

ILLAWARRA-SHOALHAVEN

Regional Transport Plan





Sea Cliff Bridge, Coalcliff

NSW Common Planning Assumptions

Common Planning Assumptions are used across agencies to ensure alignment and understanding of the relevant data, policies and assumptions to underpin planning decisions and policy analysis for government strategies and investment decisions. This supports consistency in the advice provided to Government and the community.

The Common Planning Assumptions represent a consistent baseline or a starting point, and are developed based on current and past trends and agreed policies and plans. They are not targets or scenarios.

This Plan and supporting analysis are based on the agreed Common Planning Assumptions as at April 2021. Details of the Common Planning Assumptions used are set out in the Common Planning Assumptions Book version 5.1.

Acknowledgement of Country

The land of the Illawarra-Shoalhaven is the Country of the Dharawal and Dhurga speaking people and includes the Wodi Wodi, Wandandian, Yuin and Murramarang Aboriginal people who continue to call the region home and have historically travelled, and continue to travel, both within, and beyond the region.

Many of the transport routes we use today – from rail lines, to roads and water crossings – follow the traditional Songlines, trade routes and ceremonial paths in Country that our nation's First Peoples have followed for tens of thousands of years.

In preparing this Plan we acknowledge this heritage, as well as acknowledging the Aboriginal peoples who are traditional custodians of the Illawarra-Shoalhaven region and their ongoing cultural connection to the region's coastline, hinterland and escarpment.



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Executive Summary

By 2041, an extra 100,000 people are projected to call the Illawarra-Shoalhaven home, increasing the total population of the region to 505,000 people. New regionally significant precincts will deliver new homes, jobs and services for the growing population, influencing localised travel behaviour and demand.

The need for efficient, reliable and safe connectivity between the Illawarra-Shoalhaven and Greater Sydney will continue to grow, with the connection to Western Sydney increasing in importance as the Western Sydney Aerotropolis expands.

The regional freight task will continue to grow over the next 20 years, particularly with the Port of Port Kembla identified as a future container terminal and potential hub for hydrogen production and export. To support this expansion, surrounding road and rail networks will need to embrace technology-driven solutions, and address first mile/last mile limitations.

Under existing conditions, the car is the dominant mode of travel across the Illawarra-Shoalhaven. For many people across the region, a lack of access to viable alternatives to the private vehicle amplifies this trend. The need to increase modal choice for more people, more often will deliver a future that is both more customer-focused and sustainable.

Finally, with electric vehicles forecast to reach upfront price parity with traditional combustion engine vehicles in Australia from 2024, the need to effectively plan and support the regional transition of the transport network and associated fleet towards a low emissions future must be addressed.

A supporting plan of Future Transport 2056, the Illawarra-Shoalhaven Regional Transport Plan (the "Plan") provides a blueprint for how Transport for NSW will proactively respond to the transport needs of the region, as well as address the key trends that will necessitate a transport-related response into the future.

Developed in conjunction with the Department of Planning, Industry and Environment's (DPIE) Illawarra-Shoalhaven Regional Plan 2041, the Plan presents a transport vision for the Illawarra-Shoalhaven and identifies the necessary infrastructure, services and policy interventions required to articulate the vision at a local level. Key goals of the vision include:

- ▶ one in every five (20%) trips will be made by walking, cycling or public transport across the region by 2041
- ▶ increased population within a 30 minute public transport trip of a regionally significant centre – Metro Wollongong, Shellharbour City Centre, Kiama, Nowra-Bomaderry, Milton-Ulladulla

- ▶ improved connectivity between the Illawarra-Shoalhaven and Greater Sydney, with a particular focus on the connection with Western Sydney
- ▶ crash rates are reduced in-line with the NSW-wide “Towards Zero” goal of zero fatalities and serious injuries on our roads by 2056
- ▶ increased access for High Productivity Vehicles (HPV) across the region to support “moving more with less”
- ▶ increased uptake of emissions-free vehicles in-line with the NSW Government target of net zero emissions by 2050
- ▶ greater use of technology to support a safer, more efficient, and accessible transport network

The Plan has identified 71 initiatives that, in combination, will support the realisation of the transport vision for the Illawarra-Shoalhaven by 2041.



The Blue Mile, Wollongong

06

CHAPTER

1

Introduction

1.1 What does this Plan do?

A supporting plan of Future Transport 2056, the Illawarra-Shoalhaven Regional Transport Plan (“the Plan”) provides a blueprint for transforming the way people and goods travel within, to and through the Illawarra-Shoalhaven region over the next 20 years.

Developed in conjunction with the Department of Planning, Industry and Environment’s Illawarra-Shoalhaven Regional Plan 2041 (the “Regional Plan”), the Plan presents the strategic framework for how Transport for NSW will proactively respond to anticipated changes in land use, population and travel demand across the region.

This Plan seeks to make walking, cycling and public transport an attractive alternative to the private vehicle for more people across the Illawarra-Shoalhaven regardless of age, ability and income.

It builds on projects that are already committed as well as identifying new initiatives for investigation to deliver a safer, more efficient and more accessible network to better support the continued growth and economic wellbeing of local communities, businesses, and industries that rely on transport to connect.

Furthermore, in alignment with the NSW Government’s Net Zero Plan Stage 1: 2020-2030 – the foundation for NSW’s action on climate change and goal to reach net zero emissions by 2050 – the Plan also highlights the necessary infrastructure, services and policy interventions required to support the successful transition to a low carbon future.

1.2 Stakeholder Engagement

Development of this Plan has been informed through formal engagement and workshops with key stakeholders, as well as feedback provided during the public exhibition of the Draft Illawarra-Shoalhaven Regional Transport Plan (the “Draft Plan”) from 30 November 2020 to 29 January 2021.

Key stakeholders included representatives from Kiama, Shellharbour City, Shoalhaven City and Wollongong City Councils, State Agencies, the Illawarra-Shoalhaven Joint Organisation (ISJO), Regional Development Australia, the Illawarra Business Chamber, NSW Ports, the Property Council of Australia and the University of Wollongong.

1.3 Implementing the Plan

Establishing a transport vision for the Illawarra-Shoalhaven and identifying and prioritising initiatives to deliver the vision is just the first step in planning for the future of transport across the region.

Transport for NSW will be responsible for the implementation and ongoing management of the Plan, with collaborative partnerships established for those initiatives that require support and input from key stakeholders like Local Government and the DPIE.

The Plan builds on Future Transport 2056 and the Regional NSW Services and Infrastructure Plan and identifies initiatives on the basis of current NSW Government strategic priorities and the challenges that are most important to address.

1.4 Funding and delivery

Transport for NSW is committed to ensuring the transport system is financially sustainable, meets the needs of customers, and enabled through investment in both services and infrastructure.

This Plan comprises a total of 71 initiatives. While some initiatives are already in the delivery or planning phases, new initiatives will require further investigation to determine feasibility, as well as ensure new initiatives that are progressed for funding are aligned with the regional transport vision and deliver value for money for the people of NSW.

1.5 Reporting on progress

This Plan will be a “living” document to be continually updated as the area changes, technology evolves, legislation adjusts, and new opportunities emerge. Transport for NSW will provide status updates on our deliverables every 12 months, and undertake a refresh of the Regional Transport Plan every five years.



