawler Craton minerals region, SA

TIMESCALE
Longer term (10–15 years)

PROPONENT
South Australian Government

Problem

The Gawler Craton is a remote mineral region north-west of the Eyre Peninsula in South Australia. The region, 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.

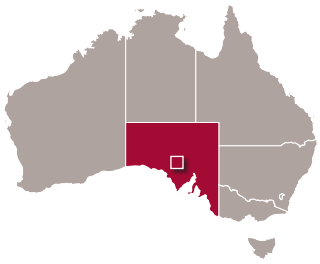
Proposed initiative

The initiative proposes that a third party builds, owns and operates a 350 km 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

Initiative identification and options development.

Melbourne–Adelaide–Perth rail upgrade



LOCATION
Corridor between Melbourne and Tarcoola, SA

TIMESCALE
Longer term (10–15 years)

PROPONENT
South Australian 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 2015 as a key part of the National Land Transport Network. The track handles 80% 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 due to 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

Upgrades 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.

A project to accelerate re-railing of the Adelaide–Tarcoola section of the track, which was previously on the Infrastructure Priority List and is now under delivery, will facilitate higher axle loads, capacity and speed on that section of the track.

Next steps

The Torrens Rail Junction Project is expected to complete final works in early 2018, improving freight productivity between Melbourne and Adelaide.

The South Australian Government is currently identifying initiatives and developing options for other upgrades.

Derwent River crossing capacity

LOCATION
Bridgewater, Tas

TIMESCALE
Medium term (5–10 years)

PROPONENT
Tasmanian Government

Problem

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

The existing bridge and causeway are near the end of their serviceable lives. The bridge has high maintenance costs due to its age, and future refurbishments will be increasingly costly and limited in effect.

Proposed initiative

The initiative involves the development of an alternative Derwent River crossing.

The Tasmanian Government is progressing development of a business case for the preferred option.

Next steps

The Tasmanian Government is currently developing a business case.

Burnie to Hobart freight corridor strategy

LOCATION
Burnie to Hobart, Tas

TIMESCALE
Medium term (5–10 years)

PROPONENT
Tasmanian Government

Problem

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

The corridor connects regional producers to Tasmania's ports, and producers depend on it to bring goods to market at competitive prices. The Audit projects that economic activity in the corridor will increase by 44% between 2011 and 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:

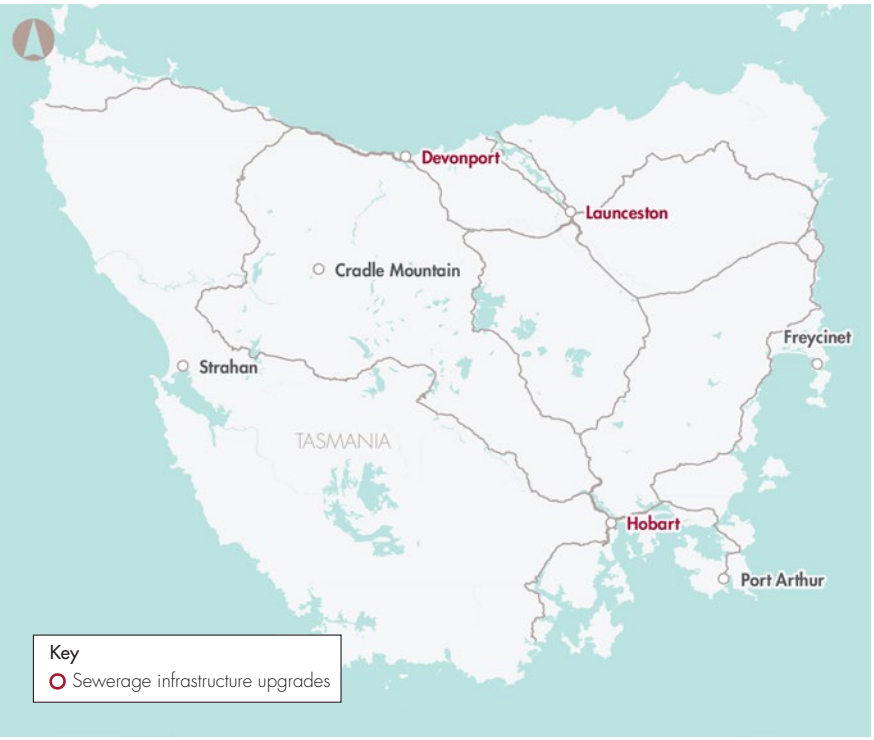
- identify a single, integrated package of investment priorities for road and rail based on freight demand, corridor and system outcomes
- confirm required road and rail infrastructure standards and service levels
- plan for appropriate road freight infrastructure standards across the state road network, including the use of High Productivity Vehicles.

