

5.0 Regional Transport

STRATEGIC OBJECTIVE

Improve regional producers' access to markets through investments supporting freight productivity

KEY CHALLENGES

- Manage a growing regional freight task efficiently
- Improve road freight productivity, particularly on major road freight corridors
- Tackle constraints and 'pinch points' on the local road network
- Improve the regional freight rail network and move more freight by rail where economically viable
- Make passenger transport investments that match the needs of a growing regional population

OPPORTUNITY

KEY Infrastructure NSW RECOMMENDATION

COSTS & FUNDING

Safer, more efficient road freight corridors

- Complete the Newell Highway Strategy and develop corridor strategies for the Golden Highway, New England Highway and Great Western Highway by mid-2016
- Establish a Regional Freight Road Corridor Fund, with investment priorities guided by freight productivity needs within the four proposed corridor strategies

Reservation of \$2 billion from the *Rebuilding NSW* initiative

Remove constraints on the local road network

- Expand the Bridges for the Bush program
- Deliver further rounds of the Fixing Country Roads program
- Investigate opportunities to leverage further private, council and/or Commonwealth contributions towards these programs

Reservations of \$200 million and \$500 million respectively from the *Rebuilding NSW* initiative

A viable, efficient regional rail freight network

- Establish a Fixing Country Rail program to tackle constraints on the rail network that reduce the efficiency of freight connections

Reservation of \$400 million from the *Rebuilding NSW* initiative

Keep pace with regional population growth

- Accelerate road network planning and investment to support the development of regional growth areas

Reservation of \$1 billion from the *Rebuilding NSW* initiative

Make passenger transport investments

- Develop a Mainline Acceleration Program to improve journey times between Sydney and the Central Coast and Illawarra (see Chapter 2)

Snapshot

- Regional freight supports production worth more than \$80 billion each year to the NSW economy. Agriculture, forestry and fishing, manufacturing and mining account for most of the freight from regional centres.
- NSW's most significant road freight corridors are the Hume and Pacific Highways connecting the east coast capital cities. Other major routes include the Great Western Highway, New England Highway and the Newell Highway.
- NSW's rail freight network includes the 3,270 kilometre interstate and Hunter Valley network leased to the Australian Rail Track Corporation and the 2,400 kilometre Country Regional Network managed by Transport for NSW.
- In 2013, the NSW rail network carried 157 million tonnes of freight (33 per cent of the total State freight task). Coal made up most of NSW's rail freight task, with significant grain and cotton movements drawn from across western NSW.
- The regional freight network in NSW plays a critical role in supporting the national freight task, with 75 per cent of interstate truck freight in Australia using the NSW road network for some part of its journey.
- Around 260 million tonnes of the NSW freight task originates in regional NSW. Together, the Hunter and Illawarra generate two thirds of all regional freight volumes in NSW.
- The cost of getting goods to port, including loading, accounts for around 15 per cent of the total cost of getting Australian coal to market.
- Over the next 20 years, the combined population of Newcastle and the Upper Hunter will increase by 120,000 people, while the Illawarra will grow by 65,000.
- The primary mode of transport for regional communities is private vehicle, with 90 per cent of the 7.5 million daily passenger trips in regional NSW occurring by car and only 1 per cent and 2 per cent respectively involving bus or train travel.

5.1 Summary

Safe, efficient and reliable transport connections are vital to regional communities and businesses. They are also essential to the productivity of industries that need to move freight around the State and to and from export gateways. While significant improvements have been made to regional road and rail networks in recent years, more needs to be done to service the increasing freight task and a growing regional population.

Strong growth is forecast over the next 20 years across NSW's major freight regions, including the Hunter and Illawarra. Coal production, generally moved by rail to port, is projected to drive growth, with new capacity requirements on the rail network largely met through Commonwealth and private investment.

Regional transport investments should aim to make producers' connections with domestic markets and international gateways more efficient and reliable – noting that investment in freight transport infrastructure often returns a 'double dividend', in that it can also improve safety and passenger transport outcomes.