Princes Highway Upgrade - Berry to Bomaderry Project

2

The Transport Challenge

2.1 Why is this Plan needed?

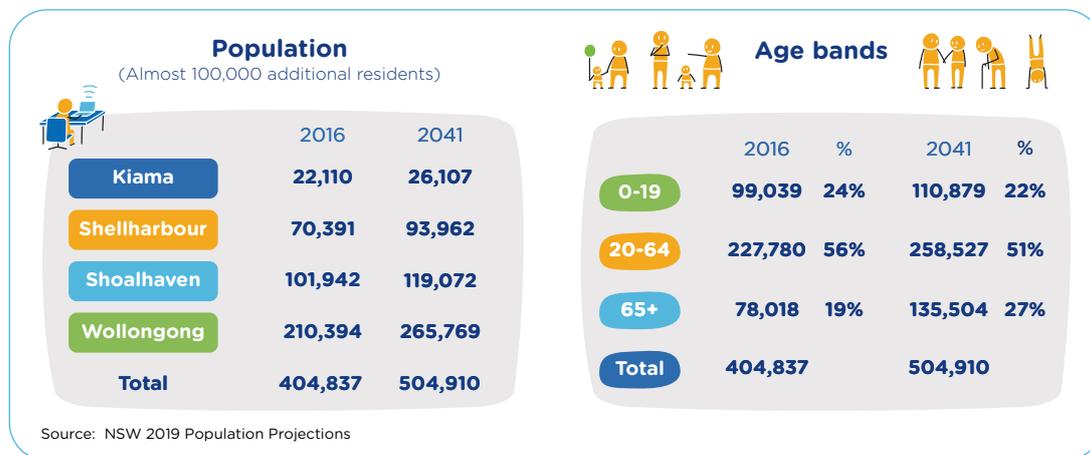
This Plan articulates how Transport for NSW intends to respond to the following five trends that will reshape the transport needs of the Illawarra-Shoalhaven over the next 20 years.

2.1.1 A Growing Population

Made up of the Local Government Areas (LGAs) of Kiama, Shellharbour, Shoalhaven and Wollongong, the region is home to more than 405,000 people, making it the third most populous in Regional NSW. By 2041, the region's population is expected to increase to approximately 505,000 people, with the majority of growth expected to take place within the Wollongong and Shellharbour LGAs.

From a demographics perspective, the average age of the region's population is expected to increase over the next 20 years, with the proportion of people over 65 years of age projected to rise from 19 per cent in 2020, to 27 per cent in 2041. During this same period, the proportion of residents aged under 20 years of age, and between 20 and 65 years of age is projected to decline.

Figure 1: Projected population growth and demographic change between 2016 and 2041



In combination, the anticipated population growth, along with the changing demographics of the region's population, will necessitate a bespoke transport response that will satisfy the needs of our customers both now and into the future.

2.1.2 Regionally Significant Precincts

The Regional Plan for the Illawarra-Shoalhaven identifies 15 regionally significant precincts as playing a significant role in driving jobs creation, housing diversity and delivering vibrant communities. These precincts are divided into regionally significant growth areas, centres and employment lands.

The regionally significant growth areas of West Lake Illawarra and Nowra-Bomaderry are expected to deliver approximately 30,000 new homes by 2041. Furthermore, Bombo Quarry has also been identified in the Regional Plan for its potential future reuse for employment and residential purposes.

While some of the new residents of these precincts will find employment close to home, others will travel to jobs and education in the regionally significant centres and employment lands.

The regionally significant centres of Metro Wollongong, Nowra City Centre, Milton-Ulladulla, Shellharbour City Centre and Kiama are earmarked in the Regional Plan for further housing and job growth, and will be key regional destinations for employment, education, retail and services.

Regionally significant employment lands at the Port of Port Kembla, Tallawarra, South Nowra, Albatross Aviation and Tech Park, Shellharbour Airport, Shell Cove Business Park and West Dapto will deliver new jobs across a range of employment sectors, including technology, defence, industry and commerce.

Activation of these regionally significant precincts will influence future travel demand in the region over the next 20 years.



Figure 2: Regionally Significant Precincts



2.1.3 An Expanding Freight Task

With more than 35 million tonnes of freight moved in, out and within the region by road and rail in 2016, freight is a significant part of the regional transport task. Key commodities for the Illawarra-Shoalhaven include coal, grain, flour, steel, motor vehicles, mineral ore, manufactured goods and aggregates. The road network currently facilitates the transportation of most freight across the region, with almost 60 per cent of goods being moved by road.

The Port of Port Kembla is NSW's largest terminal for vehicle imports and grain exports, and the second largest terminal for coal exports. It also handles a number of dry bulk, break bulk and bulk liquids and has been approved for a Liquefied Natural Gas import facility.

In the long term, the Port of Port Kembla has been identified as the location for the development of a future container terminal to augment capacity of Port Botany when required¹.

Current forecasts suggest that the regional freight task will increase at an annual rate of 1.4 per cent per annum over the next 40 years to reach approximately 62 million tonnes by 2056. This growth will need to be accommodated and be moved efficiently on the surrounding road and rail networks.

Existing barriers to the expanded use of High Productivity Vehicles (HPV), particularly in the southern part of the region, means that larger road freight accessing the region must approach from the north via either the M1 Princes Motorway or the M31 Hume Motorway and Picton Road. There is also a need to improve rail connectivity between the region and Western Sydney to accommodate this growing freight task.

Figure 3: Projected Freight Growth



¹ Transport for NSW 2018, NSW Freight and Ports Plan 2018-2023, TfNSW, Sydney

2.1.4 Influence of Western Sydney

Connectivity between the Illawarra in particular and Western Sydney is well established. People regularly move between the two regions for employment, education and recreation, while goods are transferred between the two regions industrial precincts, intermodal facilities and the Port of Port Kembla.

Over the next 20 years, the connection between these two regions is expected to grow exponentially. Benefiting from proximity to the new Western Sydney International (Nancy-Bird Walton) Airport, the Western Sydney Aerotropolis is anticipated to deliver 200,000 new jobs in aerospace and defence, manufacturing, healthcare, freight and logistics, agribusiness, education and research industries².

Furthermore, the Greater Macarthur³ and Wilton Growth Areas⁴ are anticipated to deliver up to 73,000 new homes (58,000 and 15,000 new homes respectively) and up to 55,000 new jobs (40,000 and 15,000 new jobs respectively) right on the doorstep of the Illawarra.

This committed investment in Western Sydney, and the associated population growth, will necessitate a multi-modal transport response to ensure travel between the two regions is safe, efficient and reliable, and facilitates a two-way economic exchange.

² planning.nsw.gov.au/Plans-for-your-area/Priority-Growth-Areas-and-Precincts/Western-Sydney-Aerotropolis

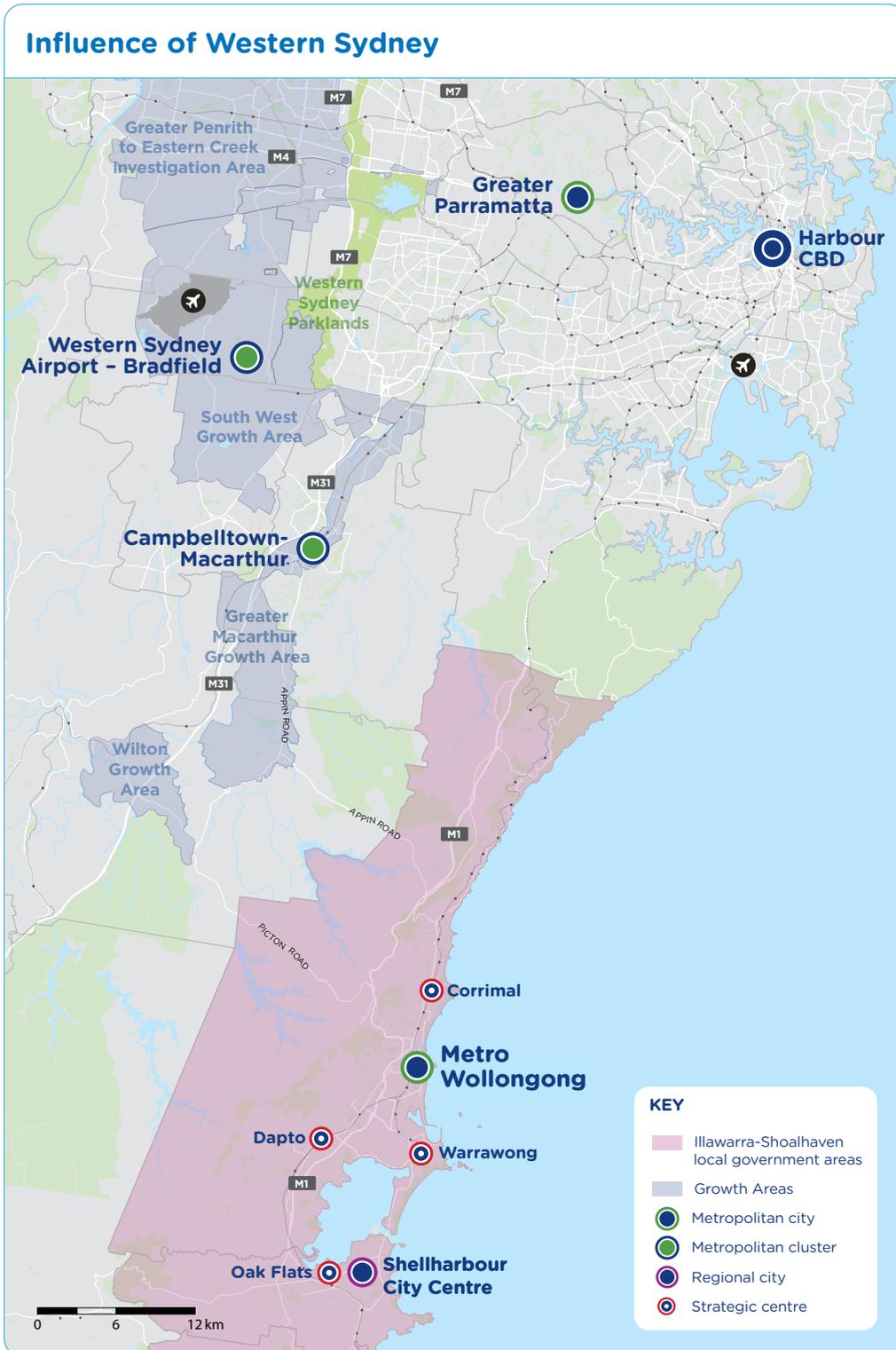
³ planning.nsw.gov.au/News/2019/Greater-Macarthur-Growth-Area-gets-tick-of-approval