The strategy would be considered in conjunction with the development of the National Freight and Supply Chain Strategy.

Next steps

The Tasmanian Government recently released its Burnie to Hobart Freight Corridor Strategy. The Strategy identifies a number of potential projects to support future freight-related investments, across both road and rail. The Tasmanian Government will be prioritising and preparing business cases for these investments.

Tasmanian sewerage infrastructure upgrades



LOCATION
Hobart, Launceston and Devonport, Tas

TIMESCALE
Near term (0–5 years)

PROPONENT
Tasmanian Government

Problem

The Australian Infrastructure Audit 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, a legacy of past 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 resources and as a preferred tourist destination. Furthermore, a number of sewage treatment plants are located on prime waterfront land in densely populated areas.

Proposed initiative

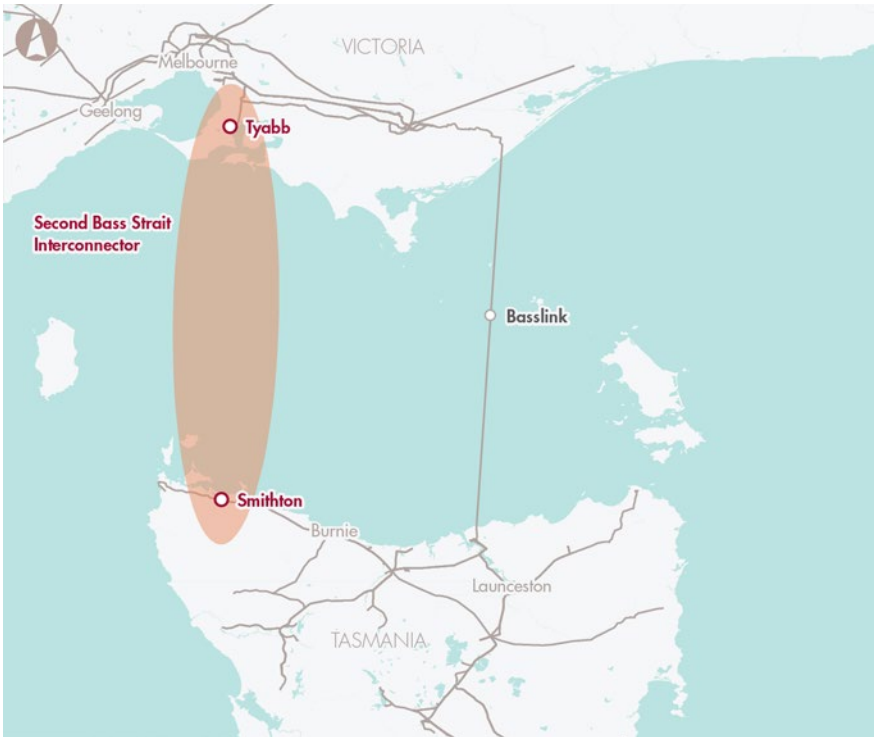
Rationalise existing sewage treatment plants and upgrade and operate a reduced number of sewage treatment plants in Hobart, Launceston and Devonport. This would provide adequate treatment capacity for future growth, minimise environmental regulatory breaches, increase levels of service and improve operational efficiencies.

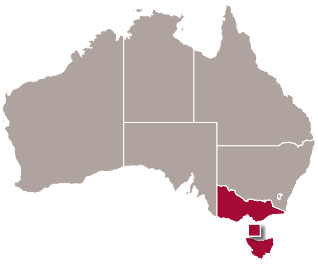
TasWater has released its Long Term Strategic Plan for the period 2018–2037 which includes rationalisation of treatment plants in Launceston and Devonport. The Plan considers individual plant upgrades/ optimisation projects for Hobart.