While road freight productivity has more than doubled over the past 40 years, it has now slowed. Infrastructure improvements along major road freight corridors are needed to allow larger vehicles to move between regional centres, communities and gateways safely and efficiently. These improvements include bridge upgrades, overtaking lanes and driver rest areas. Infrastructure NSW endorses the corridor strategy model adopted by Transport for NSW for the Newell Highway corridor for identifying priorities and recommends the development of similar strategies for the Golden Highway, New England Highway and Great Western Highway.

Local road infrastructure can constrain freight network connections, imposing higher costs on business and communities. The NSW Government has established a number of programs that target local road improvement projects – notably Bridges for the Bush and Fixing Country Roads – and Infrastructure NSW recommends reserving further resources to complete or extend these programs.

A viable regional rail freight network – one with the capacity to carry a greater share of the total freight task – is critical to the productivity and competitiveness of regional businesses, as well as the broader NSW economy. Transport for NSW is developing an investment program, Fixing Country Rail, to address constraints on the network, such as steep gradients, inadequate passing loops, speed- and load-restricted bridges and delays due to passenger/freight train interactions. Infrastructure NSW recommends reserving \$400 million from the *Rebuilding NSW* initiative for this program, with detailed business cases to be developed by mid-2016.

With strong population growth predicted for a number of regional centres over the next two decades, transport investment should focus on serving this growth and ensuring that regional connections support the new economic and employment opportunities generated by an increasing population. Infrastructure NSW recommends a reservation of \$1 billion from the *Rebuilding NSW* initiative for investment in the regional road network, focusing on projects that will help to manage increasing travel demand in the fast-growing regions of the Central Coast, the Lower Hunter, the Southern Illawarra and the Far North Coast.

5.2 Progress since 2012

The past two years have seen improvements to key parts of the road network in regional NSW:

- The duplication of the Hume Highway was completed with the opening of the Holbrook bypass in 2013.
- A number of new sections of the Pacific Highway have been duplicated, with the length of dual carriageway increasing from 346 kilometres at the end of 2012 to 397 kilometres by the end of August 2014. About 60 per cent of the final length of the highway between Hexham and the Queensland border is now a four-lane divided highway.
- The 40 kilometre Hunter Expressway was opened in March 2014, connecting the Pacific Motorway with the New England Highway, carrying around 20,000 vehicles a day.
- Major widening works have been completed and progressed on the Great Western Highway across the Blue Mountains.
- Additional overtaking lanes were completed on the Newell Highway, increasing capacity. Key works, such as the Moree Bypass, have also been advanced or completed.
- Grain line upgrades have improved the reliability of the country regional network and heavy rail line locomotives can now operate from terminal to port on key corridors.

5.3 Ongoing challenges

NSW covers an area of almost 800,000 square kilometres.⁶⁹ The freight network transports more than 400 million tonnes each year across this extensive area by road and rail.⁷⁰

By 2031, the freight task in NSW will nearly double to 794 million tonnes, with significant growth in major regional exports, in particular mining production and meat and livestock.⁷¹

The primary transport challenge for regional NSW is to manage this growing freight task efficiently by improving road productivity, enhancing local freight connectivity across the regions and developing a sustainable and viable regional rail freight network.

In addition, investment in road infrastructure will be required to support population growth and economic development while avoiding potential network impacts.

5.3.1 Improving road freight productivity

Road freight productivity has more than doubled over the past 40 years, driven largely by the use of larger combinations of freight vehicles, increases in mass and dimension limits and targeted investments in road infrastructure.⁷²

However, road freight productivity growth has slowed over time,⁷³ underlining the need for additional investment to enable further gains to be made as effectively as possible.

69. Geoscience Australia, www.ga.gov.au/scientific-topics/geographic-information/dimensions/area-of-australia-states-and-territories

70. Transport for NSW 2012, NSW Freight and Ports Strategy,

71. Transport for NSW 2012, NSW Freight and Ports Strategy,

72. BITRE 2011, Truck Productivity: Sources, Trends and Future Prospects

73. BITRE 2011, Truck Productivity: Sources, Trends and Future Prospects

Improving productivity on key road freight corridors

Regulatory restrictions on heavy vehicle access arise from avoidable infrastructure constraints, as well as community concerns about road safety and other local impacts. Targeted infrastructure investment in bridge upgrades, overtaking lanes, intersection improvements, driver rest areas and pavement strengthening can enable greater access for Higher Productivity Vehicles (HPVs) in regional NSW.