⁴ Department of Planning and Environment 2017, Wilton Priority Growth Area - Interim Land Use and Infrastructure Implementation Plan Background Analysis, DPE, Sydney



Site of the future Western Sydney International (Nancy-Bird Walton) Airport

Figure 4: Key precincts in Western Sydney likely to generate increased travel demand to and from the Illawarra -Shoalhaven up to 2041



2.1.5 A Low Emissions Future

The impacts of climate change are becoming increasingly evident in the frequency and magnitude of extreme weather events and natural disasters. Higher temperature days and major intense storm and rainfall events place considerable strain on the transport network, impacting operational reliability and customer safety, as well as long-term asset resilience.

In 2017, the transport sector was the second largest contributor to greenhouse gas emissions in NSW⁵.

Transport for NSW supports the NSW Government's goal to reach net zero emissions by 2050 and acknowledges that the transport sector will need to play a key role in the transition towards a low emissions future. With the Port of Port Kembla identified as a potential hydrogen hub⁶, and electric vehicles forecast to reach upfront price parity with traditional combustion engine vehicles in Australia from 2024⁷, the region's transport network and transport fleet will need to evolve to capitalise on this change.

⁵ Net Zero Plan Stage 1: 2020-2030, NSW Government, March 2020

⁶ Department of Planning, Industry and Environment 2021, Net Zero Industry and Innovation Program

⁷ Net Zero Plan Stage 1: 2020-2030, NSW Government, March 2020

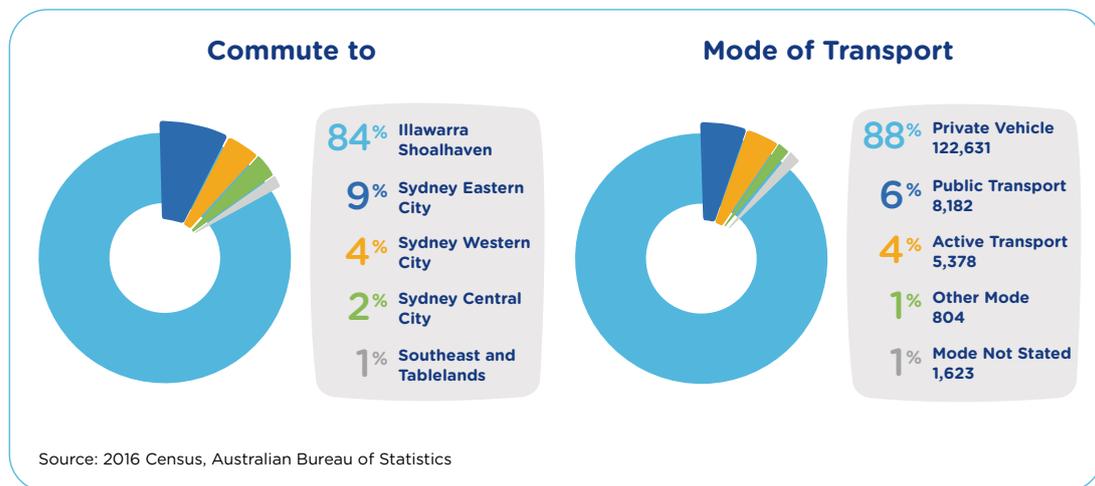


2.2 Why not business as usual?

Across the Illawarra-Shoalhaven, the car is the dominant mode of travel with 83 per cent⁸ of all trips, and 88 per cent of commuter trips, made by private vehicle. Of those car-based commuter trips, 84 per cent (or just over 100,000 trips) are wholly made within the region, placing stress on the local road network during peak periods.

Over the next 20 years, demand for travel within the region would be expected to grow at a similar rate to growth in the region's population, adding up to 25 per cent more trips to the road network by 2041.

Figure 5: 2016 'Place of Work' and 'Journey-to-Work Mode Share' for the Illawarra-Shoalhaven



With parts of the region's transport network already experiencing congestion, accommodating the anticipated growth in travel over the next 20 years without behavioural change would require significant investment in additional road infrastructure, which is likely to be cost prohibitive, challenging to deliver and unsustainable over the longer term.

Furthermore, with the release of the NSW Government's Net Zero Plan Stage 1: 2020-2030, there is a pressing need for the transport sector, the second biggest emitter of greenhouse gases in NSW after the electricity sector, to embrace low emission technologies, initiatives and interventions, and support the successful transition to net zero emissions by 2050.

⁸ Household Travel Survey (HTS) 16/17 and 17/18 3 year pool)

To facilitate a more sustainable, multi-modal and safe transport network for the Illawarra-Shoalhaven, that proactively responds to anticipated changes in land use, population and travel demand, and delivers improved travel choices for more people regardless of age, ability and income, this Plan will adopt a “vision and validate” approach.

The “vision and validate” approach recognises that continuing to accept current travel behaviours, and in particular high levels of private car use, is ultimately unsustainable and unlikely to achieve the regional transport vision. The approach assumes that existing travel behaviours and trends can and will change over time, and therefore should not dictate future need.

Based on this approach, this Plan identifies the infrastructure, services, technology and policy mechanisms required to achieve the vision, and delivers an agile transport network that supports future growth in population and travel demand, and changing land use patterns.



Brighton Lawn Reserve, Wollongong

CHAPTER

3

The Transport
Opportunity

3.1 A Transport Vision for the Illawarra-Shoalhaven

By 2041, the Illawarra-Shoalhaven will be very different from the region we see today. Regionally significant transport initiatives like the Albion Park Rail Bypass, Nowra Bridge Project and the New Intercity Fleet will be delivered, considerably improving the way customers travel both within and through the Illawarra-Shoalhaven, facilitating safe, seamless, multi-modal connectivity between where people live, work and play.

One in every five (20%) trips will be made by walking, cycling or public transport across the region, doubling the combined 2016 share for these modes. Metro Wollongong, along with the Nowra and Shellharbour City Centres, will be places that provide an urban lifestyle where people can easily walk and cycle to shops, services, schools or work.

Through a continued focus on improved road safety outcomes, the transport network will be safer with Fatal and Serious Injury (FSI) crashes trending down in-line with the NSW-wide “Towards Zero” goal of zero fatalities and serious injuries on our roads by 2056.