Next steps

Initiative identification and options development.

Second Bass Strait interconnector





LOCATION
North Tasmania and Vic

TIMESCALE
Longer term (10–15 years)

PROPONENT
Tasmanian Government

Opportunity

With potential for significant increases in renewable energy generation, and for energy storage through the development of pumped hydro, Tasmania has the opportunity to increase the supply, and improve the security of supply, into the National Electricity Market (NEM). Realising this opportunity would depend on additional electricity transmission infrastructure across Bass Strait.

The recent Tamblyn review of the feasibility of a second Bass Strait interconnector found the primary sources of benefits would be:

- deferral of thermal generation investment in Victoria from the mid 2030s
- variable cost savings, with greater Tasmanian energy exports and imports allowing more efficient use of Tasmania's hydro facilities as a battery for the wider NEM.

Subject to development of additional generation and storage capacity in Tasmania, the additional transmission capacity provided by a second interconnector would provide a nationally significant opportunity for productivity benefits for the Australian economy. Improved supply security for Tasmania would be a secondary benefit from the proposal.

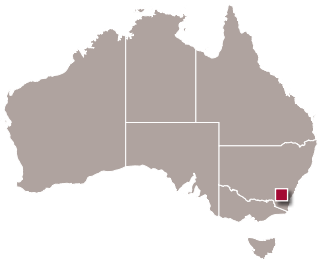
Proposed initiative

Options for a second Bass Strait interconnector between Tasmania and Victoria are being considered as part of the Australian Energy Market Operator's Integrated System Plan, which is currently in consultation, and due to be finalised in June 2018.

Next steps

Initiative identification and options development.

Canberra CBD to north corridor



LOCATION
Canberra, ACT (Civic to Gungahlin)

TIMESCALE
Medium term (5–10 years)

PROPONENT
Australian Capital Territory 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 2015 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.

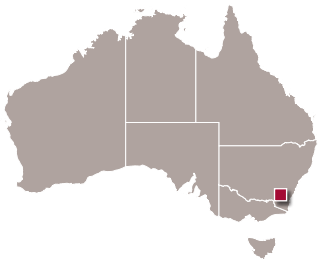
Proposed initiative

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

Next steps

Initiative identification and options development. Construction of light rail between Gungahlin and Canberra CBD is underway.

Canberra public transport improvements



LOCATION
Belconnen, Queanbeyan to central Canberra, ACT

TIMESCALE
Medium term (5–10 years)

PROPONENT
Australian Capital Territory 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

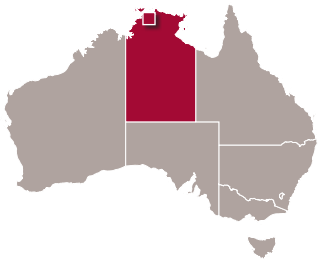
Develop bus transit corridors connecting Belconnen and Queanbeyan to central Canberra. These corridors will provide an integrated transport solution, reducing traffic congestion and providing transport network capacity for future economic development in the region.

Next steps

Initiative identification and options development.

Provision of enabling infrastructure and essential services to remote NT communities

Wadeye, Tiwi Islands, Jabiru



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

TIMESCALE
Near term (0–5 years)

PROPONENT
Northern Territory 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

