

6

PROVIDING ESSENTIAL ACCESS FOR REGIONAL NSW

CHAPTER SUMMARY

Our transport challenges

The transport challenges facing regional NSW are:

- Delivering better transport links to and within the growing regional cities of Newcastle and Wollongong, and the Central Coast, with faster, safer and more frequent rail services
- Improving accessibility through a better mix of transport options available across regional NSW
- Providing convenient, reliable and safe travel by getting the best use out of our transport networks and providing better road connections, rail passenger services and public transport within and between regional centres
- Making sure our State roads can support the needs of customers, communities and regional industries through improved road maintenance and safety
- Finding workable transport solutions that will protect the vitality, amenity and character of country towns
- Facilitating access to vital services for an ageing regional population with increasing rates of disability.
- **Establishment of NSW Trains** and the development of a Country Passenger Rail Services Strategy to improve regional NSW rail connections.
- **Better bus services for regional towns and growing regional cities**, focused on more frequent services, wider network coverage and better integration with other travel modes.
- A renewed focus on improving and **strengthening the community transport sector**.
- Initiatives to move regional freight more efficiently, including a **Bridges for the Bush** program to replace and upgrade bridges to address constraints on High Mass Limit (HML) routes.
- The **Growth Centres Roads Program** to upgrade major roads in growing regional centres to improve travel times and reliability.
- A program of **town bypasses** for regional centres to reduce heavy truck traffic through town centres based on priorities developed in consultation with the regions and based on defined criteria.
- Working in **partnership with local councils** to identify important rural roads for freight.
- **Regional Transport Plans** developed with local communities and integrated with land use plans so that transport services and infrastructure are provided when and where they are needed.

Taking action

New actions are proposed to address these challenges and improve the availability, reliability and timeliness of travel options in our regions:

- **Rural highway upgrades**, including a significant investment in the Pacific Highway and pinch points on the New England, Newell, Princes, Great Western and Golden Highways.

In addition, a new **10 year Road Safety Strategy** will have a major emphasis on reducing fatalities and injuries on country roads (see Chapter Eight).

This chapter also sets out how these actions are likely to affect the 10 regions across NSW.

Our transport challenges

Regional NSW is growing and changing, with exciting new opportunities being generated alongside some difficult challenges. Across our regions, many changes will influence travel demands over the next two decades. Population growth has averaged 1.2 percent per annum since 2006 and is expected to average 0.8 percent per annum through to 2031. At the same time the population will continue to get older, with 21 percent of the population over 65 years in 2031.

Fast-growing centres and regions must balance increasing demand for housing, infrastructure and services, while protecting productive agricultural land and natural assets. Higher volumes of traffic and increased freight flows have to be managed while preserving the amenity and character of towns and communities.

As our regional economy continues to diversify, we need to accommodate new travel demands and patterns that are being overlaid on routes, corridors and infrastructure designed many decades ago to suit markedly different industries and circumstances.

Areas where populations are declining need to ensure customers continue to have access to the services, resources and opportunities they need.

The draft Long Term Transport Master Plan identifies major transport challenges in improving essential access for regional NSW:

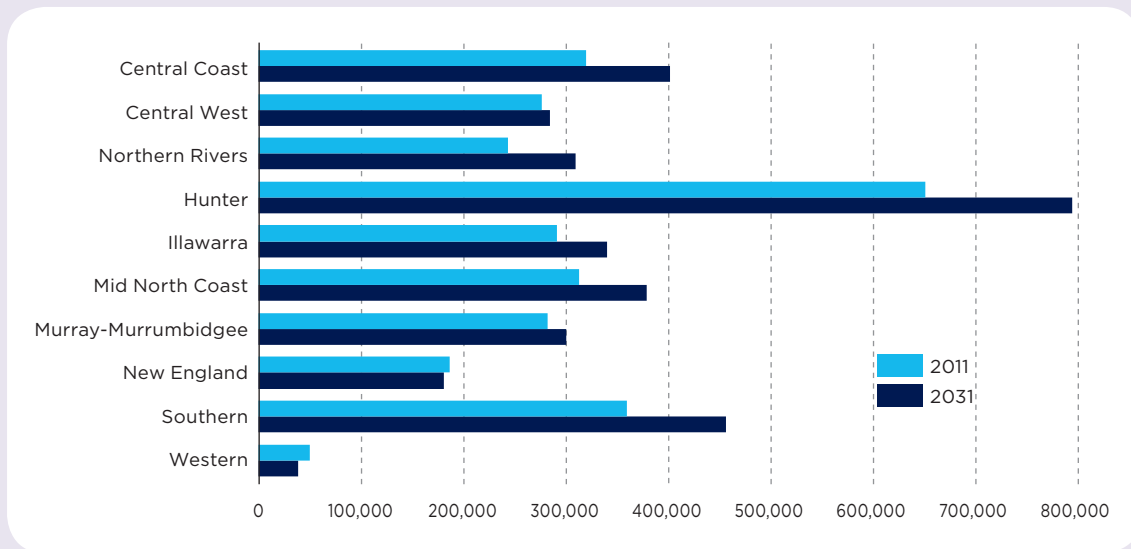
- Deliver better transport links to and within the growing centres of Newcastle, Wollongong and the Central Coast. They will need faster and more efficient transport links to Sydney, better public transport connections and less congestion on major roads.
- Improve accessibility through a better mix of transport options across regional NSW. The uneven population and jobs growth in regional NSW will require a careful balance and mix of options to improve transport access that connects people to the centres they need to travel to for personal business.
- Provide convenient, reliable and safe travel in regional areas by modernising and making best use of our transport networks – especially our bus, rail, and taxi services.
- Making sure our State roads in the regions support the needs of customers, communities and regional industries and have the ability to support growing regional industries, as well as contributing to lower business costs and higher productivity.
- Find workable transport solutions that will preserve the vitality, amenity and character of small and medium-sized country towns. We need to protect our regional towns by removing heavy vehicle traffic from town centres, making walking and cycling easier and safer and giving customers choice when travelling within their towns.
- Facilitate access to vital services for an ageing regional NSW population and people with disabilities. The regional population is ageing faster than in Sydney; our transport system must facilitate access to healthcare and other vital services for our older citizens. Accessible transport services and roadside infrastructure are addressed in the Disability Access Plan in Chapter Eight.

REGIONAL NSW IS GROWING AND CHANGING

Uneven population growth

Nearly 2.9 million people live in regional NSW – an increase of 229,000 people since 2001. By 2031, an extra 563,000 people will live in regional areas, taking the total regional population to just over 3.4 million. While the population in some regions such as the Hunter is expected to grow strongly, other regions may experience reductions in population.

Figure 6.1 Regional NSW population growth, 2011 to 2031



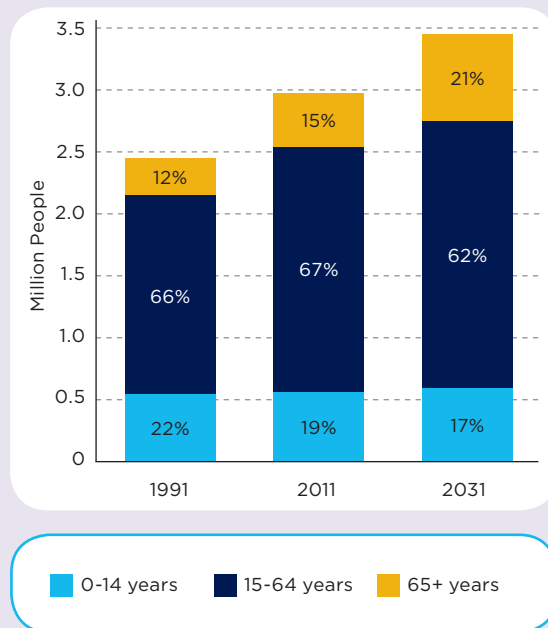
Strong but uneven employment growth

Regional employment has even outstripped Sydney's growth in the year to November 2010 (2.9 percent compared to 1.6 percent). Like population growth, employment growth is uneven. In 2010, Newcastle recorded the strongest growth (up by 8.8 percent), followed by the Illawarra (6.7 percent). But employment in the Western region fell by 22 percent.

An ageing population

Population growth in regional NSW will be accompanied by a large change in the demographic structure. The number of people over the age of 65 years will increase from 15 percent of the regional population in 2011 to 21 percent of the population in 2031 – approximately 800,000 people.

Figure 6.2 Regional NSW age profile, 1991 to 2031



HOW WE TRAVEL IN REGIONAL NSW

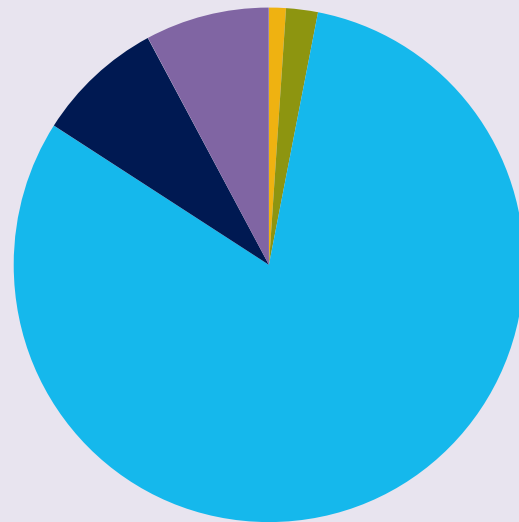
Every day, people in regional NSW make around 7.5 million trips. Most trips (90 percent) are made by car, and 81 percent of all journeys to work are made by car.

Every year, regional bus services carry over 5.7 million passengers, of which just one percent are journeys to work.

CountryLink carries approximately 1.9 million passengers each year, with 43 percent of CountryLink trips being within regional NSW.

Community transport services make 1.4 million trips a year across the State.

Figure 6.3 Journeys to work, regional NSW 2006



■ Car - driver	81%
■ Car - passenger	8%
■ Train	2%
■ Bus	1%
■ Other	8%

6.1 Growing regional cities

Within two hours' drive of Sydney are two of NSW's largest regional cities: Newcastle and Wollongong. The Central Coast, a cluster of towns between Sydney and Newcastle, is a major urban area in its own right.

These places are growing into dynamic and diverse centres with their own unique attributes and character. They are locations for commercial activity, drivers of employment growth and the engine rooms of their region's economies. Between them, they make a substantial contribution to the NSW economy and are home to an expanding range of firms and industries. The strongly growing services sectors are changing the way people move around and conduct business.

The population in our regional cities is growing as new residents are attracted to regional amenity and urban, well-serviced lifestyles. Between 2006 and 2011 the population of Newcastle increased by 9,500, Wollongong increased by 9,300 and the Central Coast population increased by 16,900. Through to 2031 it is estimated populations will increase by an additional 47,300 in Newcastle, 33,000 people in Wollongong and 80,000 people in the Central Coast.

This growth is generating an increasing demand for travel, with substantial increases in motor vehicle travel predicted across all three centres in the years ahead. It is estimated that an additional 683,000 weekday personal daily trips across the three areas will result due to population growth. This growth will increase general commercial and business travel.

The draft Long Term Transport Master Plan identifies several challenges for these regional centres over the next 20 years:

- As Newcastle, Wollongong and the Central Coast continue to grow in size and importance to the NSW economy, they need faster and more efficient links to Sydney – and through Sydney to the rest of the world.
- With all three centres now facing emerging congestion-related issues, action is needed to keep major road arteries flowing, remove bottlenecks in regional supply chains and protect local amenity and liveability.
- With more people choosing to live in these centres, improved public transport connections are essential to supporting urban renewal, economic development and the creation of local jobs.