The Newell Highway corridor

The Newell Highway connects regional centres and communities across western NSW. It also serves as a key economic link to domestic and export markets for agricultural products from the Central West and interstate road freight between Queensland and Victoria.

Heavy vehicle use along the Newell is high: 26 to 52 per cent of all daily traffic. Relative use of heavy vehicles is strongest on the Newell between Narrabri and Boggabilla, with up to 1,500 heavy vehicles per day near the Queensland border and rural sections around Narrandera. However, access to the Newell for Higher Productivity Vehicles and double road trains is limited from Tocumwal to Morundah, from Dubbo to Gilgandra and from Narrabri to Goondiwindi.

Extending HPV access would mean that the equivalent of 160 vehicles could be taken off the road, improving cost efficiency by 22 per cent.

The Newell Highway is the spine of regional NSW's road network, carrying the majority of interstate road freight between Queensland and Victoria along its 1,060 kilometre corridor.⁷⁴

The Newell also connects dozens of regional centres and communities, providing links to domestic and export markets for products from across western NSW.

The draft Newell Highway Corridor Strategy sets the objective of providing access along the entire length of the Highway for HPV vehicles of up to 36.5 metres in length, while progressively phasing out the use of double road trains.

Intersection upgrades will be essential in unlocking the productive potential of the Newell. The draft strategy identifies 28 intersections where turning is required to stay on the Highway, with seven intersections preventing HPV access altogether.

These constraints, along with other impediments to traffic flow, have informed a range of priorities for corridor investment, including:

- Intersection upgrades (for example, Oxley Highway, Grong Grong and Narrandera)
- Bypasses (at Coonabarabran and Parkes)
- Widening works (at Narrabri)
- Realignment works (at Trewilga, Bruxner Way, Dubbo and Parkes)
- Road / rail intersections (at Parkes and West Wyalong)

- Roundabout replacements (at Narrabri and Coonabarabran)
- Pavement strengthening works (at West Wyalong).

The business cases undertaken for some elements of this program suggest strong returns on investment, with indicative benefit cost ratios ranging from 1.3 to 5.7.

Infrastructure NSW considers that the corridor strategy model adopted for the Newell Highway has merit and should be selectively extended to NSW's other high priority road freight corridors. Structured corridor investment programs could also provide a stronger basis for contributions from the Commonwealth Government and industry.

Table 5.1
Forecast annual freight volumes on major road corridors in 2031

| Corridor | 2013 (Mt) | 2031 (Mt) |
|-------------------------------------|-----------|-----------|
| Hume Highway | 34 | 58 |
| Pacific Motorway ⁷⁵ | 22 | 37 |
| Pacific Highway ⁷⁶ | 17 | 28 |
| Great Western Highway ⁷⁷ | 12 | 22 |
| New England Highway | 8 | 13 |
| Princes Highway ⁷⁸ | 8 | 14 |
| Newell Highway | 5 | 9 |
| Sturt Highway | 5 | 8 |

75. Near Gosford

76. Near Queensland

77. Near Penrith

78. Near Sutherland

74. Media Release 2014, Minister for Roads and Freight, 'Newell Highway Corridor Strategy to build on existing upgrade works'

The two corridors with the highest volumes, the Hume and Pacific Highways, have been the subject of major investment programs that are recently completed (in the case of the Hume) and well-established (the Pacific). However, growth on other freight corridors is expected to be substantial:

- By 2031, New England Highway volumes are projected to reach levels equivalent to 80 per cent of existing Pacific Highway volumes.
- Over the same period, Great Western Highway volumes are set to exceed existing Pacific Motorway volumes and reach levels equivalent to about 70 per cent of existing Hume Highway volumes.