Innovation and advances in technology will continue to deliver improved customer outcomes by enabling convenient and more personalised mobility solutions, informed decision-making through the wider distribution of “real-time” information, improved safety, and greater network resilience and freight efficiencies.

A higher proportion of the region’s population, including new residents within West Lake Illawarra and Nowra-Bomaderry will be within a 30-minute public transport trip of their nearest regionally significant centre – be it Metro Wollongong, Nowra City Centre, Milton-Ulladulla, Shellharbour City Centre and Kiama – making public transport an attractive alternative to the private vehicle for more trips, more often.

On-demand transport, point-to-point services and the evolving micro-mobility transport sector will complement traditional, timetabled public transport services to provide customers with more travel choices and at times of their choosing.

Multi-modal connectivity between Metro Wollongong and Greater Sydney will be efficient, reliable, comfortable and safe, ensuring the region is well positioned to capture the wider two-way economic benefits that the Western Sydney Aerotropolis and Greater Macarthur and Wilton Growth Areas in particular are likely to deliver.

Freight will flow seamlessly to, through and within the region, with supporting road and rail networks enhanced to accommodate more efficient vehicle combinations, embrace technology-driven solutions, and address first mile/last mile limitations through collaborative partnerships between NSW Government, Local Government and industry representatives.

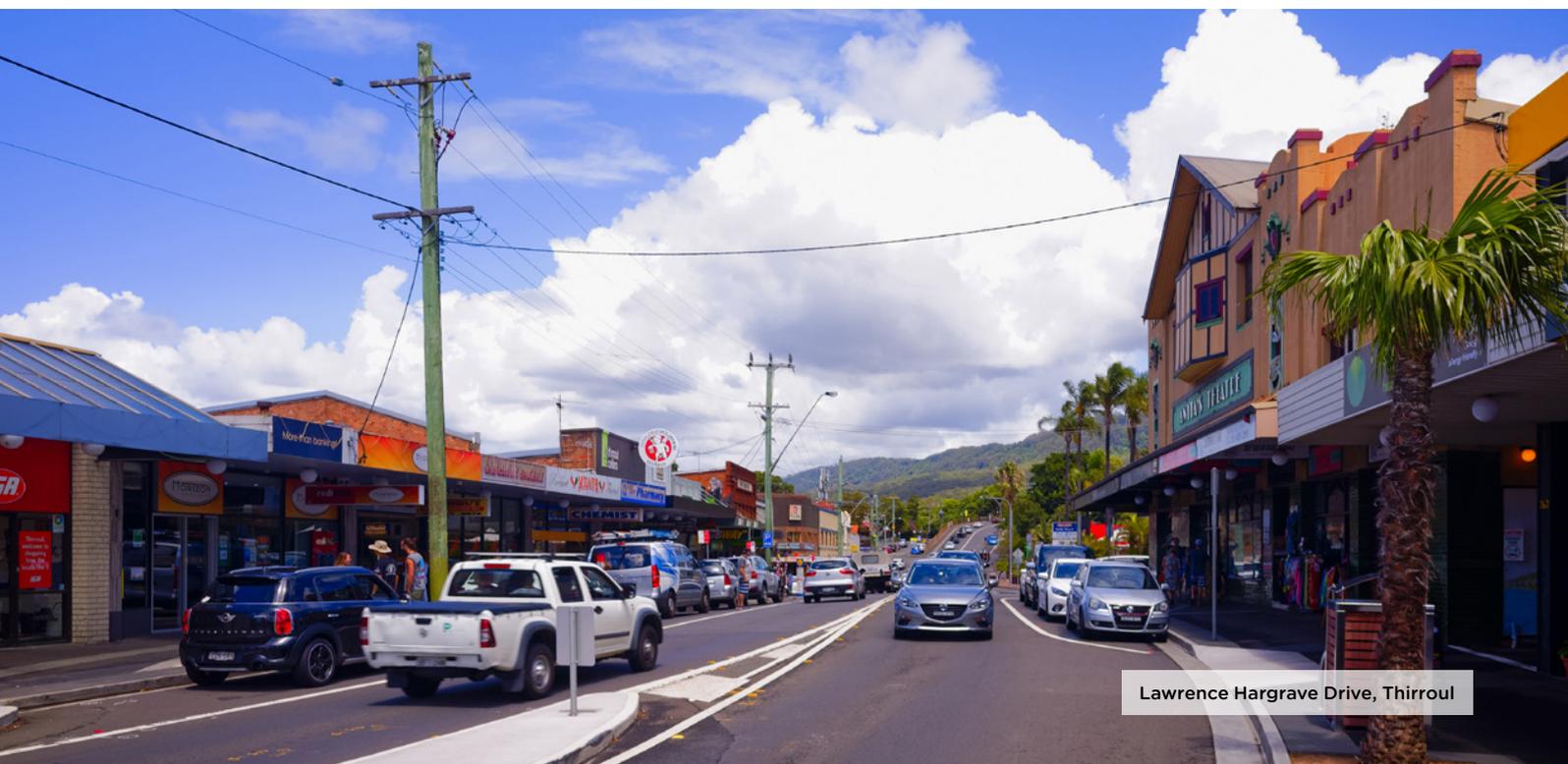
The region will be well on the way to a low emissions future, with the Port of Port Kembla playing a key role in hydrogen production and distribution. With the ongoing transition of the electricity grid to renewables, public transport services will be both cleaner and more accessible, and the take up of electric vehicles will be supported by a comprehensive, local fast charging network underpinning the electric evolution of the vehicle fleet.

Adaptive management strategies will be in place that build resilience into the transport network, maintain emergency access along key routes, and bring the network back on-line quickly following planned and unplanned disruptions.

3.2 Achieving the Vision

The transport vision for the Illawarra-Shoalhaven will be achieved through the implementation of 20 key objectives and their supporting initiatives. The objectives are categorised under the following six broad themes, and supporting initiatives will be staged over multiple time periods and in order of importance.

- › **Connected** – A transport network that facilitates seamless, multi-modal connectivity between where people live, work and play
- › **Safe** – A transport network that delivers a safer future for the Illawarra-Shoalhaven
- › **Liveable** – A transport network that supports vibrant places while enabling the successful movement of people to access jobs, services and social opportunities regardless of age, ability and income
- › **Adaptive and Sustainable** – A transport network that both contributes to, and supports, a seamless transition to a low emissions future
- › **Productive** – A transport network that supports the efficient, safe and sustainable movement of freight through the principle of “moving more with less”
- › **Resilient** – A transport network that is resilient to major disruptions associated with natural disasters, climate change and planned and unplanned events



Lawrence Hargrave Drive, Thirroul

3.2.1 Connected

From a connectivity perspective, one of the key themes for Regional NSW that is promoted in both Future Transport 2056 and the Regional NSW Services and Infrastructure Plan is the concept of “hub and spoke”.

The “hub and spoke” approach is the most effective way of delivering improved transport outcomes to more potential customers as it considers all transport links (“spokes”) – be they by road, rail, footpath, cycleway, sea or air – radiating out from regional cities, towns and villages (“hubs”) and how they interact with each other.

The Regional Plan nominates five regionally-significant centres for the Illawarra-Shoalhaven – Metro Wollongong, Shellharbour City Centre, Kiama, Nowra City Centre and Milton-Ulladulla.