The number of arterial road corridors in the Central Coast and Wollongong are limited due to the geographical constraints resulting in local and inter-regional traffic using the same roads and contributing to the road congestion. This in turn often reduces the reliability of bus travel. Our transport solutions must be integrated with land use planning to maintain the character and attributes that attract people to these centres, to avoid creating even higher levels of car dependency and to minimise our impact on important natural habitats and assets.

Business and industries in our major regional cities are increasingly tied into global networks. They need fast and reliable connections to and through Sydney to take advantage of Sydney's global city status, participate in international supply chains and access overseas markets.

Customers also need reliable links to Sydney to access services, entertainment venues and major events, recreational activities and to visit family and friends. The private car will remain the primary choice for a large proportion of this travel.

Almost nine out of 10 trips in regional cities are undertaken by car. Problems with the road network have a big impact on people's mobility. Newcastle, Wollongong and Gosford now face emerging congestion-related issues. Without any action, this congestion will get worse and will start to impose costs on local businesses and impede economic activity.

Rail travel offers comfortable, convenient and affordable way to get to and from Sydney. But travelling by train to Sydney is seen by many people living in these centres to be slow and inconvenient. We need to improve rail connections to Sydney during peak times. Customers in Newcastle, Wollongong and the Central Coast are likely to need more frequent train services, especially during the evenings and on weekends. Better rail connections to Sydney also attract more tourists to these cities and their surrounding regions.

Newcastle and Wollongong have major freight routes connecting to the Port of Newcastle and Port Kembla, as well as being major freight destinations in their own right. Urban congestion will impact on the productivity of businesses within these cities.

As our regional cities continue to change and grow over the next 20 years, public transport planning, infrastructure and services must also keep up with evolving travel demands. Alternatives to ever-increasing levels of car travel will need to be developed, creating challenges in delivering viable public transport services and a significant lift in patronage.

6.1.1 Newcastle

Newcastle is the seventh largest city in Australia and NSW's second largest city, with a population of around 350,800. The city is a major employment centre and home to the world's largest coal export port. Newcastle is the regional city for the Hunter, and is close to Charlestown, Maitland, Raymond Terrace, Cessnock and the emerging regional centres of Glendale/Cardiff and Morisset.

Newcastle is just under three hours by train from Sydney. For many people, this journey time – as part of a multi-modal trip that may also include another train or bus service – makes it faster and more convenient to drive. It is also slow compared to similar journeys in other countries. By comparison, a train trip from Central London to Leicester, 160 km to its north and a city of approximately 300,000 people, takes approximately one hour and 15 minutes.

Approximately 2.1 million trips are made daily by residents from Newcastle and surrounding areas. More than 80 percent of all trips are made by car and public transport is used for just four percent of all trips. A number of factors contribute to these low levels of public transport use, including:

- Low frequency of bus services with low patronage and demand levels
- Bus travel times that are not competitive against private vehicle use
- Readily available, low cost parking in the Newcastle city centre
- Dispersed destinations on the bus network, resulting in indirect services.

Public transport links to locations such as Newcastle University, John Hunter Hospital and Newcastle Airport are also less attractive than car travel.

The city's rail network remains primarily focused on freight and there has been virtually no expansion in the passenger rail network to support residential growth over the last 30 years. Challenges include finding ways to increase patronage on some rail corridors while recognising the freight requirements on these lines, better integrating bus and rail services and improving access to central Newcastle.

Newcastle is undertaking a dramatic revitalisation of its downtown and waterfront areas, attracting businesses and residents back to the central city. Land use planning measures are supporting this renewal project which includes a focus on increased pedestrian, cycling

and public transport access to service population and employment growth in the CBD. Figure 6.4 shows current and forecast road congestion on the major road network in the Newcastle area. The figure shows where problems are likely to emerge if no action is taken.

The analysis shows traffic volumes will increase significantly on the Newcastle arterial road network without improvements. This will impact local movements, affect bus operations and impede efficient road freight travel.

Public debate surrounds proposals to terminate the Newcastle Rail Line at Wickham and remove existing rail infrastructure from the city centre, to improve pedestrian access between the CBD and the waterfront. This proposal must be considered in conjunction with planning to revitalise the city centre, including the proposed location of a University of Newcastle campus in the city's central Civic precinct. The Department of Planning and Infrastructure is preparing a land use plan for Newcastle and the Hunter which will assess the rail corridor as part of the future transport solutions for the region.

CHALLENGES FOR NEWCASTLE

- Planning for and managing strong demand for car travel and solutions for extremely low levels of public transport use
- Addressing the declining or static bus use
- Addressing extended peak hours and congestion on key routes
- Developing an urban renewal program that creates an attractive, accessible city centre
- Planning for and managing strong growth in freight to ensure the economic growth of the city and to minimise the impact on neighbourhood amenity
- Providing better public transport connectivity across the city, between modes, and to major service centres.

Figure 6.4 Newcastle, current and future (2031) performance, peak hour V/C ratios

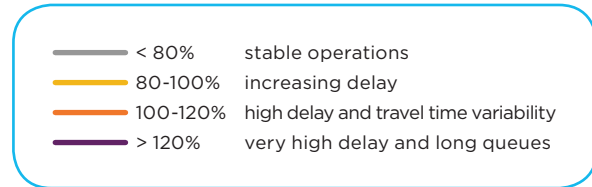
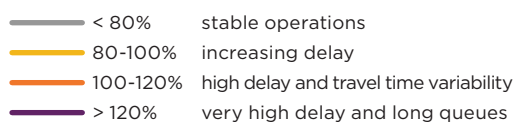


Figure 6.5 Wollongong, current and future (2031) performance, peak hour V/C ratios



6.1.2 Wollongong

Wollongong is the ninth largest city in Australia and has a population of around 267,300. While the city is a liveable, seaside urban centre, a number of constraints make it particularly difficult to improve transport accessibility.

- The city takes up a narrow strip of land between the Illawarra Escarpment and the Pacific Ocean. This causes development to occur in long, narrow corridors along a 50 km stretch from Helensburgh in the north to Windang and Dapto in the south.
- The city has few significant east-west transport links and a poorly integrated bus network. Outer areas of the Wollongong metropolitan area are only connected with central Wollongong by road. Public transport in the northern and southern suburbs of the city is particularly poor.
- The level of car ownership is high and car travel is generally the preferred means of moving around the city.
- Around 17 percent of the working population (101,000 workers) in the Illawarra region commute to jobs in Sydney, with 21 percent of these trips made by rail. People commuting to Sydney from Wollongong and the Illawarra region report car travel provides the most direct access to their workplaces.
- Rail customers suggest the frequency of services could be improved, especially during peak periods. A rail journey between Wollongong and Sydney currently takes one hour and 30 minutes.

A number of major local developments, such as the Stockland Shellharbour retail expansion, GPT's Keira West expansion, the development of the University of Wollongong's Innovation Campus and Port Kembla will drive higher demand for travel. Improvements will be needed to public transport services to ensure these sites and Wollongong's CBD are accessible from new residential areas and able to support diverse commercial uses and employment growth.

Wollongong faces similar challenges to Newcastle and the Central Coast in boosting public transport use, including better integration between transport modes, more frequent bus services – especially along major routes to the Wollongong CBD – and improved information and ticketing.

Wollongong and the Illawarra region are also pursuing new residential developments, such as the construction of 20,000 new homes as part of the West Dapto land release. Planning for transport infrastructure and services, direct and well connected bus services and a strong road hierarchy will be needed to support a mode shift to public transport, walking and cycling in these developments.

In Wollongong, up to 20 percent of traffic volumes on the arterial roads are heavy vehicles, mainly moving coal, grain and other freight. Wollongong and the Illawarra also have a particular problem with a number of rail level crossings and with more than 20 million tonnes of rail freight moving through the region each year (mainly headed for Port Kembla). These crossings add to road congestion, increase travel times and create additional safety hazards.

High amounts of through-traffic mean an increasing volume of heavy vehicles interacting with general traffic on local and arterial roads. Better management of freight vehicles on local roads is a particular concern for many residents in these cities, with trucks having an adverse impact on amenity in a number of places through noise and air pollution, road congestion and the safety issues associated with sharing local roads with passenger vehicles, pedestrians and cyclists.

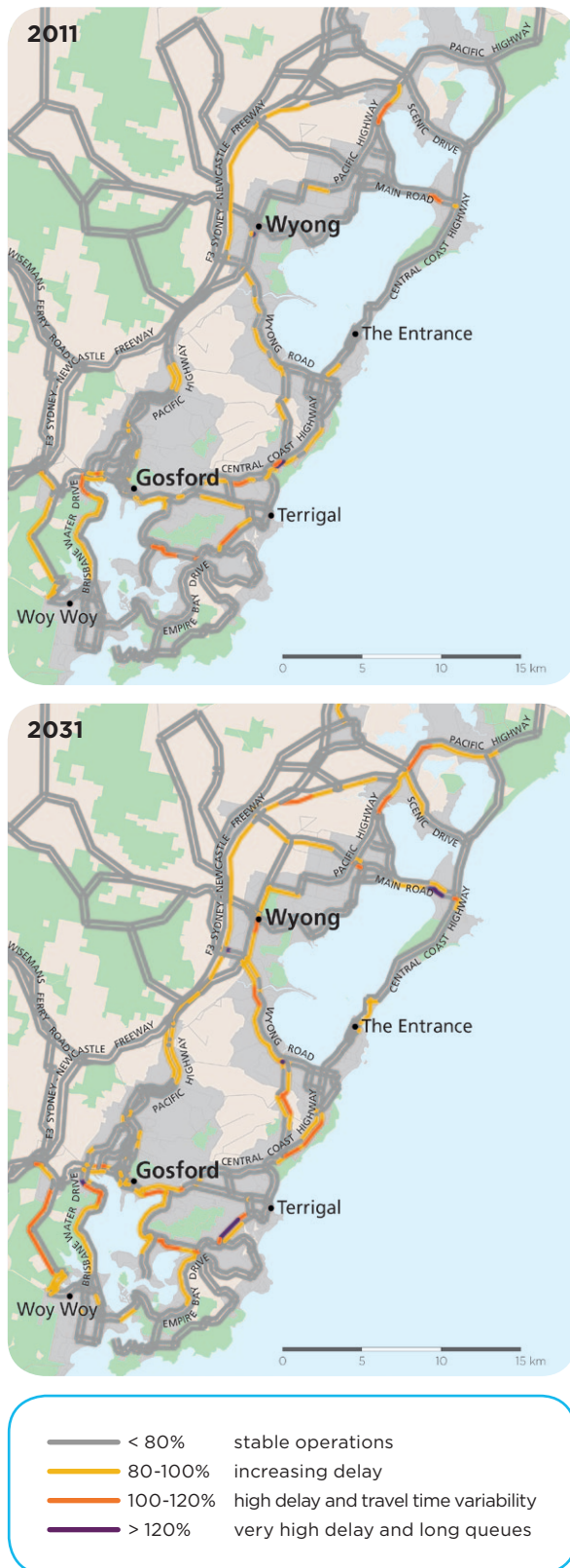
As well as impacting directly on amenity, growth in traffic around and through the city has the potential to create new bottlenecks in regional supply chains, restricting expansion and productivity in key industries.

Figure 6.5 shows current and forecast congestion on the major roads in the Illawarra region.

CHALLENGES FOR WOLLONGONG

- Seventeen percent of the Illawarra workforce travels to Sydney for work, with only 21 percent of these workers using public transport
- Support for local jobs growth
- High car dependency
- Poor east-west transport links
- Strong growth in freight traffic competing with general traffic for road space.

Figure 6.6 Central Coast, current and future (2031) performance, peak hour V/C ratios



6.1.3 Central Coast

The main population centres in the Central Coast are Gosford, Tuggerah-Wyong, Woy Woy, Erina, The Entrance and Toukley. The region has long been a high growth area and this growth is forecast to continue over the next 20 years.