Strong freight traffic growth on these corridors partly reflects a positive economic outlook for regional communities. Fewer, larger trucks can support growth in regional businesses and industries while decreasing the number of freight vehicles on the roads, reducing road wear and improving safety on regional roads.

In some instances, industry has choices as to the best routes to market – for example, between the New England and Pacific Highways in the north of the State. In these cases, assessments need to integrate costs, constraints and freight demands across the corridors appropriately so that investments secure the best economic returns available.

From the Central West, the Great Western Highway and Bells Line of Road offer connections to markets and gateways in the east. However, both of these routes travel through challenging topography over the Great Dividing Range, making further capacity enhancement

challenging and expensive. In addition, geographical constraints limit maximum vehicle sizes using the routes and both are regularly affected by adverse weather conditions (such as black ice).

The Golden Highway is an alternative east-west road connection linking the New England Highway in the Hunter Valley to the Newell Highway at Dubbo. It provides valuable access for the Central West region to the East Coast and Hunter Valley. At its eastern end, the highway carries significant coal mining related traffic; at the western end, it carries grain and supports commuter and other traffic. The route is also important for fuel transport serving the surrounding mining and agricultural hinterland.

Investment to improve HPV access along the Golden Highway could also maximise the use of the recently constructed Hunter Expressway (Branxton to the M1 Motorway), which opened to traffic in March 2014.

A package of works under development for the Golden Highway will target improvements to freight access, road safety, asset condition and traffic efficiency. These benefits could be delivered through upgrades including additional overtaking lanes, shoulder widening, road pavement and bridge strengthening, rest area improvements and flood immunity works. Preliminary analysis suggests good returns on investment, with a benefit cost ratio of 1.7.

The Golden Highway works under development should be developed into a corridor investment strategy, taking into account the highway's interrelationship with the Great Western Highway and Bells Line of Road.

Recommendation

Infrastructure NSW recommends Transport for NSW complete the Newell Highway Corridor Strategy and develop corridor strategies for the Golden Highway, New England Highway and Great Western Highway by mid-2016.

Recommendation

Infrastructure NSW recommends a reservation of \$2 billion from the *Rebuilding NSW* initiative for a Regional Road Freight Corridor Program.

Improving local road freight connections

Local road infrastructure can constrain freight network connections. Addressing these network ‘pinch points’ can enable more direct routes to market and allow the use of more efficient freight vehicle configurations.

Without investment, these pinch points will continue to require diversions of freight traffic and more freight vehicles will be needed to carry the same volume of freight, imposing higher costs on business and the community. It is estimated that diverted freight travel will cost NSW businesses almost \$1 billion over the next 20 years and require an additional 900,000 driver hours.⁷⁹

Through Restart NSW, the Government has invested in programs targeting local road projects designed to improve whole-of-network operations, including Bridges for the Bush, Resources for Regions (both initiated in response to *First Things First*) and Fixing Country Roads.

The **Bridges for the Bush** program prioritises upgrades of bridges that are both mass-constrained and on desired freight routes. Targeted investments in bridge strengthening or replacement can open up hundreds of kilometres of highway for HPVs.

Currently, more than 50 bridges across NSW have restricted access. Despite strong indicative economic benefits, Bridges for the Bush has not progressed as rapidly as planned due to a lack of matching Commonwealth funding. The program could be further extended over the timeframe of this infrastructure strategy, subject to demonstrating its economic advantages and receiving Commonwealth co-funding.

Priority projects for initial consideration include the replacement of the Tooleybuc Bridge over the Murray River and Cobb Highway, and construction of a new bridge over the Murray River between Echuca and Moama. Both bridges lie on important freight corridors but, due to their age and capacity, need to be replaced to meet current and future demand, particularly from heavy vehicles.

Recommendation

Infrastructure NSW recommends a reservation of \$200 million from the *Rebuilding NSW* initiative for the Bridges for the Bush Program.