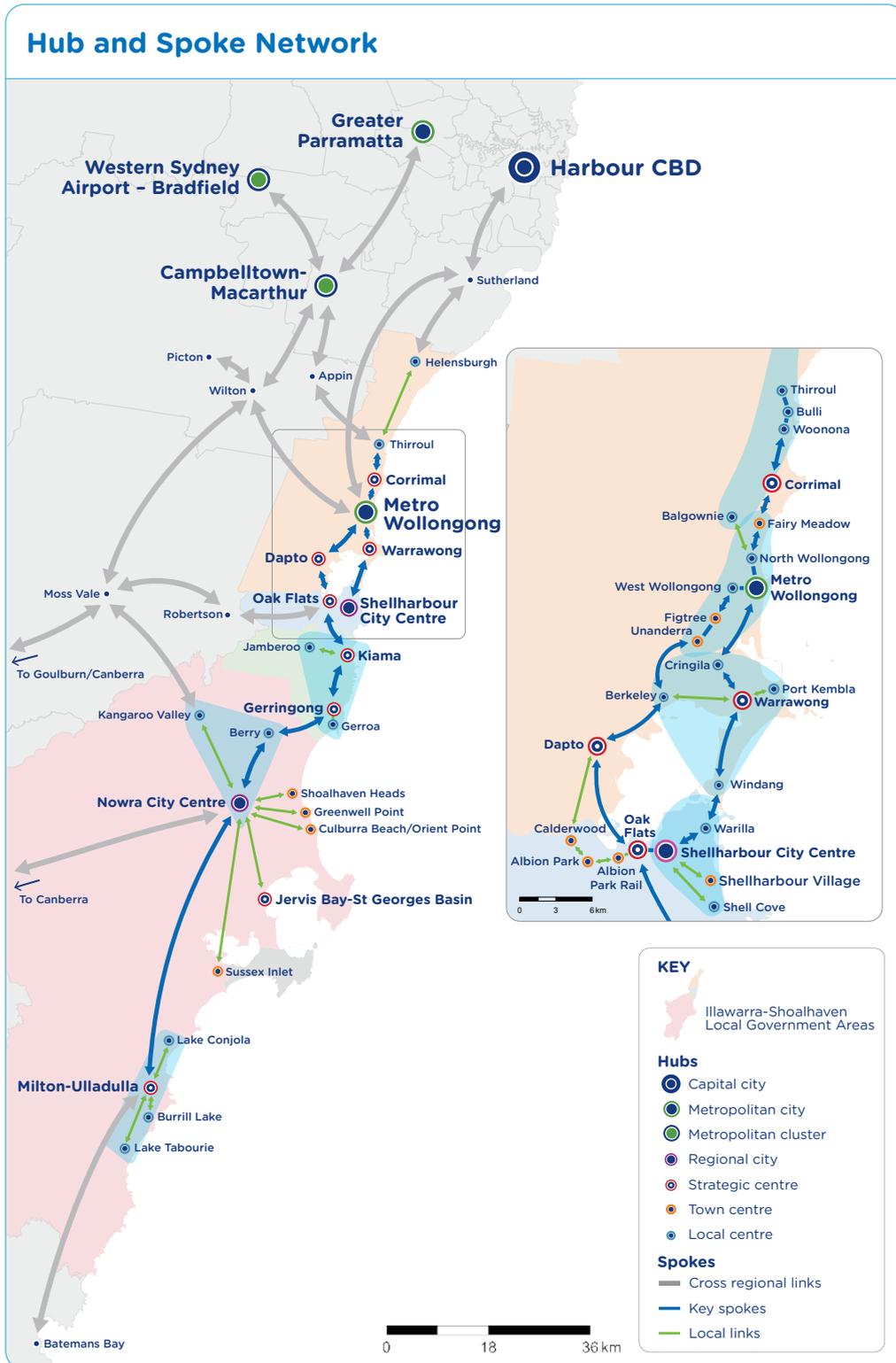
Using the “hub and spoke” approach, this Plan has nominated the following four objectives, supported by complementary initiatives and interventions that will contribute to improved multi-modal connectivity to, from and between these five regionally significant centres, as well as with Greater Sydney.

- ▶ **Objective 1** – Increased population within a 30-minute public transport trip of a regionally significant centre
- ▶ **Objective 2** – Connectivity between Metro Wollongong and Greater Sydney by public transport is efficient, reliable, comfortable and safe
- ▶ **Objective 3** – Future residents of regionally significant growth areas are within a 30-minute public transport trip of a regionally significant centre
- ▶ **Objective 4** – Maintain reliable north-south, east-west transport spines



Albion Park Station

Figure 6: “Hub and Spoke” Network for the Illawarra-Shoalhaven



Objective 1 - Increased population within a 30-minute public transport trip of a regionally significant centre

Released in 2018, the Regional NSW Services and Infrastructure Plan identified the need to develop 30-minute public transport catchments around regionally-significant centres across the Illawarra-Shoalhaven.

Using existing service patterns, Table 1 shows that many people living in the Illawarra-Shoalhaven are still beyond a 30-minute public transport trip of the five regionally-significant centres nominated in the Regional Plan.

Table 1: Population within 30-minute public transport trip of a regionally significant centre

Time Period	Approx. population within 30-minute public transport catchment	% of Total Population
Weekday, 8-9am	275,300	68%
Weekday, 12-1pm	247,500	61%
Weekday, 5-6pm	253,400	63%
Saturday, 12-1pm	217,000	54%
Sunday, 12-1pm	205,000	51%

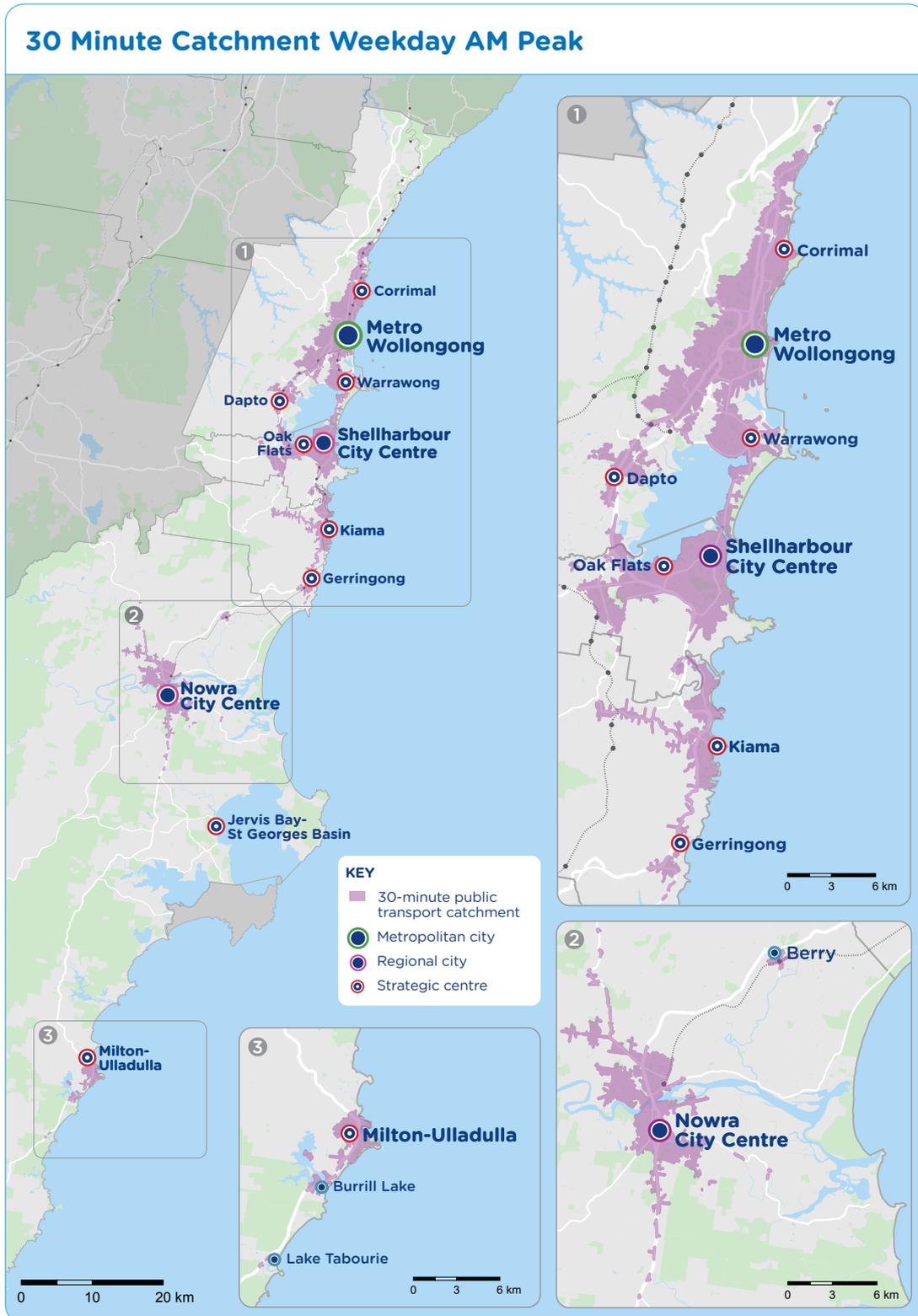
Over the next 20 years, Transport for NSW is committed to improving public transport journey times, frequencies and service catchments across the region to ensure public transport becomes a viable option for more areas, more often across the Illawarra-Shoalhaven.