Low density development, combined with a number of centres spread across the region has made the Central Coast highly car dependent, with over a quarter of the workforce travelling outside the region to work.

With 80,000 more people calling the region home over the next 20 years, weekday car trips could increase by 25 percent on current levels, with most of this increase occurring along already congested corridors. Reducing this car dependency will be particularly important to maintaining local amenity and business productivity.

In particular, good public transport to Gosford, Wyong/Tuggerah, Wyong Employment Zone and the emerging Warnervale Town Centre will support people commuting to jobs and accessing services from around the region. Bus services connecting with the north-south rail corridor will also help to move more people more quickly between major centres and to and from Sydney.

Councils on the Central Coast are also investing in new urban developments, including:

- Warnervale Town Centre – A 79 hectare development consisting of a mix of retail, commercial and residential areas that includes cafes, restaurants and entertainment facilities

- Tuggerah Town Centre – A large mixed-use development with multiple precincts, including a 20-storey hotel tower and a redeveloped Westfield shopping centre
- Gosford waterfront – A mixed-use redevelopment of the Gosford waterfront designed to be a stimulating and vibrant commercial and residential community featuring entertainment and dining options.

These developments must be supported with adequate public transport, with cycling, walking and public transport access in their design to ensure they become sustainable and attractive places.

Figure 6.6 shows current and forecast congestion on the major roads in the Central Coast.

CHALLENGES FOR THE CENTRAL COAST

- Strong population growth over the next 20 years
- Higher than State average share of people over 65
- Very high car dependency, with car ownership outgrowing the population over the last ten years
- Only four percent of the population uses public transport to get to work
- Over 25 percent of the workforce travels outside the region to get to work
- Low density residential development
- Creating local employment growth.

6.2 Improving the mix of transport options across regional NSW

Improving equitable access to transport is not a 'one size fits all' exercise. It requires getting the right balance and mix of transport options across regional NSW. While we can make broad improvements to the statewide transport system, we also need to consider the specific needs of cities, towns and regions, and the requirements of different regional industries, business clusters and supply chains.

These issues are complicated by the fact that the forecast growth for regional NSW is not evenly distributed; most of the growth is expected to occur in the eastern parts of the State. The greatest change is forecast in the Hunter region where an additional 152,000 people will reside by 2031 (an increase of 24 percent). Other regions expected to grow strongly are the Southern region (30 percent), the Central Coast (25 percent) and the Northern Rivers (31 percent). Reductions in population are forecast for the New England and Western regions.

This uneven growth means fast growing areas need to expand transport services. Regions facing low or even negative growth will struggle to maintain viable services. At the same time, regions will be dealing with an increase in the number of people over 65.

This combination of factors has significant implications for the transport system in regional NSW and is likely to require tailored responses to ensure that the travel requirements of each region are met. Regional transport plans informed by local input will outline these responses.

OUR STRATEGIC REGIONAL CORRIDORS

Across regional NSW, a number of road and rail corridors have strategic value in supporting economic development and population and employment growth. Keeping these corridors open and performing well in moving both people and freight efficiently impacts on the broader regional and NSW economies.

Newcastle to Tweed Heads – This provides highway and rail links from major coastal centres to Brisbane and Sydney and traversing some of the fastest growing regions in NSW. The corridor is important for tourism, providing connections to popular tourist destinations on the north coast. It has a poor safety record and experiences peak period and seasonal congestion at various locations. The duplication of the Pacific Highway will address many of these issues, but managing strong growth in passenger and freight movement will remain an ongoing challenge.

Mittagong to Albury – This corridor connects several major inland centres with Melbourne, Sydney and Canberra along highway and rail links. Duplication of the Hume Highway is largely complete, with one town bypass (Holbrook) yet to be finished. The corridor is the major rail freight route between Sydney and Melbourne. Work to improve the rail line has been carried out recently, but poor track quality in places limits speeds and capacity.

Newcastle to Wallangarra – This diverse corridor caters for major commodity movements, such as wheat and coal to the Port of Newcastle, together with passenger movements to the New England region. The rail corridor between Newcastle and Scone is close to capacity and the New England Highway passes through several growing towns where local traffic movements are having an impact on longer distance passenger and freight travel markets.

Tocumwal to Boggabilla (Victorian border to Queensland border) – This north-south corridor links many inland regional towns with Victoria and Queensland. The majority of

interstate road freight between Victoria and Queensland travels along the Newell Highway, which is also the major road connecting centres along the corridor. Localised congestion is experienced around West Wyalong, Dubbo and Moree.

Lithgow to Dubbo – This corridor links Dubbo with Sydney and provides for passenger and freight movement by road and rail. The corridor's main function is to provide access to Sydney and the movement of commodities from the Central West region to Port Botany and Port Kembla. Localised road congestion is experienced around the Blue Mountains, Bathurst, Orange and Dubbo.

Wagga Wagga to Mildura – This corridor provides an interstate link between NSW and South Australia. Primarily a road-based corridor along the Sturt Highway, it links the towns in the Murray-Murrumbidgee region with Sydney and Canberra. The majority of freight moved between NSW and South Australia passes along this corridor. Delays and congestion are experienced around Wagga Wagga and approaching Mildura.

Wollongong to the Victorian border – Towns on the southern coast connect to Wollongong and Sydney via this corridor, which includes road and rail links (with the rail extending to Nowra/Bomaderry from Sydney). The corridor supports the southern coast's growing popularity as a tourist destination. The majority of travel is road-based along the Princes Highway. Localised congestion occurs at many centres along the corridor.

Dubbo to Broken Hill – This is an important corridor providing access to and from western NSW. The Mitchell and Barrier Highways link Dubbo with Broken Hill, while the Mitchell Highway links Bourke with Dubbo. The role of these road links is primarily for access, tourism and moving road based freight. The rail corridor to Broken Hill passes through Parkes and carries both passengers and freight.

REGIONAL TRANSPORT

Regional NSW has an extensive transport network that requires considerable upkeep to support local, regional and interstate passenger and freight movements.

Roads

The NSW Government manages 18,000 km of State roads, more than 5,000 bridges and nearly 3,000 km of regional roads. Alongside this network, a further 145,000 km of roads is managed by local councils with support from the NSW Government.

A high quality road network underpins the economic viability of regional NSW and Australia, as one third of the nation's road freight is moved through NSW. Maintaining our roads in a sound and safe condition, and making sure that businesses across the State have access to an efficient road network, is fundamental to economic and employment growth in all parts of NSW.

Rail

Regional passenger rail connections from Sydney are operated by CountryLink, with services reaching more than 360 destinations across four corridors:

- Northern (between Sydney and Casino/Brisbane)
- North Western (to Armidale/Moree)
- Western (to Dubbo/Broken Hill)
- Southern (to Canberra/Albury/Melbourne).

These rail services are supported by a network of coach services that provide connections to train services at key points along the network.

Outside Sydney, the extent of the passenger rail network in NSW is 3,450 km. For much of this network, the track is managed by the Australian Rail Track Corporation (ARTC), with passenger services operating on the same track as freight services.

There are also around 3,000 km of disused rail lines and corridors across NSW where trains no longer operate.

Bus

Three different types of bus services operate in regional NSW, excluding dedicated school bus services. Regulated timetable services are managed under the bus contract system, with the highest patronage for these services being in Newcastle, the Central Coast and Illawarra.

Deregulated coach services are operated by around 80 operators without any government subsidy. They generally offer charter, school and inter-city services.

Community transport

Community transport services support regional and remote communities where regulated bus services are not available or do not meet local needs. Taxis also provide a critical service in regional areas particularly wheelchair accessible taxis.

Air

Air travel is important for regional NSW, mainly because it provides timely access to Sydney. Around 30 routes link regional centres directly with Sydney Airport, with 20 percent of flight slots at the airport set aside for regional air services. Communities across NSW view the retention of these slots as a vital element in transport accessibility.

Passenger movements by air on regulated and non-regulated regional air services have increased slightly since 2007-08. This reflects both loss of services and recent economic conditions. Total passenger movements increased from two million passengers (2007-08) to 2.1 million passengers (2010-11), with the biggest increases recorded at Port Macquarie, Albury and Tamworth airports.

These services do not receive any public subsidy.

6.3 Convenient, reliable travel

Each day, many residents of NSW travel long distances to undertake basic activities, such as going to work or school, or doing the grocery shopping. Regional communities often have to travel even longer distances to a major regional centre or to Sydney for medical services, entertainment or personal business.

Figure 6.7 compares travel times by car, rail and air between regional centres and Sydney, showing that people living in the west and far north of the State face the longest travel times to get to Sydney by train or car. For many people, it is more convenient to travel to Melbourne, Brisbane, Adelaide or Canberra, making efficient connections to these cities from regional NSW just as important for them.

These times also show that rail – or rail with coach connections – does not compare well as a travel option for trips between many regional

centres and Sydney. For example, a trip to the Far North Coast or the Mid North by rail is considerably slower than a car journey. For some people, the timetable for rail services is also not convenient.

Figure 6.8 compares the travel times and travel costs by mode from regional centres to Sydney, illustrating the higher air travel costs and slower rail travel times.

These figures also show the importance of air travel and access to Sydney Airport for regional NSW, with travel times to Sydney of less than two hours from almost all parts of the State and costs that are comparable to road journeys (where competition in air travel exists). For these reasons, many people in regional NSW value the availability of air services for emergencies, business trips or when they need to get to Sydney as quickly and directly as possible.

Figure 6.7 Travel times by air, rail and car from regional NSW to Sydney, 2012

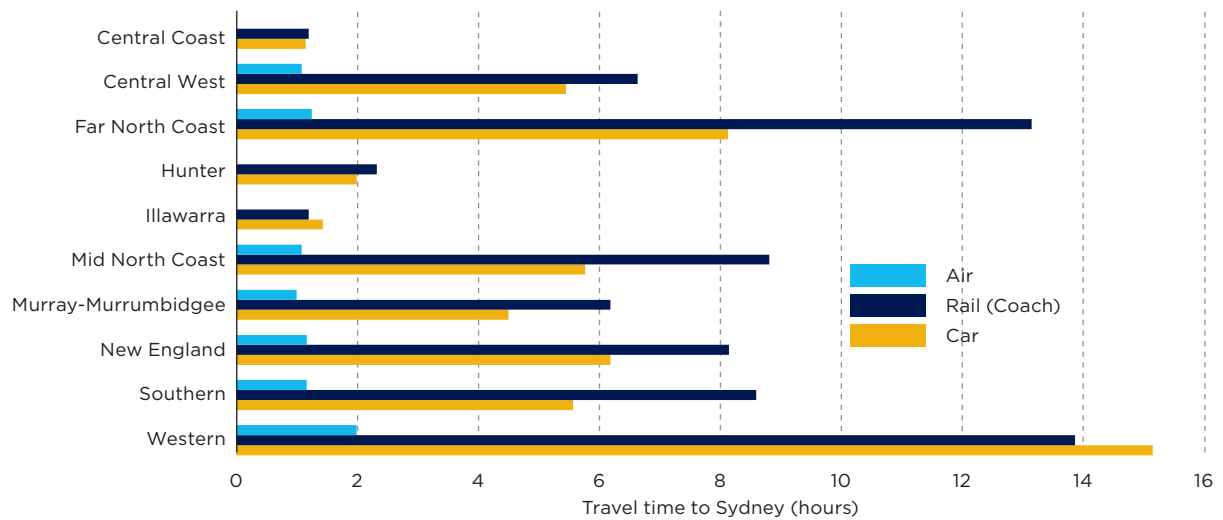


Figure 6.8 Relative travel times and costs from regional centres to Sydney, by mode