The **Resources for Regions** program aims to improve local infrastructure in mining-affected communities. The program, which also invests in non-transport infrastructure, has committed to a number of road upgrades including:

- Bridge replacement in Broke
- New England Highway intersection upgrades in Singleton
- Roads supporting the Ulan mine near Mudgee
- An oversize vehicle bypass near Muswellbrook
- Redevelopment of Black Bridge near Lithgow
- Upgrade of Cordeaux road and bridge in Wollongong.

While coal production over the next 20 years will be mostly moved by rail, rather than road, increased coal production has implications for the State’s roads:

- Some mines do rely on trucks to move coal to market, particularly in the Southern Coalfield.
- Mining production inputs (such as fuel and explosives) comprise around 2.5 per cent of coal output⁸⁰ and tend to be moved by road.
- Increased coal train movements will create congestion where roads and rail lines intersect, requiring consideration of underpasses or overpasses to address impacts on communities and road freight movements.

79. Transport for NSW 2014, Fixing Country Roads: Expression of Interest Guidelines

80. Hyder Consulting 2013, Hunter Economic Infrastructure Plan

Removing a local road pinch point

Every year, 41,000 trucks carrying agricultural and paper products use Byrnes Road in Junee Shire to access the railway terminal at Harefield.

The location of the road and rail level crossing forces longer vehicles to make a left hand turn to leave the facility. This creates a detour of 10 kilometres for trucks travelling north, costing additional time and fuel with every trip.

The problem was identified as part of the pilot for the Fixing Country Roads program. Although the road realignment work was costed at \$1.2 million dollars, the time and fuel savings supported an indicative benefit cost ratio of 5.4.

Transport for NSW and Junee Council will fund the road realignment as a joint private-public partnership with Qube and Visy. Through collaboration with industry, the NSW Government has helped to secure fuel savings and cut input costs for regional businesses.

The **Fixing Country Roads** program seeks to remove constraints on local roads to support the use of HPVs, eliminate unnecessary diversions and improve 'last mile' access, including to the rail freight network.

Approximately 90 per cent of the NSW road network is local government roads,⁸¹ to which freight vehicles require access to reach their destinations. While the State network can provide access for freight vehicles, large parts of the local road network cannot – making a program of works to remove pinch points an important initiative. Removing these pinch points is relatively low cost, but delivers very high benefits due to the freight routes that targeted investments can open up.

Expressions of Interest are currently being evaluated for the first round of Fixing Country Roads, with recommendations to Government expected by the end of 2014.

The quality of submissions received from councils – and the economic benefits they demonstrate – suggest the program has considerable merit. However, in future rounds proposals for investment could be sought from industry as well as councils.

Infrastructure NSW recommends reserving \$500 million of *Rebuilding NSW* proceeds for further rounds of the Fixing Country Roads program, with a view to making allocations over a 10 year period.

81. Local Government NSW

Recommendation

Infrastructure NSW recommends a reservation of \$500 million should be made from the *Rebuilding NSW* initiative for the Fixing Country Roads Program.

Recommendation

Infrastructure NSW recommends that, in relation each of the Resources for Regions, Bridges for the Bush and Fixing Country Roads programs, the Government should actively encourage opportunities to leverage further private, council and/or Commonwealth contributions.

5.3.2 Viable regional rail freight

In 2013, the NSW rail network carried 157 million tonnes of freight (33 per cent of the total State freight task). Most of the freight moved by rail is coal, although grain and cotton movements are significant in western NSW.

Constraints on the rail network reduce the efficiency of freight connections between regional NSW and its key markets, driven by a number of factors:

- Delays due to passenger/freight train interactions on the shared network
- Steep gradients
- Inadequate passing loops
- Shallow ballast depths that reduce the load carrying capacity of the rail
- Speed and load restricted rail bridges.

Transport for NSW is developing an investment program, Fixing Country Rail, to target investment in:

- Grain siding extensions and railway line reconfiguration to enable faster loading rates
- Upgrades to branch and grain lines to remove constraints such as axle weight and speed restrictions – while consolidation of grain silos has increased potential loads, network restrictions remain an obstacle to larger tonnages and faster, more reliable speeds

Figure 5.1 Regional rail freight network



Source: Transport for NSW, NSW Freight and Ports Strategy

- Additional and extended passing loops to allow longer trains
- Signalling and recommissioning of duplicated sections on the Main West Line corridor between the Central West, Sydney and Port Kembla.