The More Trains, More Services (MTMS) Program will roll out world class technology to transform the rail network and provide customers with more reliable, high capacity, turn up and go rail services.

The next stages of the Program focus on delivering improvements for the T4 Illawarra and the South Coast Lines. Service frequencies during peak periods will increase to every 15 minutes between Wollongong and Greater Sydney, while off-peak service frequencies will increase to every 30 minutes. In addition, train services will expand from eight carriages to 10 carriages. In combination, these changes will ensure customers will benefit from an extra 13,000 seats across the busiest times of the week.

Planning is underway to build a crossing loop near Toolijooa, which will duplicate some of the rail line between Berry and Gerringong. Once implemented, this upgrade will enable Transport for NSW to double the level of connecting rail services between Kiama and Bomaderry and deliver a regular 30 minute service during peak periods and a regular 60 minute service during the off-peak

Figure 7: 30-Minute Public Transport Catchment - Weekday AM Peak



The 16 Regional Cities Services Improvement Program is a NSW Government commitment to improve bus services that support key regional transport hubs. The Program will deliver improved transport connectivity between where customers live, work and play through enhancements to existing services, as well as the identification of new services, to better support a 30-minute catchment. The regionally significant centre of Nowra City Centre is included in the Program.

Transport for NSW is also currently investigating the feasibility of introducing rapid bus services for Metro Wollongong. Known as the Wollongong Rapid Bus Package, the rapid services would seek to reduce travel times on key feeder routes across Metro Wollongong, and be supplemented with bus priority measures to improve reliability.

With the focus on Metro Wollongong and Nowra City Centre in the short-term, in the medium-term Transport for NSW will also investigate opportunities to enhance 30-minute public transport catchments around the regionally-significant centres of Shellharbour City Centre, Kiama, and Milton-Ulladulla.

Away from the five regionally significant centres, the adoption of a “hub and spoke” approach will deliver improvements to areas outside the 30-minute public transport catchments, where development is dispersed and existing populations experience geographic and social isolation. To address this issue, Transport for NSW will:

- ▶ Investigate improved bus services between Milton-Ulladulla and Nowra City Centre to provide greater multi-modal accessibility between the two significant centres, as well as improved bus-rail interchange connectivity at Bomaderry Station;
- ▶ Work collaboratively with community transport operators to identify opportunities for community transport to complement traditional timetabled bus services in areas that fall outside the 30-minute public transport catchments; and
- ▶ Continue to identify opportunities for on-demand transport – a flexible public transport service that is not fixed to a formal route or timetable, and can pick passengers up from a convenient location, and take them where they need to go – to complement traditional timetabled bus services.



Objective 2 – Connectivity between Metro Wollongong and Greater Sydney by public transport is efficient, reliable, comfortable and safe

Transport for NSW is delivering a new, state-of-the-art fleet of inter-city trains that will provide a new level of comfort and convenience for the thousands of customers who travel between Greater Sydney and outer metropolitan areas including Metro Wollongong, Shellharbour City Centre and Kiama. The New Intercity Fleet (NIF) will deliver improved accessibility, enhanced safety, improved comfort and modern features including:

- ▶ wider, more spacious two-by-two seating for extra room and comfort with arm rests, tray tables, and high seat backs;
- ▶ charging ports for mobile devices, and dedicated spaces for luggage, prams and bicycles;
- ▶ improved accessibility including dedicated space for wheelchairs and accessible toilets; and
- ▶ improved customer information through digital information screens and announcements, CCTV and help points, and modern heating, ventilation and air conditioning.

Figure 8: Artist's impression of external view of New Intercity Fleet train



In addition, the NSW Regional Rail Fleet Project will see XPT, XPLOER and Endeavour trains replaced with a new regional train fleet that will considerably improve safety, accessibility, amenities and reliability for customers who travel between Regional NSW and Greater Sydney. The first trains will be progressively introduced from 2023.

Building on the MTMS Program, Transport for NSW will also investigate the next tranche of rail network improvements for delivery in the medium term to ensure that the network supports forecast growth in demand in the region.

Acknowledging the growing importance of the connection between the Illawarra-Shoalhaven and Western Sydney, Transport for NSW will investigate improved bus services between the two regions, linking Metro Wollongong with the established centres of Campbelltown, Appin, and Picton, and the emerging Greater Macarthur and Wilton Growth Areas.

Finally, with consideration for future connectivity between the Illawarra-Shoalhaven and Greater Sydney, Transport for NSW is working closely with the National Faster Rail Agency to develop a strategic business case for fast rail in the Sydney to Bomaderry (via Wollongong) corridor.

Objective 3 – Future residents of regionally significant growth areas are within a 30-minute public transport trip of a regionally significant centre

The population of the Illawarra-Shoalhaven is projected to grow by a further 100,000 people by 2041⁹. The Regional Plan nominates the regionally significant growth areas of West Lake Illawarra and Nowra-Bomaderry as the primary residential precincts to house this growing population. Bombo Quarry has also been identified in the Regional Plan for its potential future reuse for residential purposes in the longer term.

To ensure public transport is an attractive and viable option for new residents of the regionally significant growth areas, Transport for NSW will seek to ensure service frequencies support trips of 30 minutes or less when accessing the closest regionally significant centre. For West Lake Illawarra, this would be either Metro Wollongong or Shellharbour City Centre, for Nowra-Bomaderry this would be Nowra City Centre and for Bombo Quarry, this would be Kiama or Shellharbour City Centre.

In addition, Transport for NSW will work collaboratively with the DPIE, Local Government and industry to plan for appropriate development, infrastructure and service patterns that not only supports improved public transport travel times but also delivers walkable and cycle-friendly neighbourhoods.

The Special Infrastructure Contributions Program is a NSW Government initiative that seeks to recover some of the cost of infrastructure through developer contributions. The Program supports growing communities by funding a range of infrastructure including State and regional roads, public transport infrastructure, pedestrian and cycling paths, schools and open space improvements.

A Special Infrastructure Contribution (SIC) is proposed to help fund the delivery of infrastructure in the regionally significant growth areas of West Lake Illawarra and Nowra-Bomaderry. Transport for NSW will work with DPIE, Local Government and industry to ensure SIC-funded transport infrastructure is proactively delivered to meet anticipated demand, and support multi-modal solutions.

Objective 4 – Maintain reliable north-south, east-west transport spines

The Illawarra-Shoalhaven is a region that has been shaped by its topography. Squeezed between the Pacific Ocean to the east and the Illawarra Escarpment to the west, the north-south and east-west transport spines are paramount to ensuring safe and reliable connectivity for travel within the region, as well as with key adjoining regions like Greater Sydney.

From a roads perspective, the Princes Highway (A1), in combination with the M1 Princes Motorway, forms the primary north-south transport spine through the Illawarra-Shoalhaven. The Princes Highway provides:

⁹ planning.nsw.gov.au/Research-and-Demography/Population-projections/Projections

- › inter-regional connectivity between the Illawarra-Shoalhaven and key adjoining regions like Greater Sydney and the South East Tablelands;
- › local connectivity between villages, towns, and the regionally-significant centres of Metro Wollongong, Shellharbour City Centre, Kiama, Nowra City Centre, and Milton-Ulladulla;
- › the movement of freight both north-south along the NSW South Coast, as well as east-west via Picton Road, Appin Road, MR92 Nerriga Road, and the Kings Highway; and
- › the opportunity for inter-regional business, tourism and leisure travel.