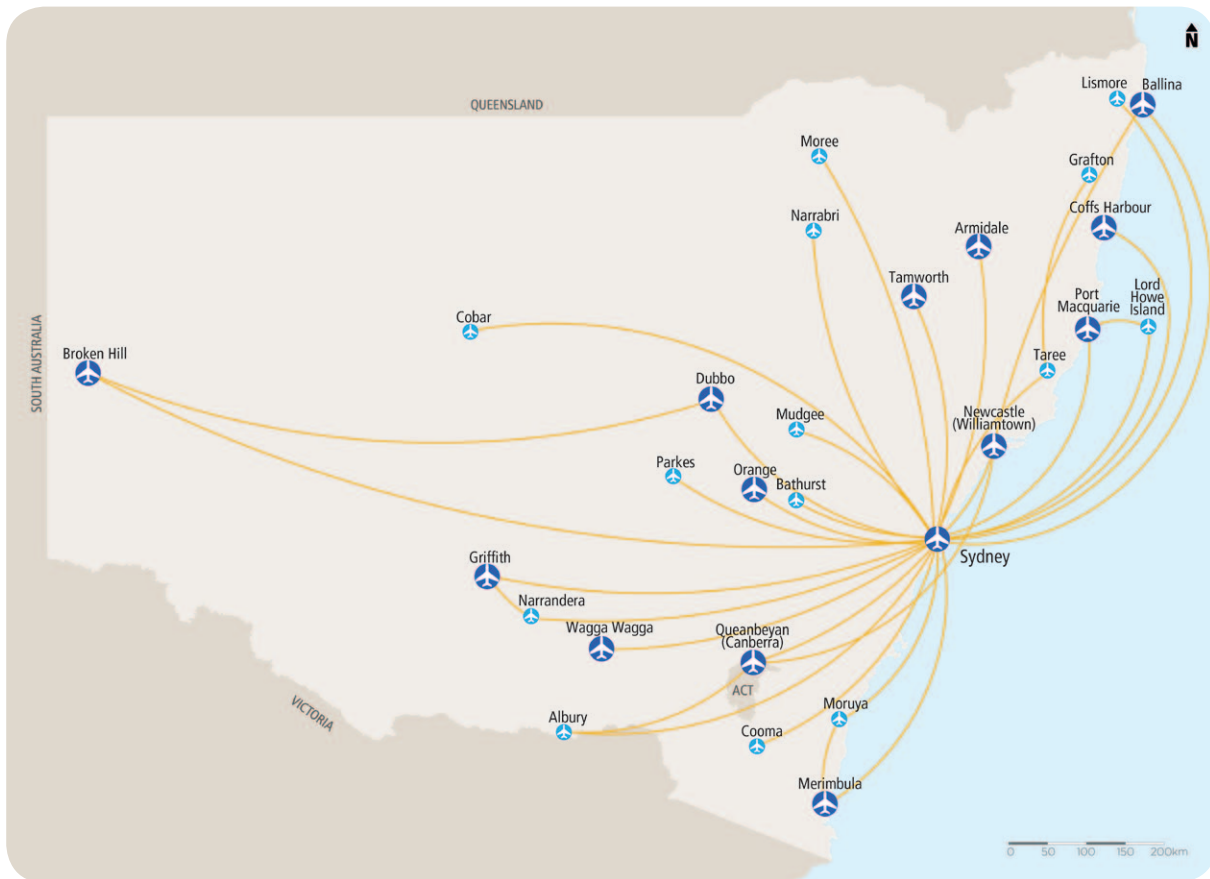
Journey	Air		Rail		Road	
	Time	Cost	Time	Cost	Time	Cost
Dubbo	1 hr 10 min	\$160	6 hr 30 min	\$55	5 hr 10 min	\$70
Broken Hill	2 hr 40 min	\$270	13 hr 50 min	\$97	13 hr 10 min	\$200
Grafton	2 hr 10 min	\$190	9 hr 50 min	\$72	7 hr 45 min	\$110
Merimbula	1 hr 45 min	\$200	N/A	N/A	6 hr 15 min	\$80




Air and rail ticket: prices adult full fare one way. Road costs estimated based on fuel consumption for a large car one way. Airline prices change by time of day. Costs represented are lower end calculations.

Figure 6.9 NSW Trains passenger rail services

Route	Average Time	Distance Travelled	Average Speed
Sydney to Melbourne	11 hours 24 minutes	952 km	84 km/h
Sydney to Brisbane	13 hours 36 minutes	987 km	73 km/h
Sydney to Dubbo	6 hours 30 minutes	462 km	70 km/h
Sydney to Broken Hill	13 hours 50 minutes	1125 km	81 km/h
Sydney to Canberra	4 hours 19 minutes	329 km	76 km/h
Sydney to Armidale	8 hours 10 minutes	579 km	70 km/h
Sydney to Moree	8 hours 53 minutes	666 km	74 km/h
Sydney to Griffith	9 hours	640 km	71 km/h

Figure 6.10 Regional air services in NSW



-  Airport serving less than 50,000 passengers (2011)
-  Airport serving more than 50,000 passengers (2011)
-  Regional commercial air route

6.3.1 Regional passenger rail travel

Regional passenger rail travel has operated for over 100 years in NSW. While routes developed in the early years of the network are still operational, some uneconomic services have been discontinued. Figure 6.9 shows the current CountryLink rail services and travel times and Figure 6.11 shows the extent of existing NSW Trains coach and rail networks.

CountryLink rail services are supported by a network of coach services that provide connections to train services along the network. The most heavily used corridor is the Southern corridor, which includes services to Melbourne and Canberra.

Despite a recent increase in patronage on CountryLink services, the country passenger rail network faces some significant challenges.

- For most of the past decade, patronage has been declining: from 2.2 million passengers in 2001-2 to a low of 1.55 million in 2007-08, before reviving to 1.9 million in 2010-11. Regional rail customers report that services regularly run late and that infrequent services and slow travel times make the network a less attractive alternative to car travel. A return to declining patronage will affect the viability of regional rail services.
- Outside Sydney, the 3,450 km of the passenger rail network is mostly managed by the Australian Rail Track Corporation (ARTC). Passenger services must operate on the same track as freight trains. An increase in freight rail activities and passenger rail activities may not be achievable without future network upgrades, such as longer passing loops that allow trains to operate more efficiently or track duplication in some locations.

Freight trains can be up to 1.8 km long and generally operate at a lower speed than passenger services. It is likely that in the future freight trains will become even longer, creating further difficulties in coordinating freight and passenger services on the same track without new works.

- Most of the interstate passenger train fleet is reaching the end of its operational life. The first series of XPT trains (which operate on interstate routes to Melbourne and Brisbane) entered service in 1981. They were originally designed for 25 years of operation or 6.25 million km of travel. By 2011, the trains had travelled over 9.25 million km and were 28 years old. The second series XPT trains entered service in 1993. A recent refurbishment has extended their operational service life to 2016. The Xplorer fleet (which runs to Armidale, Moree, Broken Hill, Griffith and Canberra) entered service in 1993 and is likely to need replacement between 2023 and 2028.

Ageing rolling stock makes it difficult to maintain a reliable service, as well as undertake routine maintenance due to the difficulty in acquiring replacement parts.

Country passenger rail services are approaching a critical decision point. The way forward will be to go back to basics and establish a clear vision of how we modernise our regional passenger rail service and determine how we can best achieve this outcome.

The NSW Government has established NSW Trains to provide transport services to inter-city and regional customers under the terms of a contract with Transport for NSW. The services to be operated by NSW Trains include between Sydney and the Hunter, Central Coast, Blue Mountains, Southern Highlands and South Coast regions as well as the NSW Trains interstate network. NSW Trains will roll out over the next 12 to 18 months.

Figure 6.11 CountryLink rail and coach services



6.4 Rural State roads

People in regional areas nominate the quality of roads as one of their biggest transport concerns. Ageing assets, higher volumes of traffic, more heavy vehicles and higher rebuilding and upgrading costs all contribute to the challenge of maintaining our roads. The result is the impact on the quality of sections of the road network. Most trips in regions are undertaken by car. Poor quality roads mean longer trips, less comfortable trips and, most importantly, less safe trips. Road safety is also a major concern for people living in regional areas.

Road fatalities in 2010 (shown in Figure 6.12) reflect a consistent pattern over many years: while the actual number of deaths has reduced dramatically since the 1970s, fatal crashes are higher in regional NSW than in the metropolitan area. While only one third of people live in regional NSW, two thirds of all fatal crashes occur in regional areas. The fatality rate in regional NSW is more than four times higher than for the metropolitan area.

The road environment impacts the severity of road crashes. Three quarters of fatal road crashes in regional NSW occur on two-way undivided roads. A high proportion of these crashes are run-off road crashes. Improving our rural road network will help reduce the number and severity of these crashes – but it is a challenging, substantial and costly exercise.

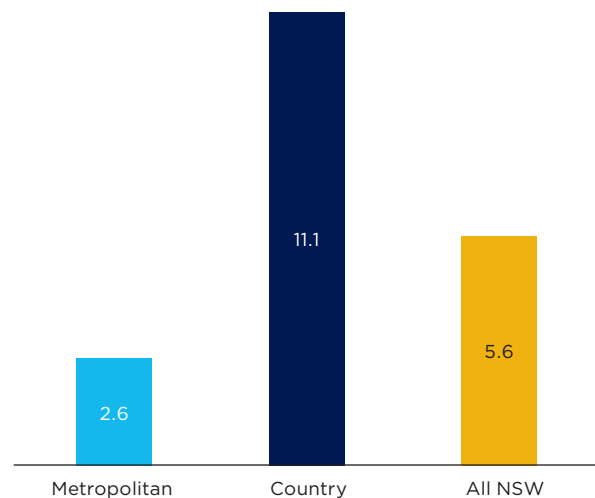
The NSW Government has set performance standards for the regional road network based on the smoothness of roads to support ride quality. While 91 percent of the State road network meets these standards, a considerable effort will be required to reach our target of having 93 percent of the network at or above these standards (see Section 8.4.1). Getting local roads maintained by local councils up to the same standard is an even bigger exercise, with regionally based councils receiving funding in excess of \$600 million each year to maintain and upgrade these roads.

Traffic volumes are growing on the regional road network as population increases and economic activity generates more business and freight related travel. Figure 6.13 indicates where these volumes are highest: the biggest increases are centred on our major regional cities, the Far North and Mid North Coast regions and growing regional centres such as Wagga Wagga, Bathurst and Orange.

With many rural highways constructed as two-way roads, these higher volumes now exceed the capacity of roads in cities and towns located along these highways. Issues are now emerging, or will in the future, along a number of arteries and corridors that have been free flowing until now. These issues will need to be managed to avoid creating freight bottlenecks, safety hazards and travel delays.

Without constant attention to maintenance, rural road quality will deteriorate. This is especially the case for gravel and dirt roads, which deteriorate at a faster rate than paved roads. Recent floods have damaged roads and bridges in some regions, placing further pressure on the quality of the road network in the regions.