The program will also review investments in upgrades supporting the use of new, more efficient rail freight rolling stock technology. Technology upgrades could deliver additional capacity to meet the forecast growth in freight demand, while delivering consequential journey time improvements for passenger trains.

The Transport for NSW Main Western Rail Strategy analyses a list of 25 potential projects to be implemented west of Wallerawang. In general, these projects include the addition or extension of passing loops, track duplication and signalling upgrades. The highest priority upgrades identified include:

- **Orange to Dubbo** – extend Stuart Town loop to 1200-1500 metres at the country end
- **Bathurst to Newbridge** – provide a 1800 metre crossing loop near Georges Plains and investigate the installation of intermediate signals in the Bathurst – Georges Plains and Georges Plains – Newbridge sections
- **Wallerawang to Tarana** – new 1500 metre loop near Rydal/Sodwall with associated signals.

Upgrades on the Main West Corridor could help freight train operators meet their scheduled paths through the Sydney metropolitan network, reducing cycle times and lowering the total cost of the rail freight transport task.

Alongside works related to the Main West Corridor Program, additional funding would enable the consideration of projects identified in the NSW Grain Lines Upgrade Program, including points and level crossing upgrades, track enhancements and yard layout improvements across the following corridors:

- Burren to Walgett
- Burren Junction to Merrywinebone
- Bogan Gate to Tottenham
- Griffith to Hillston
- Ungarie to Lake Cargelligo
- The Rock to Boree Creek
- Camurra to Weemelah.

Further work is required to demonstrate the economic returns of these proposed investments. In addition, the case for industry contributions to help achieve productivity improvements in regional NSW's rail freight network should be tested as part of the program's development.

Recommendation

Infrastructure NSW recommends a reservation of \$400 million from the *Rebuilding NSW* initiative for a Fixing Country Rail Program.

5.3.3 Regional passenger transport

A reliable, accessible and efficient transport system is the foundation for sustainable regional communities and is critical to attracting essential workers to these communities.

Population growth projected over the next 20 years will create economic opportunities for regional NSW. Larger populations will mean expanded markets and more economic and social activity. However, investment will be required to support growing regional communities, including managing the anticipated increases in traffic on parts of the regional road network.

Among regional centres, the largest increases in population are expected in the Hunter, Central Coast and Illawarra. By 2031, the Department of Planning and Environment projects an additional 114,000 people in the Hunter, 57,000 in the Illawarra and 60,000 extra people on the Central Coast.⁸²

82. Deloitte Access Economics 2014, Economic Impact of the State Infrastructure Strategy including *Rebuilding NSW*, report to Infrastructure NSW, Department of Premier and Cabinet and NSW Treasury.

A safe and accessible road network is critical to people, households and businesses in regional NSW.

Table 5.2 shows the extent of travel and mode choice patterns across the major centres of regional NSW. Comparisons between Sydney and the major regional centres show that, relative to Sydney, private vehicle usage is 15 to 20 per cent higher in major regional centres. Likewise, in relation to public transport, train usage rates are two to nine times higher in Sydney.

Residents of regional centres are generally more car dependent than Sydneysiders. In addition, Newcastle and Illawarra residents make more trips per person than Sydney residents.⁸³

Typically, Newcastle and Illawarra residents travel greater distances, with shorter travel times, than Sydneysiders.⁸⁴ In part, this reflects the impacts of higher housing density and greater congestion in Sydney. Average vehicle kilometres travelled per person in Newcastle and the Illawarra is around 40 and 50 per cent higher respectively than the Sydney average.⁸⁵

Regional roads for growth

Transport for NSW is assessing measures to manage increasing passenger travel demands on regional roads. These measures take two forms:

- Improving network operation

While congestion is most significant in Sydney, there are

83. Bureau of Transport Statistics 2012, Travel in Sydney, Newcastle and the Illawarra.

84. Bureau of Transport Statistics 2012, Travel in Sydney, Newcastle and the Illawarra.

85. Bureau of Transport Statistics 2012, Travel in Sydney, Newcastle and the Illawarra.

Table 5.2 Daily trips comparison by mode, regional centres and Sydney, 2012/13

| 2012/13 | Central Coast | Hunter | Illawarra | Sydney |
|-----------------|---------------|-------------|-------------|--------------|
| Daily trips | 1.2 million | 2.1 million | 1.6 million | 17.6 million |
| Private vehicle | 79.6% | 83.1% | 78.6% | 69.0% |
| Trains | 2.9% | 0.6% | 1.4% | 5.4% |
| Buses | 4.0% | 3.0% | 2.4% | 6.0% |
| Walk only | 11.9% | 11.5% | 15.5% | 17.5% |
| Other | 1.5% | 1.9% | 2.1% | 2.2% |

Source: Bureau of Transport Statistics

also opportunities to improve the performance of vehicle flows on regional road networks. For example, Transport for NSW is presently reviewing corridors in Newcastle and the Illawarra with a view to identifying and resolving 'pinch point' congestion hot spots, consistent with the approach outlined for Sydney's roads in Chapter 3.

- Upgrading and extending arterial networks

Detached housing is expected to accommodate most of the population growth in the major centres of regional NSW, suggesting the footprint of these centres will continue to grow over time. Road network improvements and extensions will be required to meet increasing travel demands in these centres cost effectively.

Areas projected to see strong growth include the Central Coast region, the Lower Hunter, the Far North Coast around Coffs Harbour and the southern Illawarra region.

Further rounds of roads investment in these regions over the short to medium term would seek to support projects such as:

- A Central Coast package of works to support access to and through the region, including augmenting a number of sections of the Pacific Highway
- Lower Hunter works to improve traffic efficiency in the region, including through the delivery of the last stage of the Newcastle Bypass – Rankin Park to Jesmond
- Completing duplication of the Pacific Highway as the first order priority on the Far North Coast
- Supporting population growth south of Wollongong in the Illawarra, including a realignment of the existing Princes Highway at Albion Park, as well as addressing other local pinch points.

Recommendation

Infrastructure NSW recommends a reservation of \$1 billion from the *Rebuilding NSW* initiative for a Regional Growth Roads Program to accelerate network optimisation and network planning for regional growth roads over the next two years.

Regional public transport service improvements

Over the last three years, a range of measures, including rail infrastructure improvements, have delivered notable journey time savings:

- The delivery of Oscar Trains, with revised stopping patterns and new timetables, has increased services and reduced journey times to Sydney on the Blue Mountains, South Coast, Newcastle and Central Coast lines. Weekly journey time savings are up to:
 - 155 minutes from Newcastle
 - 40 minutes from Wollongong
 - 45 minutes from Kiama
 - 40 minutes from Wyong.
- The Kingsgrove-Revesby quadruplication project (K2RQ) has delivered journey time savings on Canberra and Melbourne regional services.
- The Bathurst Bullet service, delivered through a refurbished Endeavour train, has introduced seven new daily return services from Bathurst to Sydney each week.

Transport for NSW is undertaking ongoing work to further improve travel times on the major regional rail corridors. Measures under review are combinations of infrastructure and operational initiatives that might achieve these travel time savings cost effectively.

Analysis to date suggests the combination of measures required to achieve the desired travel time savings would cost billions of dollars. Further detailed planning and engineering analysis will be required to determine project feasibility, particularly in sensitive areas such as the Illawarra escarpment and the crossing of the Hawkesbury River.

There is scope for travel time improvements to be made by allowing new Intercity and outer suburban rolling stock to operate at higher speeds (consistent with the long distance services) and through further timetable amendments that reduce dwell times or increase express services with fewer stops.

In particular, there is scope to achieve reductions in travel times between Sydney and the Central Coast and Illawarra through the combination of operational improvements, new stock and targeted Infrastructure upgrades. Infrastructure NSW's recommendation for a Mainline Acceleration Program to improve journey times between Sydney and these regions is discussed in Chapter 2.