Transport for NSW is currently delivering the Albion Park Rail Bypass, Berry to Bomaderry upgrade and the Nowra Bridge Project to ensure this key north-south spine continues to facilitate safe and reliable connectivity for the region.

Figure 9: Artist impression of the new Nowra Bridge over the Shoalhaven River



In addition, Transport for NSW is also planning the future upgrade of the Princes Highway between Nowra and the NSW-Victorian border. More than \$1.9 billion has been committed by the Australian and NSW Governments¹⁰ so far to the Program, with detailed planning already underway for bypasses of Milton-Ulladulla and Moruya, and upgrades between Jervis Bay Road and Sussex Inlet Road, between Burrill Lake and Batemans Bay, and the intersection of the Princes Highway and Jervis Bay Road.

At the base of Mount Ousley, Transport for NSW is planning a new interchange to considerably improve safety at the intersection of the M1 Princes Motorway and Mount Ousley Road. The proposed interchange would deliver improved travel times, safer access to Mount Ousley Road and the University of Wollongong, as well as facilitate the separation of southbound heavy vehicles from general traffic.

¹⁰ princeshighway.nsw.gov.au/tfnsw/phu

Figure 10: Artist impression of the proposed Mount Ousley Interchange



In parallel, Transport for NSW is also investigating safety and reliability improvements on the M1 Princes Motorway between Picton Road and the proposed Mount Ousley Interchange to better support planning work underway at the base of Mount Ousley.

Transport for NSW will continue to work collaboratively with Shellharbour City Council and DPIE to ensure the successful integration of the Albion Park Rail Bypass with the surrounding road network.

Transport for NSW will also continue to investigate opportunities for further safety and reliability improvements on the Lawrence Hargrave Drive/Princes Highway/Memorial Drive Corridor to maintain connectivity between the northern suburbs of Wollongong, Bulli Pass and Metro Wollongong. This includes working with Wollongong City Council and stakeholders through the Northern Suburbs Transport Working Group. These improvements will be complemented by key initiatives like the More Trains, More Services Program and the Wollongong Rapid Bus Package that will deliver greater modal choice and travel time reliability for customers choosing public transport to travel to and from the northern suburbs of Wollongong.

To further support the long-term viability of the Princes Highway through the Illawarra-Shoalhaven, over the next 10 years Transport for NSW will also investigate:

- ▶ improvements on the M1 Princes Motorway between Figtree and Dapto to support improved travel time reliability, address growing freight needs and accommodate future travel demand associated with nearby residential growth;
- ▶ the introduction of high-occupancy vehicles lanes (e.g. bus lanes, transit lanes) on key routes to and from Metro Wollongong, like the Princes Highway, Shellharbour Road and Memorial Drive to prioritise higher-occupancy vehicles, including buses and reward more sustainable travel behaviour; and
- ▶ improvements on the road network within Nowra City Centre to support improved safety and reliability outcomes, accommodate future travel demand associated with nearby residential growth and increased regional demand, and assess the need for future transport corridor preservation.

East-west road connections also play a key role in ensuring connectivity between the Illawarra-Shoalhaven and its neighbouring regions. In combination with the M1 Princes Motorway, Picton Road provides a nationally-significant east-west transport link between Metro Wollongong and Western Sydney. Picton Road comprises existing challenges in the areas of road safety, road geometry, and freight access, and demand is anticipated to increase as the Wilton and Greater Macarthur Growth Areas continue to develop.

Both the Regional NSW Services and Infrastructure Plan, and the NSW Freight and Ports Plan 2018-2023 identify the need to investigate improvements for Picton Road to support additional freight, public transport and passenger journeys and improve liveability and safety.

To meet this challenge, Transport for NSW is currently planning the upgrade of Picton Road between the M1 Princes Motorway, the M31 Hume Motorway and the Wilton Growth Area to deliver a safer, more reliable and more efficient link between the Illawarra-Shoalhaven and Western Sydney.

Transport for NSW will also continue to investigate opportunities for further safety and reliability improvements on both the Illawarra Highway and Appin Road to maintain connectivity between Metro Wollongong and the Southern Highlands and Campbelltown respectively.

The Outer Sydney Orbital Stage 2 (OSO2) investigation is considering the preservation of new corridors connecting the Illawarra-Shoalhaven with Western Sydney where it would connect with the Outer Sydney Orbital Stage 1. This may include new links to connect the region through the Greater Macarthur and Wilton Growth Areas, as well as a potential new crossing of the Illawarra Escarpment.

Like roads, north-south and east-west rail lines also facilitate vital transport connectivity both within the Illawarra-Shoalhaven, and beyond the region. In addition to the network and service improvements foreshadowed as part of More Trains, More Services Program, over the next 10 years Transport for NSW will also investigate:

- ▶ the electrification of the South Coast Line between Kiama and Bomaderry;
- ▶ improvements for the Moss Vale to Unanderra Line and Coniston Junction; and
- ▶ investigation of a fast rail corridor from Sydney to Bomaderry via Wollongong.

3.2.2 Safe

The Road Safety Plan 2021, a key supporting plan of Future Transport 2056, features initiatives that will help NSW progress towards the ambitious “Towards Zero” goal of zero fatalities and serious injuries on our roads by 2056. This is particularly relevant for Regional NSW where the fatality rate on country roads is four times that of metropolitan roads, and more than 70 per cent of people who die on country roads are local.

Despite the fatal and serious injury (FSI) rate across the Illawarra-Shoalhaven historically trending down, there is still plenty of work to do to meet the “Towards Zero” goal.

Figure 11: Fatal and Serious Injury crash totals for the Illawarra-Shoalhaven (2015 - 2019)



Through the following objectives, supported by complementary initiatives and interventions, this Plan will seek to deliver a safer transport network for the Illawarra-Shoalhaven, as well as contribute to the NSW-wide “Towards Zero” goal.

- › **Objective 1** – Proactively address road safety deficiencies and high-risk sections on the road network across the Illawarra-Shoalhaven
- › **Objective 2** – Crash clusters and priority sites are addressed
- › **Objective 3** – Speed zones support improved safety outcomes for all customers
- › **Objective 4** – Utilise technology to improve safety outcomes

Objective 1 – Proactively address road safety deficiencies and high-risk sections on the road network across the Illawarra-Shoalhaven

Across the Illawarra-Shoalhaven, Transport for NSW will apply the Safe System approach when managing the transport network. The approach recognises that people do make mistakes and aims to ensure that when a crash occurs, the energy levels transmitted to a person are below what would cause a fatal or serious injury. The approach is underpinned by the following principles:

- › people are fallible and make mistakes – a simple mistake shouldn’t cost anyone their life;
- › roads, roadsides and vehicles need to be designed to minimise the likelihood of a crash occurring or reduce the force if a crash does happen; and
- › road safety is a shared responsibility – everyone needs to make safe decisions on and around the road to prioritise safety.

Figure 12: The Safe System Approach



In addition, Transport for NSW will continue to utilise the Saving Lives on Country Roads (SLCR) initiative to proactively support a safer road network across the Illawarra-Shoalhaven. The initiative is designed to address two key contributors to road fatalities and serious injuries on country roads – high risk curves and fatigue.

A complete list of our current projects both in delivery and in planning across the Illawarra-Shoalhaven can be found at towardszero.nsw.gov.au/safesystem/safe-roads.

To support safe driving behaviour, Transport for NSW will identify where additional rest stop facilities are required to ensure formal rest facilities are provided at appropriate intervals consistent with the Austroads Guidelines for the Provision of Heavy Vehicle Rest Area Facilities (Austroads, 2019) for all State Roads across the Illawarra-Shoalhaven.

Finally, Transport for NSW will supplement these initiatives with a complementary public awareness and education campaign to further support the proactive approach to road safety. The Local Government Road Safety Program (LGRSP) funds educational and behavioural initiatives to address demonstrated local road safety priority issues such as drink and drug driving, fatigue, speeding and pedestrian safety.