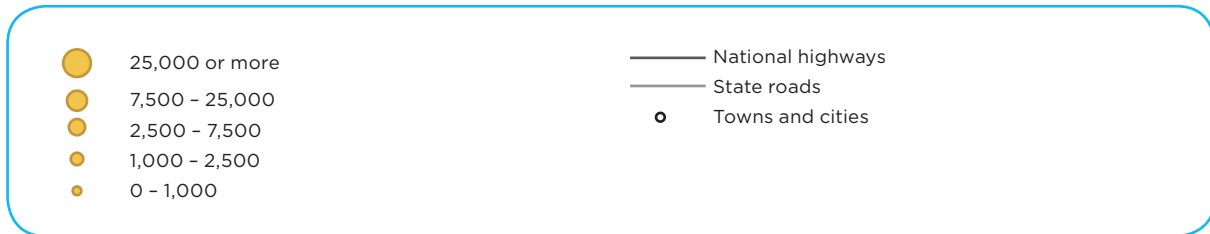
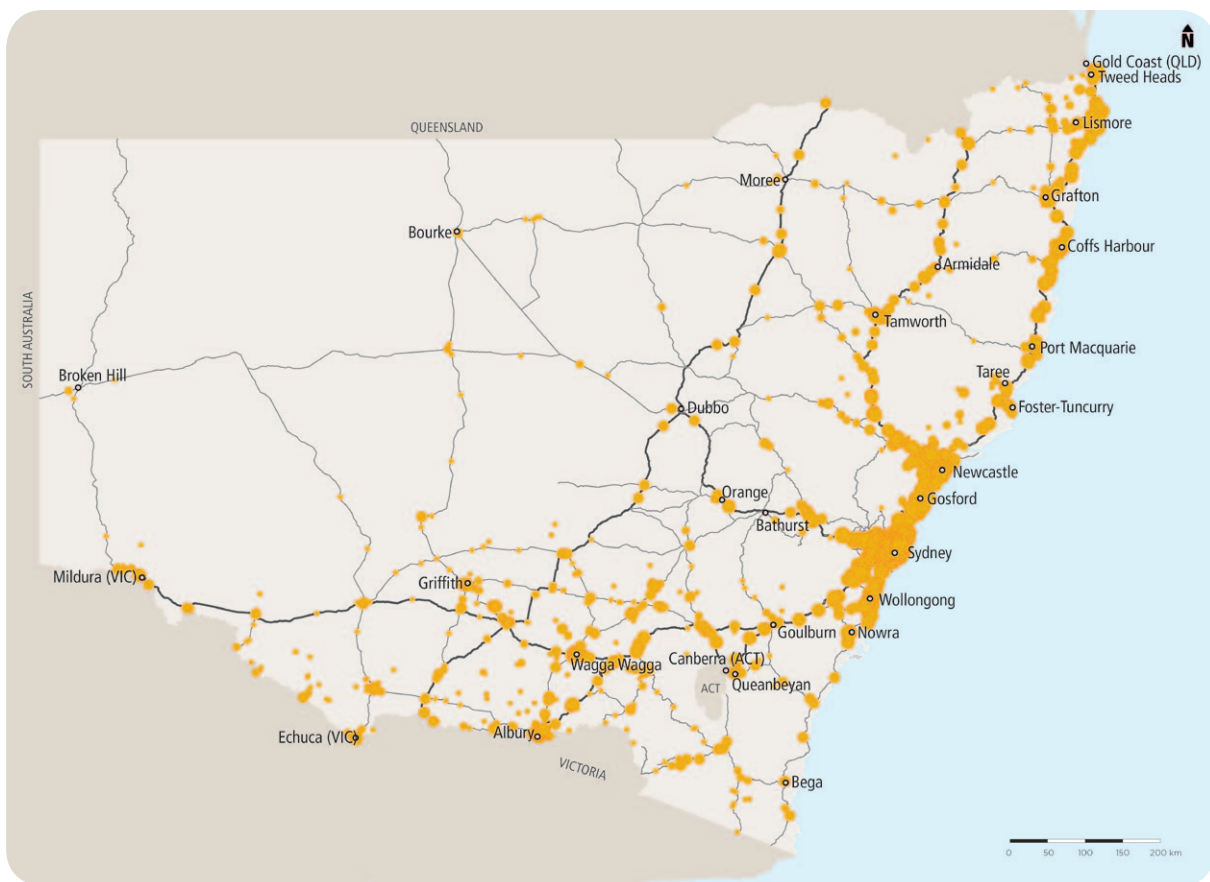
Figure 6.12 Road fatalities per 100,000 population, NSW, 2010



The NSW Government provides grants for capital works, maintenance needs on the local roads and some regional roads, and in partnership with local councils, is committed to improving the quality of the road network.

Better quality roads are safer for people and reduce the transport costs to businesses, most notably primary producers who benefit from efficient road connections between the farm gate and processing, storage or intermodal facilities.

Figure 6.13 Average daily traffic flows on NSW roads, 2011



6.5 Preserving the amenity and character of regional towns

Our small and medium towns contribute to the vitality and character of NSW. They function as service and employment centres for the hinterlands and need centres that are attractive, amenable to walking and cycling, and accessible to all residents. They will also need the capacity to meet diverse transport requirements and to ensure that residents have access to health, education and other essential services.

The dispersed nature of these towns – and the growing consolidation of services in larger centres – means car travel is often the only choice available to residents of smaller communities.

An increase in economic growth is likely to result in more freight vehicles travelling through regional towns. Towns on major road thoroughfares will experience greater traffic impacts and reduced amenity and character. More efficient freight movement, bypasses and moving more regional freight by rail can address these issues.

6.6 Meeting the needs of an ageing regional population

As the population ages, the demand for public and community transport connections between towns and larger centres will grow. We will need to find ways to respond to this increasing demand to maintain equity and reduce disadvantage.

With 21 percent of our regional population aged 65 and over by 2031, our transport system will increasingly be called upon to provide convenient and safe access to health and other services for this growing group in our community. Much of this demand will need to be met by the community transport sector, but we also need to do more with our regulated bus services.

At present, community transport performs a significant role in regional and remote communities for people with disabilities or reduced mobility. For those regions in NSW with an ageing population, community transport service providers will need further resources and support (this is discussed further in Chapter Eight).

Taking action

20 YEAR VISION

Regional NSW will remain an attractive place where people want to live and visit. Residents in regional areas will be taking advantage of new opportunities, supported by transport networks and services that sustain the vitality of regional NSW. Our regions will contribute strongly to the NSW economy through expanding mining, agriculture, educational and tourism sectors.

While improving access to public transport and reducing our dependence on cars are important objectives in many places across regional NSW, road-based transport will remain the dominant mode of travel in our regions. Ongoing investment in road infrastructure will continue to be essential to support regional growth and prosperity. In responding to growth, our approach will be a staged process that begins with measures to improve the effectiveness of the existing system before implementing measures to grow the network.

The initiatives we have developed for regional NSW through the draft Long Term Transport Master Plan reflect our aim to modernise our regional transport system through various road programs and a better integrated transport system across the State that provides access to opportunities and services sought by people in regional NSW.

To deliver the transport system people in regional NSW have told us they want and need – and to meet our most pressing transport challenges – we will take action to:

- **Integrate land use and transport planning** – Each region will have a detailed Regional Transport Plan that is integrated with land use planning and other NSW Government initiatives such as Regional Action Plans and the Department of Planning and Infrastructure regional strategies to ensure transport services and infrastructure are provided in a timely manner, particularly in regions and centres that are growing strongly.
- **Connect communities** – Regional and rural communities will be better connected through improved travel links that are fast, convenient, safe and secure, with stronger community transport and more travel choice for residents and visitors.
- **Make our regional roads safer** – A new Road Safety Strategy will ensure that we reduce the severity and number of crashes on regional roads, with a corresponding decrease in deaths and serious injuries.
- **Move regional freight more efficiently** – The long term strength and prosperity of regional NSW will be supported through investment in road and rail infrastructure to ensure goods can be moved efficiently around the State without adverse impacts on communities and the environment.
- **Partner with local government** – The draft Long Term Transport Master Plan recognises local government as a key partner in identifying, funding and delivering the changes and projects required to improve the transport network at the local level.

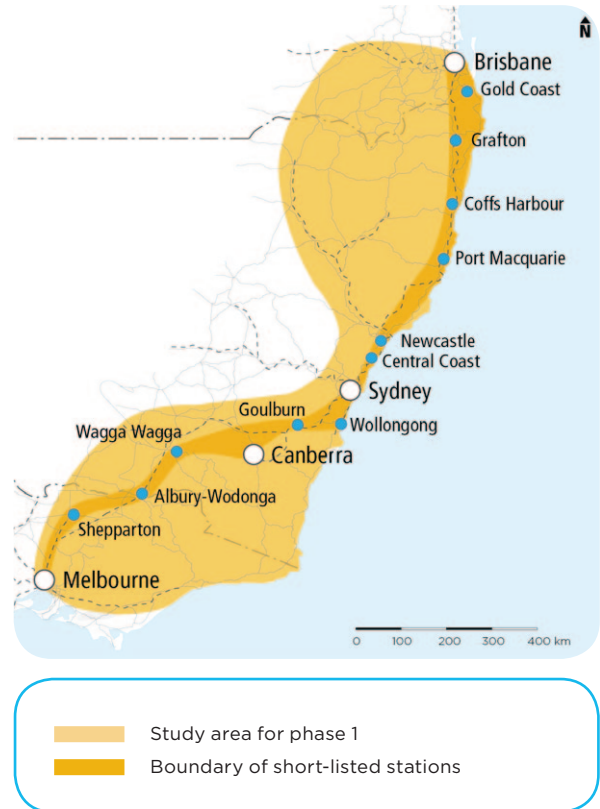
We will prioritise initiatives in each of these areas over the next 20 years:

- In the short term, we will continue our program of investment in road infrastructure improvements and public transport service delivery to improve connections in and between our regions and support growing and changing travel needs.
- In the medium term, we will continue to deliver key programs and consider potential projects identified through the Regional Transport Plans and other planning processes. We are putting in place decision making frameworks to determine which projects will be undertaken (see Chapter Eleven).
- In the long term, we will continue to identify and deliver solutions that deliver outcomes to meet the future demands on the transport system and continue to modernise and protect our transport system in regional NSW. This includes consideration of high speed rail.

The NSW Government is assisting the Australian Government with the High Speed Rail study. The NSW Government supports the initiative to select a high speed rail corridor between Brisbane and Melbourne. Once the corridor has been identified we will agree the best approach to protecting the corridor. A future project would need to be supported by an integrated approach to land use and transport planning, including to adjoining transport services and networks.

The NSW Government is also committed to ensuring a high quality road corridor between Sydney and Brisbane along the coast. The corridor is required to support anticipated population growth along the corridor.

Figure 6.14 Initial plans for high speed rail, Melbourne – Sydney – Brisbane



6.7 Connecting communities

We have developed a package of initiatives that will support increased economic and social opportunities, improved connectivity to major regional centres and enhance connections to national and international supply chains. We will also ensure that the transport system is responsive to safety concerns, protects important corridors for the future and supports new growth areas.

The NSW Government is strongly committed to ensuring that essential access to Sydney from regional NSW is maintained and enhanced across all transport modes. Road, rail and air transport will all continue to contribute to maintaining essential access and accommodating future growth and demand.

Action Rural highway upgrades

We will undertake a targeted program of upgrades to the rural highways network, focusing on improving safety, supporting growth, increasing accessibility and enhancing freight efficiency.

Rural highways in NSW have historically been constructed as two-lane roads, built to geometric and pavement standards that are now superseded. The materials used along most of the network are aged or of inadequate strength to support larger High Productivity Vehicles, and general wear and tear means that some highways cannot be repaired easily. Poor alignment on sections of the network contributes to vehicle crashes and lower operating speeds. At locations along the rural highways network, bottlenecks can cause unsafe overtaking practices.

Across the broader network, traffic volumes are growing as NSW's population increases and economic activity generates more business and freight related travel. Through the Long Term Transport Master Plan, we aim to be proactive in managing this emerging issue and will move forward with initiatives to improve the rural highways network. This investment will focus on improving travel times, tackling congestion and reducing the risk to road users. Key measures

will include localised duplication where required or more frequent and longer overtaking lanes. More frequent and better rest areas for heavy vehicles will assist in making the journey safer and more comfortable. This upgrade program will deliver substantial benefits through better connectivity, improved safety and more efficient movement of freight.