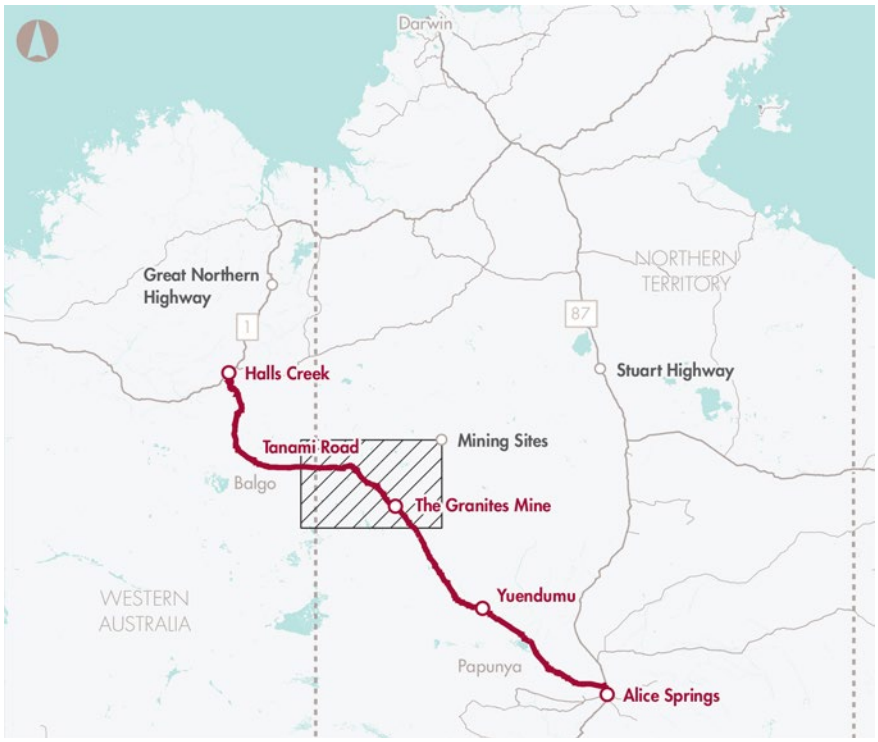
This initiative proposes a portfolio of upgrades to road infrastructure, as well as a range of essential services and community infrastructure upgrades to support economic and social development:

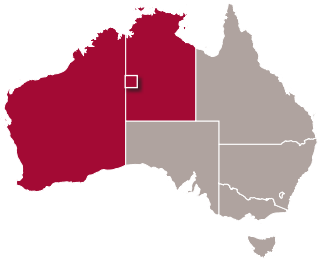
- Road upgrades to improve the accessibility and flood resilience of key road networks.
- Upgrades to provide new or improved water storage facilities and wastewater management facilities in a number of remote population centres.
- Upgrades to provide additional public housing and upgrades to social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

Next steps

The Adelaide River Floodplain upgrade on the Arnhem Highway is under delivery. Business case development for other projects.

Upgrade Tanami Road





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

TIMESCALE
Near term (0–5 years)

PROPONENT
Northern Territory Government

Problem

The key problems identified in the region include:

- limited economic opportunities for Indigenous and non-Indigenous people in the region
- reduced opportunities for employment in remote areas
- reduced access to essential services for the Indigenous population
- limitations to development in mining, tourism and pastoral operations
- high vehicle operating costs
- poor flood immunity resulting in lengthy road closures
- 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 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.