The draft Long Term Transport Master Plan identifies various rural highways for upgrade works, based on:

- The road hierarchy class, as improvement to higher order roads generates greater benefits
- The extent to which the project will improve safety by reducing the occurrence of fatal and serious injury crashes
- The extent to which the project will support long distance travel and freight movement by reducing travel time which is important to the NSW economy
- The extent to which the project will address congestion effects, where terrain, geometry, or local development reduces the capacity of the road network and creates localised delays
- The extent to which the project reduces costs by replacing infrastructure that is not economic to maintain.

To a lesser extent in rural areas other objectives that may require consideration in the prioritisation of projects are those that improve road based public transport, improve urban amenity or serve residential and employment growth areas.

Action Regional Growth Centres roads

We will deliver a program of arterial road construction and major road upgrades as population and employment growth in regional centres and areas boosts the demand for road travel, bus services and freight transport.

Upgrades will be to major highways and other State roads. The growth areas supported by this program are defined as the Hunter region south of Singleton, the Central Coast and the Illawarra region north of Nowra.

The Lower Hunter is forecast to grow by 160,000, the Central Coast by 100,000 and the Illawarra by 47,600 in the 25 years from 2006. There is already congestion in these areas. Existing roads in these areas are often regional/rural two-lane roads with simple intersections that are not designed to cope with high levels of traffic or buses. Adequate connectivity must also be provided across the existing arterial road network to improve access to and from these high growth areas for both people and goods.

This program will focus on addressing congestion and improving travel times and reliability.

Similar to rural highway upgrades, the draft Long Term Transport Master Plan identifies roads for improvements based on a range of criteria:

- The road hierarchy, as improvement to higher order roads generates greater benefits
- The extent to which the project will improve safety by reducing the occurrence of fatal and serious injury crashes
- The extent to which the project addresses specific congestion effects resulting from increasing demand
- The extent to which the project improves access to residential and employment growth areas

- The extent to which the project improves the operation of road based public transport
- The extent to which the project improves urban amenity through measures to mitigate traffic impacts
- The extent to which the project reduces costs by replacing infrastructure that is not economic to maintain.

To a lesser extent in regional growth centres other objectives that may require consideration are supporting freight and long distance travel.

Action Making regional roads safer

Significant reductions in fatal and casualty crashes have been achieved over the last 40 years through improvements to driver behaviour, vehicles and the road network, together with concerted enforcement action and policy changes. This has been achieved against a backdrop of a growing regional population and an increasing number of vehicles.

A new 10 year Road Safety Strategy will guide road safety initiatives and investment to reduce road trauma. The Strategy will focus on reducing the number and severity of crashes on country roads. Further details are included in Chapter Eight.

Other programs delivered as part of the Long Term Transport Master Plan will contribute to major improvements in road safety, including targeted safety works, rural highway upgrades, major arterial road upgrades in growing areas and bypasses of town centres.

Action Country Passenger Rail Services Strategy

We will develop a Country Passenger Rail Services Strategy to deliver a better service outcome for people in regional and rural NSW.

Determining the future direction of NSW country rail passenger services and how these services may develop over the next 20 years is a significant exercise. Our vision is that passenger rail services will continue to perform an important role in connecting regional and rural communities.

Passenger rail travel has operated for over 100 years in NSW. While it has undergone significant changes, the network that was initially developed remains operational – although some passenger services that were seen as uneconomic have been discontinued. As discussed earlier, country passenger rail is at a critical decision point. Within the life of the Long Term Transport Master Plan, the majority of regional passenger rolling stock will reach the end of its design and operating life. Timetables determined by the passage of trains through Sydney and by the scheduling of interstate services do not provide convenient travel times for many regional centres. Over the next 20 years, capacity constraints in the regional rail network will also occur as a result of the growth in freight services. This will be particularly acute in the Hunter between Newcastle and Muswellbrook.

We recognise that timetables are focused on Sydney and that there is a need for a greater focus on services between regional centres. The Strategy will address issues around more convenient timetables, slow travel speeds, service frequency and other concerns and devise solutions to create a modernised regional rail service that is an attractive option for regional communities. A major component of the Strategy will be a program to acquire new rolling stock.

Action Improve regional bus services

We will encourage increased public transport use in regional areas by identifying and addressing service gaps, with a major focus on extending and improving bus services.

Only one percent of work trips in regional areas are undertaken by bus (2006 figures). We need to make public transport more accessible and convenient in regional towns.

However, dispersed small population centres make it difficult to provide people with greater choice. Better frequency, greater reliability and wider network coverage of bus services can make public transport more attractive. A one-size fits all approach will not be appropriate and service options for various regions and centres will need to be considered individually through service planning and Regional Transport Plans and the bus contract system guidelines will be reviewed and adjusted.

To provide real transport choice in regional towns, we will adopt a fresh approach to delivering bus services. Route and timetable changes and integration between different services will reduce travel time. Greater customer confidence can be achieved through upgrading bus stops and ensuring information is accurate. Upgrades to bus stops will assist people with special needs to use bus services safely.

We will improve the quality and level of service provided by focusing on more frequent services, wider network coverage and better integration between travel modes. To cater to different segments of the community and their different needs, we will promote and facilitate the introduction of differentiated services to provide more choices for customers. We will work with regional bus operators and local communities to introduce innovative bus services to provide greater choice and get the right balance and mix of services provided. As a way of exploring what works best, we will consider trial projects to guide future decisions about the provision of regional bus services.

Action Accessible, attractive stops and stations

We will continue to support and enhance a public transport infrastructure program that assists local councils in making country bus stops and rail stations safer, accessible, attractive places that comply with national disability access standards. This will enable more people to use public transport, provide greater confidence in using the system and improve customer travel experiences. In turn, this should encourage more people to use public transport.

This program, along with the Transport Access Program, will focus on improving ease of interchange access across NSW. We will improve coach facilities and interchanges in Sydney CBD and other areas to benefit long distance coach travel.

Action Improve and strengthen community transport

We will provide additional funding for community transport services and improve available resources for the community transport sector following a detailed review that includes identifying outcomes in individual regions.

Community transport provides transport services for the elderly and disadvantaged. With an ageing regional population, reliance on community transport services will increase. However, community transport is more costly to provide compared with other transport services and needs to be integrated into the overall transport system.

We recognise the vital role community transport service providers play in regional and remote communities and will work with community organisations and local councils to deliver community transport services. Our work will focus on ensuring that organisations, vehicles and drivers are cost effective and do not duplicate other services or government funding. Our current actions for community transport are discussed further in Chapter Eight.

Action Increasing cycling opportunities

Cycling is an important element in providing greater travel choices to regional communities and delivers health and environmental benefits. In addition to statewide initiatives to promote cycling, we will invest in better information and infrastructure to support cycling in conjunction with regional local councils.

Many regional roads were built in the past without suitable space for cycling. In some cases, these roads now carry high levels of vehicle traffic that deter young or inexperienced cyclists from riding. We will work with councils to improve and enhance paths and cycling routes in regional centres to increase the number of people who choose to cycle. All new road projects or road network upgrades will be required to examine the feasibility of providing for cycling as an essential component of the project.

Further details of statewide cycling initiatives are set out in Chapter Nine.

Action Increasing walking opportunities

Walking is an important element for mobility. In addition to statewide initiatives to promote walking, we will invest in better information and infrastructure to support walking in conjunction with regional local councils.

Many regional roads were built in the past without suitable footpaths or space for walking. We will work to improve and enhance walking paths in regional centres to increase the number of people who walk. Further details of statewide walking initiatives are set out in Chapter Nine.

Action Regional air services

Air travel is vital to economic viability and people of regional NSW. We will work with airport owners and airline operators to continue to support service access between our regions and Sydney Airport.

6.8 Moving regional freight more efficiently

Economic growth in regional NSW requires the efficient movement of goods and services. A large proportion of goods are moved by road across regional NSW and this freight task will grow. While every effort will be made to achieve a greater mode share on rail, the road network will still be required either to transfer freight from a terminal to its final destination or for the whole journey. This requires the identified sections of the road network be capable of carrying High Mass Limit (HML) vehicles or High Productivity Vehicles (HPV).

Many local roads and parts of the State road network cannot cater for HML vehicles or HPVs, as either the road pavement or bridges do not have sufficient strength. Increasing traffic volumes around regional towns are creating localised pinch points, which reduce the efficiency of freight movements and have an adverse impact on the amenity of a number of towns.

Action Bridges for the Bush

We plan to progressively upgrade, refurbish and rebuild those parts of the network that are needed to deliver productivity improvements and minimise the costs of transporting goods.

Many regional bridges were built to standards that are now no longer suitable. The introduction of B-doubles and other HPVs requires a new standard for roads and bridges. At present, the standard of road infrastructure results in vehicles either having to make long detours to make the journey – which is expensive and inefficient – or multiple vehicles to carry out the task when a single vehicle will suffice, again adding costs to the trip.

The Bridges for the Bush program will replace and upgrade bridges across NSW at locations where mass limit restrictions are imposed preventing HML vehicles and HPVs use or operability of the road network. The program will deliver significant benefits to industry, boosting productivity and reducing the cost of many goods that are moved by road. The program has two parts, with the first part being the replacement or upgrade to five high priority HML deficient bridges and the second part to upgrade or replace bridges to continue the

operability of the road network. The second part requires placing six bridges and upgrading six further bridges.

The NSW road network is heavily constrained in trying to meet the growing freight task. Challenges can include low strength, ageing bridges, the condition and strength of some rural State road pavements and poor road geometry.

Between 10 and 20 percent of the road freight task is mass constrained. Therefore, replacing or strengthening bridges at strategically important locations is necessary if mass limits are to be raised. The balance of the freight task is constrained by the dimensions of the heavy vehicle combination. Opportunities to improve efficiency and allow end to end productivity for longer vehicles will generally arise from improvements to road geometry and in particular at intersections.

Improving freight access has high economic benefit. Roads and Maritime Services has assessed the bridges on State, regional and local roads and identified and prioritised the constrained bridges. Currently 249 bridges have been assessed as unsuitable for HML vehicles. On State roads 152 of the 249 bridges with restrictions; 70 of these are located outside the Sydney metropolitan area. These structures either require strengthening or replacement with a new structure to meet the demands of HPVs.

The bridges were identified through a strategy that considered:

- The priority of the road, based on the draft HML priority routes determined through an analysis of commodity flows and vehicle movements. Bridges on higher priority routes provide the greatest benefits.
- The extent to which the project extends the road network available to HML vehicles and reduces the distance of heavy vehicle detours.
- The extent to which the bridge replacement/upgrade increases safety standards.
- The extent to which ongoing maintenance costs are reduced by replacing the infrastructure or upgrading the bridge.

Action Regional centres and town bypasses

Our regional road network has developed as links between towns. These connections are used for long distance travel by cars and heavy vehicles and local trips within and around town centres. In some cases they also facilitate walking and cycling. As towns have grown, the amount of local activity has increased, leading to localised congestion in some towns.

The draft Long Term Transport Master Plan proposes a new program of town bypasses to improve travel within towns, reduce delays caused to freight traffic and increase safety. A list of prioritised town bypasses that may be considered for funding and delivery will be developed in consultation with local communities as part of developing Regional Transport Plans. Town bypasses are not appropriate at all locations, but they are highly beneficial in improving freight efficiency and reducing travel times and costs.

Bypass projects allow us to improve safety for road users and increase the amenity of towns through reduced noise, lower emissions and less traffic.

For town bypasses the decision to consider whether a bypass would be delivered is based around a strategy that involves assessment of the following elements:

- All State roads have a hierarchy classification, with the Hume Highway and Pacific Highway having the highest road hierarchy classification and roads such as the Silver City Highway having the lowest road hierarchy classification.
- The road hierarchy classification of the road, as higher order roads carry higher levels of through traffic and generate greater benefits than where through traffic is much lower.
- For both light and heavy vehicle traffic volumes a higher proportion of through traffic will support the need for a bypass.

Greater benefits are achieved where vehicles attain travel time benefits savings by using the bypass.

- Town size - large towns tend to have lots of local trips and turning movements which can impact on through traffic and create localised congestion in the town. In large towns through traffic as a proportion of all traffic is lower but could still be a reasonable number of vehicle trips.
- Topography - difficult terrain, major rivers, and urban development impact on the project cost and will influence the decision to prioritise a particular bypass.
- Urban planning - Dispersed urban development will also limit town bypass options. The nature of development adjacent to an existing corridor is also a factor to be addressed when considering a town bypass. Our approach is to provide a bypass on higher order roads that have urban commercial activity adjacent to the road. Urban commercial activity is characterised by shops and businesses.

Within the context of the decision process about whether to proceed with a town bypass the type of bypass is a key factor. Typically bypasses can be considered as:

- A full bypass - where the corridor is away from town and typically there are high traffic volumes and a high proportion of through traffic. The main street should not rely on business from through traffic and typically bypass options are the most expensive.
- Inner bypass - where existing streets within the town are upgraded and used to provide an alternative to the main street. Typically these are considered where traffic volumes are lower and the proportion of through traffic is lower. Sensible urban planning can prevent the corridor from unsuitable development. Further urban growth may lead to the need for a full bypass in the future.

- Heavy vehicle bypass – typically considered where heavy vehicles can be routed through industrial areas. Similar to an inner bypass it could be an intermediate solution for a full bypass.
- Development of a bypass alternative – in cases where land use change can re-orient and develop the town away from the through road. This alternative will take time to occur and requires strong land use planning controls.

A detailed plan for NSW roads and the Regional Transport Plans will include stakeholder and community input, providing the opportunity to consider town bypasses. The planning work will take into account forecast road traffic demand, which establishes need and possible route options. Traffic and engineering investigation together with economic and urban planning elements combine to allow prioritisation of proposed bypasses.

The final Long Term Transport Master Plan will be supported by dedicated Regional Transport Plans for each of NSW's ten regions. Details of the transport challenges and solutions for each region will be set out in these Plans. Specific strategies are also being developed to improve regional and interstate connections: a NSW Roads Strategy, a Country Passenger Rail Services Strategy and a Major Airports Plan.

6.9 Your region

The Long Term Transport Master Plan will have a significant influence on land use patterns and the shape of regional cities, towns and communities over the next two decades. The Long Term Transport Master Plan will fit within a spatial framework for regional NSW that defines how growth, demographic and other changes will be managed. It will complement the regional strategies being prepared by the Department of Planning and Infrastructure which will manage long term growth and land use change across NSW.

Following completion of the Long Term Transport Master Plan, Transport for NSW will commence work with the Department of Planning and Infrastructure and local councils to prepare detailed Regional Transport Plans.

Regional Transport Plans will be linked to land use and will identify important future corridors, protect existing corridors from incompatible adjacent development and manage the release of new land in a coordinated manner with the delivery of appropriate transport infrastructure or promote development where strong transport connections currently exist.

The Long Term Transport Master Plan will set principles and provide an overarching direction for transport across NSW at a strategic level. While some specific regional initiatives have been identified in preparing the Master Plan, greater detail is required for implementation at the local level. Regional Transport Plans will:

- Translate the higher level principles and strategies from the Long Term Transport Master Plan to actions taken at the local level
- Address identified transport demands and priorities at the regional and local levels
- Provide a mechanism to support early transport provision for new residential areas in regional NSW, particularly in our major regional cities
- Ensure the right transport links are in place to support regional economic development.

Regional Transport Plans will address local transport needs and priorities, and integrate transport planning with land use planning across regional NSW. The regional transport planning process will allow us to plan in more detail the future needs of each region's transport connections, identify and develop new connections to improve liveability and amenity

as well as meet the needs of population and employment growth and provide a mechanism for preserving future corridors.

The strategies, programs and projects discussed for each region will be finalised during the development of the Regional Transport Plans.

Figure 6.15 Draft Long Term Transport Master Plan initiatives by region



Northern Rivers

Short term

- We will complete the duplication of the Pacific Highway and widening works and upgrades to the Bruxner Highway.
- We will complete the Casino to Murwillumbah rail corridor investigation and consider its recommendations.
- The renewal of bus service contracts within the next five years will be an opportunity to seek a better outcome for bus users in the region. We will consider possible new routes, additional services and greater integration of services to give the region a higher level of bus services and take into account customer priorities.
- The NSW Government will continue to work with the Queensland Government to overcome the various jurisdictional regulatory arrangements that impede seamless and efficient travel into South East Queensland, such as cross-border bus services.

Medium to longer term

- Population and employment growth in the region will increase pressure on main arterial roads. We will commence the necessary road network planning for upgrades to support the growth of Lismore, Ballina and the Tweed Coast, and to be in a position to address congestion and capacity issues as they emerge.
- We are planning to provide an additional crossing of the Clarence River at Grafton that will improve access to the Northern Rivers region and a good alternative route to the Pacific Highway.
- We have identified the Tabulam Bridge across the Clarence River for replacement in part two of the Bridges for the Bush program.
- Improving bus services, including frequency and coverage of the bus network will be an ongoing priority to reduce social disadvantage, particularly for a growing and ageing population. Transport for NSW will work with local operators and the community to consider possible new routes, additional services and greater integration of services to create better accessibility to services for the Northern Rivers. This would also include potential new connections to improve integration of the Northern Rivers and South East Queensland.

Mid North Coast

Short term

- We will complete the duplication of the Pacific Highway running through the region. We will also complete upgrades to sections of the Oxley Highway between Port Macquarie and Wauchope.
- We will investigate opportunities to improve accessibility through stronger bus operations in the region's major centres and improve connections between regional centres in line with our vision of connected regional communities. The Country Passenger Rail Services Strategy and bus operator contract renewals provide the opportunities to create a service structure that better meets the needs of communities between Taree and Grafton. We envisage a system that operates services linking larger centres along the Pacific Highway, supported by local services within each centre and connections to smaller outlying settlements. An integrated system will require suitable interchange locations, which will need to be identified and developed.

Medium to longer term

- We will continue to invest in the Mid North Coast road network to address localised congestion as demands increase in the future. This will also improve bus travel times.
- We will work with community groups, regional transport coordinators, local councils and local bus operators to continue to enhance the public transport system to make sure it meets the needs of the region's residents and businesses.
- We are planning to provide an additional crossing of the Clarence River at Grafton to support Grafton as a major regional centre and relieve congestion on the existing bridge.
- The Bridges for the Bush program part two identified the timber bridge over Sportsman Creek Bridge at Lawrence to be upgraded.
- The planning for a Coffs Harbour bypass has been completed and a route identified. We will deliver the Coffs Harbour bypass in the longer term.

New England

Short term

- We will focus attention on road network upgrades for the New England Highway near Tamworth to address localised congestion.
- We will also complete upgrades to sections of the New England Highway at Bolivia Hill south of Tenterfield.
- Additional overtaking lanes will be provided on the Newell Highway to address capacity constrained and unsafe sections of the highway.
- We will complete pavement reconstruction of the Newell Highway between Narrabri and Moree.
- The renewal of bus contracts within the next five years offers an opportunity to build for the future and get a better outcome for bus users in the region. As part of our commitment to increasing public transport use to reduce reliance on cars, we will consider whether more flexible bus services tailored to the region's needs will achieve better outcomes.
- A strong focus on driver fatigue within our new Road Safety Strategy means that we will need to provide additional rest areas, as well as upgrade some rest areas to a better standard. This will be required on both the Newell Highway and New England Highway.
- The growth in heavy vehicle and long distance traffic is likely to create problems in the medium to longer term in Moree and Tenterfield. Within the next five years, we will deliver Stage 2 of the Moree Bypass and undertake the planning study for the Tenterfield bypass to fully assess these issues and identify preferred bypass routes.

Medium to longer term

- Population in the region is forecast to decline, but there is likely to be a move from smaller settlements to the larger centres. This may result in localised congestion, particularly around Tamworth. Road network improvements will be identified and delivered at the appropriate time.
- General road freight will grow over the next 20 years, which will impact on the New England, Newell and Oxley Highways. Road upgrade works to address access and safety issues will be undertaken as required.
- We will work with community groups, regional transport coordinators, local councils and local bus operators to continue to enhance the public transport system to make sure it meets the needs of the region's residents and businesses. Ongoing monitoring of bus contracts will offer the opportunity to review operational guidelines and address issues that emerge in the intervening period.
- With forecast growth in coal mining in the Gunnedah basin, a high proportion of the freight task associated with this growth will be transported by road. We will work with the mining industry and local councils to ensure the road network has the appropriate capacity to service the industry's needs.
- The Bridges for the Bush program identifies two bridges for replacement: Tulludunna Bridge on the Kamilaroi Highway at Wee Waa and the Gunnedah rail bridge on the Oxley Highway at Gunnedah.
- We will work with and assist the Gunnedah Shire Council to also replace the New Street Bridge over the rail line at Gunnedah.

Western

Short term

- The vastness of the Western region poses many challenges. Road based transport will remain the primary mode for most travel in the region, and the Mitchell and Barrier Highways are important to the economic viability of the region. Accordingly, our focus will be on maintaining the region's roads at a suitable standard.
- Mining will remain a major industry in the Western Region particularly around Broken Hill. We will support a heavy vehicle haulage bypass of Broken Hill which will assist the mining and agriculture industries by improving travel efficiency.
- The Western region has the highest use of community transport in regional NSW per capita. We will continue to support community transport services for the region and make appropriate resources available.

Medium to longer term

- We are committed to providing accessibility and equity to the people in the Western region and support good access to Broken Hill, Tamworth, Dubbo, Wagga Wagga and Sydney. Our longer term focus will ensure realistic travel options exist, whether by air, rail or bus. This will require continued investment in maintaining transport infrastructure and services at a suitable standard.
- Road safety infrastructure assessments for Aboriginal communities were undertaken to identify road safety issues on state managed roads, the local road network and roads in Aboriginal communities that connect to the nearest town with access to goods and services. The assessments have identified a program of infrastructure works which allows for the sealing of roads, installation of delineation (such as line marking and signage) and construction of pedestrian facilities.

Hunter – Newcastle

Short term

- The Hunter region's growth will occur around Newcastle, Lake Macquarie and Maitland. Our Growth Centres roads plan will develop a road network for the region to support this growth, including continued delivery of the Newcastle Inner Bypass, Newcastle Link Road and Newcastle Road corridor improvements. Our focus will be to provide the capacity improvements needed to improve travel time reliability and support an expansion in bus services.
- We will strengthen bus operations in the region's major centres, as well as connections between these centres. This will occur through network and timetable reviews in the context of the current Outer Metropolitan Bus Service Planning Guidelines. This will ensure that emerging customer needs are reflected in all our bus contracts.
- To increase the proportion of commuter trips to Newcastle centre, we will progressively implement strategic bus corridors to provide high quality bus services that reflect demand and land use change. The strategic bus corridors will be modelled on the successful implementation of these services within Sydney.
- *Sydney's Rail Future* offers the opportunity in conjunction with our review of the Country Passenger Rail Services Strategy and the creation of NSW Trains to improve rail services between Newcastle and Sydney, which will also benefit the Central Coast. Our goal is to reduce travel time between Newcastle and Sydney to two hours and timetable changes being investigated for *Sydney's Rail Future* will reduce the overall journey time.
- A Port Growth Plan for Newcastle and a Newcastle Transport Management and Accessibility Plan will be developed as part of a Regional Transport Plan for the Hunter.