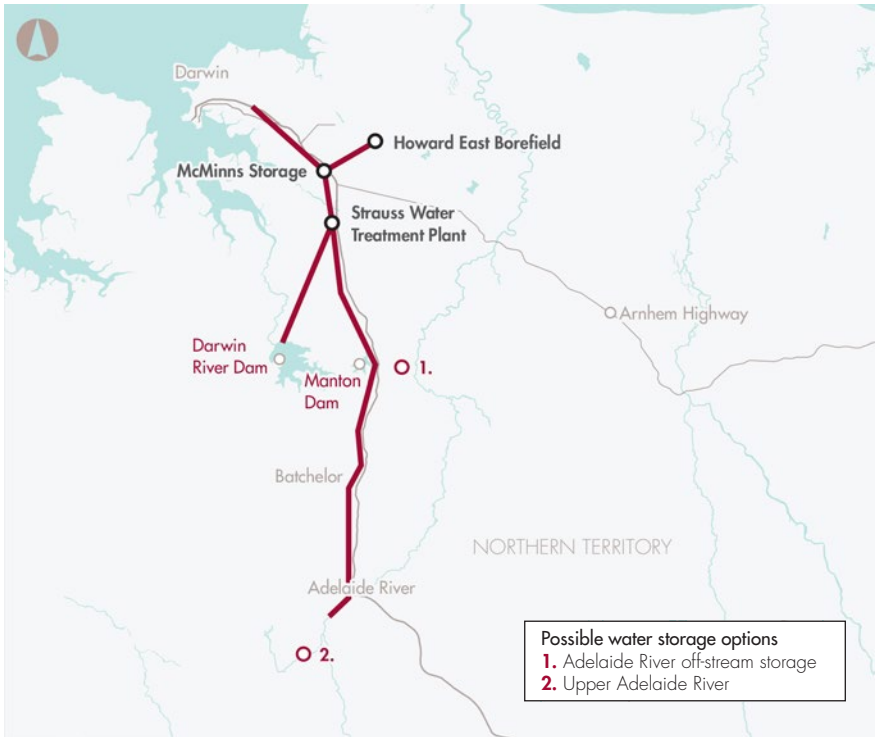
Proposed initiative

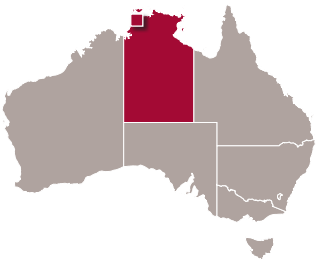
Upgrade and improve flood immunity and resilience for the Tanami Road between the Stuart Highway north of Alice Springs, and the Great Northern Highway at Halls Creek.

Next steps

Business case development.

Darwin region water supply infrastructure upgrades





LOCATION
Darwin, NT

TIMESCALE
Medium term (5–10 years)

PROPONENT
Northern Territory Government

Problem

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

The Northern Australia Audit 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.

This 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

The Northern Territory Government is currently developing options and identifying initiatives.

Appendices

Melbourne Metro, Victoria

Appendix A

Projects under construction

State	Project	Removed from List
New South Wales	Moorebank Intermodal Terminal	2017
	Bringelly Road Upgrade Stage 1	2016
	Bringelly Road Upgrade Stage 2	2017
	NorthConnex	2016
Victoria	CityLink Tullamarine Widening Project	2016
	Melbourne Metro Rail	2017
	Murray Basin Rail Project	2017
Queensland	Bruce Highway Upgrade – Caloundra Road to Sunshine Motorway	2017
	Bruce Highway Upgrade – Cooroy to Curra Section C	2017
	Bruce Highway Upgrade – Mackay Ring Road Stage 1	2017
	Gateway Motorway Upgrade North	2016
	M1 Pacific Motorway – Gateway Motorway merge upgrade	2017
	M1 Pacific Motorway upgrade – Mudgeeraba to Varsity Lakes	2018
	Ipswich Motorway Rocklea–Darra Stage 1c	2017
Western Australia	Forrestfield Airport Link	2017
	Armadale Road Upgrade	2017
	Mitchell Freeway extension Burns Beach Road to Hester Avenue	2016
South Australia	North–South Corridor (Darlington Upgrade Project)	2017
	Adelaide–Tarcoola Rail Upgrade Acceleration	2017

Appendix B

Projects under assessment

Jurisdiction	Proposed Project
Queensland	Lower Fitzroy River Infrastructure Project
	Cunningham Highway – Yamanto Interchange to Ebenezer Creek
South Australia	Adelaide's North – South Corridor: Regency Road to Pym Street
	Gawler Rail Line Electrification and Modernisation

This information is correct as at 27 March 2018.

Appendix C

Accessible longform graphic

Post-Completion Review
A diagram summarising the five stages of the Infrastructure Australia Assessment Framework and the outcomes associated with each stage.

Stage 1: Problem Identification and Prioritisation.
The outcome from Stage 1 is the identification of an Infrastructure Priority List initiative based on an identified problem and/or opportunity.

Stage 2: Initiative Identification and Options Development.
The outcome from Stage 2 is the identification of a shortlist of options for an Infrastructure Priority List initiative

Stage 3: Business Case Development.
The outcomes from Stage 3 is the development of a business case for an Infrastructure Priority List initiative, to address the problem/opportunity identified in Stage 1 based on the options shortlisted in Stage 2.

Stage 4: Business Case Assessment.
The outcome from Stage 4 is an Infrastructure Priority List project.

Stage 5: Post-Completion Review.

Infrastructure Priority List
Australian Infrastructure Plan

March 2018

Infrastructure Australia
GPO Box 5417 Sydney NSW 2001 Australia
T +61 2 8114 1900
E mail@infrastructureaustralia.gov.au
W infrastructureaustralia.gov.au