Medium to longer term

- We will continue our investment in the Newcastle road network to address capacity constraints that impact on travel time reliability and public transport operations.
- We will continue the delivery of the Newcastle Inner City Bypass.
- We will continue to enhance and expand the bus services and strategic bus corridors to reflect demand and land use change.

Hunter – regional

Short term

- The Hunter Expressway will provide a new east-west connection between Newcastle and the growing Lower Hunter and is one of the biggest road infrastructure projects to be built in the Hunter. It will alleviate road congestion on the lower New England Highway between Newcastle and Maitland and provide greater reliability for freight and passenger travel on the New England Highway.
- In conjunction with the Hunter Expressway, we will upgrade the link between the F3 Freeway/Hunter Expressway interchange and Broadmeadow in Newcastle.
- Enhanced bus services into the Lower Hunter will complement the enhancements made to the Newcastle bus system. The renewal of bus contracts will provide an opportunity to review and update Bus Service Planning Guidelines to deliver enhanced services in the region's centres that reflect changes in the urban environment and that are consistent with emerging customer needs.
- We will identify opportunities to enhance local bus services in the Upper Hunter to provide a real alternative to private vehicle travel, with a focus on improving travel times, service frequency and integration, passenger information and comfort.
- The competition for track access in the Hunter Valley is acute and will require resolution if rail is to fulfil its potential in the region. We will work with the various stakeholders to develop an agreement that supports the timely and efficient movement of coal and freight, as well as supporting our objectives for passenger rail.

Medium to longer term

- To ensure freight moves efficiently, we will consider extending the F3 to Raymond Terrace. We will also consider how best to reduce the impacts of freight movements on centres such as Muswellbrook, Scone and Singleton. We will implement initial changes to the local road network in Muswellbrook to provide a local heavy vehicle bypass.
- New England Highway upgrades will address safety and congestion issues as they emerge.
- We will look to implement improvements on the New England Highway at Scone and Aberdeen and within Forster to improve pedestrian facilities and create safer environments.
- We will protect and plan for the construction of the strategic rail freight corridor at Fassifern and the Hexham rail bypass.
- We will work with community groups, regional transport coordinators, local councils and local bus operators to continue to enhance the public transport system.
- We will develop a strategy to address the constraints on rail operations in the Lower Hunter.
- The Bridges for the Bush program identifies three timber bridges that require upgrade or replacement: Glennies Creek, Williams River and the Patterson River.

Central Coast

Short term

- The Central Coast is very constrained geographically and the State road network is critical. To reduce congestion, improve travel time reliability and facilitate enhanced bus operations, we will invest in the region's road network. This investment will focus on the Pacific Highway, Central Coast Highway and Terrigal Drive, as well as Manns Road and Sparks Road.
- Improvements to interchanges on the F3 will be undertaken to support the effective operation of the F3.
- The Regional Transport Plan and the renewal of bus contracts will provide an opportunity to investigate better accessibility through enhanced services and reflect changes in the urban environment. Options will be explored to deliver improved public transport services. This will occur through network and timetable reviews in the context of the Outer Metropolitan Bus Service Planning Guidelines. We will consider improving Strategic Bus Corridors servicing and connecting the main centres of Gosford, Wyong and Terrigal to reflect demand and land use changes.
- *Sydney's Rail Future*, and the creation of NSW Trains will improve rail services between the Central Coast and Sydney and the Central Coast and Newcastle. We will ensure these rail services are supported by an integrated bus service.
- We will deliver a new transport interchange to support the development of the Warnervale town centre.

Medium to longer term

- We will widen the F3 between Tuggerah and Doyalson to improve the efficiency of the interstate road network, improve travel time and reduce transport costs.
- The completion of the Northern Sydney Freight Corridor will reduce interaction between freight and passenger services and result in more reliable operations. Future intercity services will specifically focus on the needs of the longer distance customers.
- We will continue our investment in the urban road network to address capacity constraints that impact on travel time reliability and public transport operations.
- We will ensure North Wyong has an appropriate level of bus service. We will also provide appropriate public transport services as required to support Warnervale town centre.

Central West

Short term

- Our short term road network program will be focused on the Newell Highway upgrades. We will also complete work on the Great Western Highway to address localised congestion in the Blue Mountains, Bathurst and Orange. We will complete the study into the Bells Line of Road and look to protect the corridor for future transport needs.
- We will improve train services with the introduction of a daily return service between Bathurst and Sydney.
- The development of the Central West Regional Transport Plan and the renewal of bus contracts within the next five years offer opportunities to build for the future and get a better outcome for bus users in the region and take into account the emerging customer needs. As part of our commitment to increasing public transport use to reduce reliance on cars, we will consider whether more flexible bus services tailored to the region's needs will achieve better outcomes.
- We will construct a heavy vehicle bypass of West Wyalong.

Medium to longer term

- As traffic levels increase on the Newell Highway, further upgrades and additional overtaking lanes will be required to alleviate constraints and unsafe operations. Similar actions will be required on the Mitchell, Great Western and Mid Western Highways to cater for the growing travel between Bathurst and Sydney and Bathurst and Dubbo.
- We will work with community groups, regional transport coordinators, local councils and local bus operators to continue to enhance the public transport system to make sure it meets the needs of the region's customers and businesses. Ongoing monitoring of bus contracts will offer the opportunity to review operational guidelines and address issues that emerge in the intervening period.
- We will provide pedestrian facilities in Cowra on the Mid Western Highway to improve pedestrian access and safety in the town centre.
- We will focus on continuing to enhance town and regional bus services to increase access to the key regional centres of Bathurst, Orange and Dubbo and to connect smaller communities.
- The Bridges for the Bush program identifies three timber bridges in the region that will be upgraded in part two: McKanes Bridge over the Cox River, Warroo Bridge across the Lachlan River and Gooloogong with the Holman Bridge on Nanima Road.

Illawarra – Wollongong

Short term

- The Growth Roads program will continue to deliver a road network that supports strong growth. We will continue to improve the F6, Princes Highway and Mount Ousley Road to boost capacity, improve travel time, support public transport operations and provide efficient freight connections to Port Kembla.
- We will strengthen bus operations in major centres, as well as connections between these centres. This will occur through the development of the Regional Transport Plan and network and timetable reviews in the context of the Outer Metropolitan Bus Service Planning Guidelines. This will reflect emerging customer needs in all our bus contracts.
- The timetable changes being investigated for *Sydney's Rail Future*, the creation of NSW Trains and modern signalling technology will deliver faster travel times and greater travel reliability between Wollongong and Sydney. We will support these rail services with an integrated bus service.
- We will deliver the Port Kembla Growth Plan to plan for Port Kembla's future trade requirements and ensure its long term access (see Chapter Seven).

Medium to longer term

- We will continue to enhance and expand the bus services and strategic bus corridors to reflect demand and land use changes.
- Future intercity train services will focus on the needs of longer distance customers and will not simply be slightly modified short distance trains.

Illawarra – Regional

Short term

- Upgrades to the Princes Highway between Gerringong and Bomaderry will increase capacity, improve traffic flow, reduce travel time and improve road safety. The upgrade will provide enhanced freight connectivity to Port Kembla.
- Upgrades to Picton Road will support safer operations.

Medium to longer term

- We will continue our investment in the urban road network to address capacity constraints that impact on travel time reliability and public transport operations.
- Transport services will be provided as early as possible in new development areas, with an appropriate level of bus service provided to West Dapto. This will support and reflect our vision for connected regional communities.
- We will seek to establish connections to the South West Growth Centre, Southern Highlands and the south coast – with upgrade works to Picton Road, the Princes Highway and the Illawarra Highway as required.

Murray – Murrumbidgee

Short term

- In the next five years we will finish the duplication of the Hume Highway by completing the remaining bypass at Holbrook. On the Newell Highway, we will complete upgrades including creating additional heavy vehicle rest areas and addressing localised capacity constraints.
- Country passenger rail services operate through the region to Melbourne and to Griffith. The Country Passenger Rail Services Strategy will examine how to improve rail services to Griffith and create better connections to regional centres as well as to Sydney, Canberra and Melbourne.
- The development of a Regional Transport Plan and renewal of bus contracts within the next five years offers opportunities to build for the future and get a better outcome for bus users in the region taking into account the emerging customer needs. As part of our commitment to increasing public transport use to reduce reliance on cars, we will consider whether more flexible bus services tailored to the region's needs will achieve better outcomes.

Medium to longer term

- We will manage congestion and safety on the major road corridors of the Newell Highway, Sturt Highway and the Mid Western Highway through upgrades such as additional overtaking lanes and heavy vehicle rest areas when safety concerns arise.
- We will work with community groups, regional transport coordinators, local councils and local bus operators to continue to enhance the public transport system so that it continues to meet the needs of the region's residents and businesses. Ongoing monitoring of bus contracts will offer the opportunity to review operational guidelines and address issues that emerge in the intervening period.
- We will identify and deliver options to improve walking and cycling infrastructure in Wagga Wagga, in particular additional river crossings.
- We know that people in the region travel across the border in to Victoria and ACT to transact personal business. Improving transport options is complicated by the various jurisdictional regulatory arrangements and operations. The NSW Government will continue to work with the Victorian and ACT Governments to achieve a better outcome that makes travelling to Melbourne, Canberra and Victoria easier and more convenient.
- The Bridges for the Bush program part one has identified replacement of the Kapooka Bridge on the Olympic Highway and (in conjunction with the Victorian Government) the Murray River Bridge at Echuca on the Cobb Highway.
- We will continue to deliver the Bridges for the Bush program part two, with upgrade or replacement of bridges at Tooleybuc over the Murray River and Swan Hill over the Wakool River.

Southern

Short term

- Upgrades to the Princes Highway between Gerringong and Bomaderry will increase capacity, improve traffic flow, reduce travel time and improve road safety. The upgrade will provide enhanced freight connectivity to Port Kembla.
- Princes Highway improvements to safety and capacity will offer an opportunity to strengthen the connections between centres along the coast from Nowra to Eden. Our focus will be to develop a system that offers these communities a high quality bus system with improved levels of operation.
- We will work with Queanbeyan City Council to investigate road network improvements to address capacity constraints within Queanbeyan CBD.
- We will look for opportunities to strengthen bus operations in the region's major centres, as well as improve connections between regional centres in line with our vision to connect regional communities. The Country Passenger Rail Services Strategy and bus operator contract renewals provides opportunities to create a service structure that meets the needs of communities along the south coast, Queanbeyan and the Southern Highlands. The bus contract renewal process offers the opportunity to ensure that emerging customer needs are reflected in new bus contracts. We envisage a system that operates services linking larger centres along the Princes, Kings and Hume Highways, supported by local services within each centre and connections to smaller outlying settlements. An integrated system will require suitable interchange locations, which will need to be identified and developed.

Medium to longer term

- The Rural Highway program will continue investment in the Princes, Barton, Kings, Federal, Monaro and Snowy Mountain Highways to address capacity constraints and unsafe areas as they emerge. We will investigate bypasses of Foxground and Berry.
- We will identify and provide improvements to the corridor between Mittagong and Bowral to reduce congestion and provide safer facilities for walking and cycling.
- We will provide improved pedestrian facilities in Nowra on the Princes Highway.
- We will work with community groups, regional transport coordinators, local councils and local bus operators to continue to enhance the public transport system to make sure that it meets the needs of the region's residents and businesses. We will continue to integrate local and regional buses with rail services to create a seamless public transport network across the Southern region.
- We will begin to protect a corridor between Sydney and Canberra so high speed rail can be delivered when required.
- The Bridges for the Bush program part one identified the Bemboka River Bridge on the Snowy Mountains Highway for upgrade to create a HML route between the coast and the Hume Highway.