Objective 2 – Crash clusters and priority sites are addressed

While Transport for NSW will take a proactive approach to road safety where possible, there will still be an ongoing need to resolve both crash clusters and locations with known safety risks across the region.

For the Illawarra-Shoalhaven, crashes recorded between 2015 and 2019 are primarily concentrated around the urban centres of Metro Wollongong and Nowra-Bomaderry, and on sections of the M1 Princes Motorway, Princes Highway, Illawarra Highway, Lake Entrance Road, and Lawrence Hargrave and Lady Wakehurst Drives.

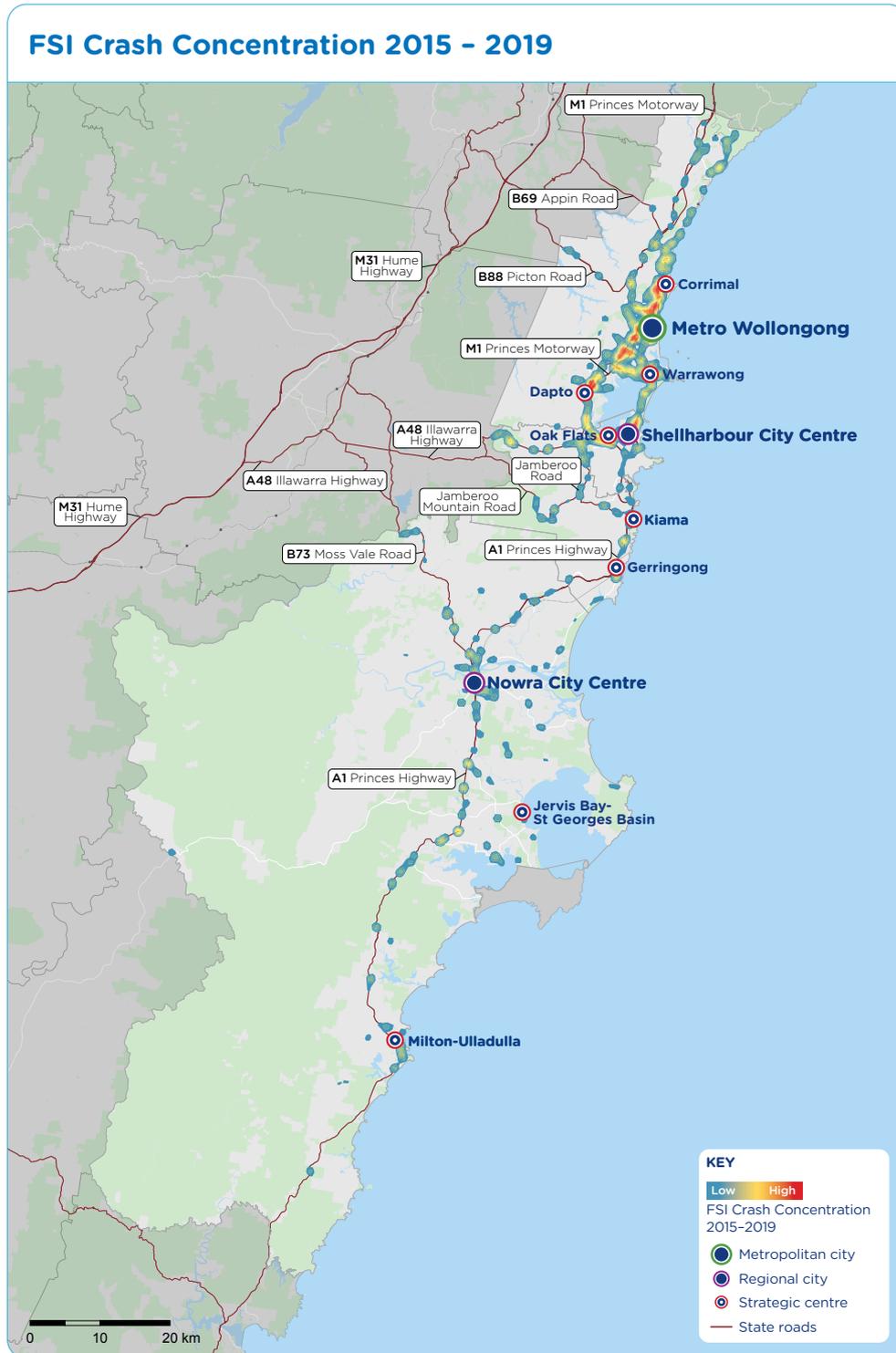
Through the Safer Roads Program, Transport for NSW is supporting Wollongong and Shellharbour City Councils by funding safety improvements at the following crash clusters:

Figure 13: Safer Roads Program (projects in planning)



Transport for NSW will continue to work with Local Government to resolve crash clusters and locations with known safety risks across the Illawarra-Shoalhaven to deliver sustainable and long-term reductions in road trauma.

Figure 14: FSI Crash Concentration 2015 - 2019



Objective 3 – Speed zones support improved safety outcomes for all customers

Speed zones are set so vehicles travelling at the speed limit are able to safely respond to potential risks in the road environment and minimise harm. Speed zones must be self-explaining, set to align with the surrounding environment, support liveability, amenity and enable successful places. Higher speed limits may be more appropriate on roads that have a low place function and high movement function. Conversely, lower speed limits are more appropriate on roads that have a lower movement function and higher place function.

Generally, where there are more people walking and cycling, lower speed limits are used to reduce the risk of crashes and people being seriously injured. Analysis undertaken by Transport for NSW identified a 33 per cent reduction in crashes causing serious injuries and deaths in 40km/h high pedestrian activity areas across NSW between 2005 and 2015¹¹.

Transport for NSW will commission speed zone reviews across the Illawarra-Shoalhaven to determine the appropriateness of existing posted speed limits. Where it is established that the speed zone is not appropriate for the local environment, speed limits will be adjusted accordingly.

Recent local examples where speed zones have been adjusted across the Illawarra-Shoalhaven include both Crown Street, Wollongong, and Lawrence Hargrave Drive through Thirroul and the suburbs to the north, where the posted speed limit was reduced from 60km/h to 50km/h to better reflect local conditions and support improved safety outcomes.

In conjunction with Local Government, Transport for NSW will also investigate areas that could be suitable for the introduction of a 30km/h speed zone to provide a safer environment in areas of high pedestrian and cycling activity.

Transport for NSW is currently working with Wollongong City Council to consider the introduction of a 30km/h speed limit in Helensburgh Town Centre. Furthermore, we will also work collaboratively with DPIE and Local Government to ensure the speed limits set for existing neighbourhoods, as well as the regionally significant growth areas, support walking and cycle-friendly neighbourhoods and contribute to successful place outcomes.

Objective 4 – Utilise technology to improve safety outcomes

Technology has the potential to considerably improve safety outcomes across the Illawarra-Shoalhaven over the next 20 years. Transport for NSW has been investigating the application of Cooperative Intelligent Transport Systems (C-ITS) since 2012 to support a safer transport network into the future.

Sometimes referred to as ‘connected vehicles’, C-ITS technology allows vehicles to communicate with other vehicles and infrastructure such as traffic signals that are fitted with the same C-ITS technology. As connected vehicles are continuously communicating with each other and aware of their respective locations, the technology allows applications such as collision avoidance warnings, emergency vehicle priority, stationary vehicle hazard warnings, and freight platooning to be used.

Transport for NSW has trialled C-ITS technology at specific locations across the Illawarra-Shoalhaven, including at the Port of Port Kembla. These trials have included many of the above safety scenarios, including forward and intersection collision warning, harsh braking-ahead warning, red traffic signal ahead warning, level crossing closed warning and a 40km/h heavy vehicle speed limit for trucks descending Mount Ousley Road.

¹¹ Transport for NSW 2018, Road Safety Plan 2021, TfNSW, Sydney

The research has assessed the technology in trucks, buses and private light vehicles, as well as driver acceptance of the technology. Future C-ITS research activities that could be applied across the region include:

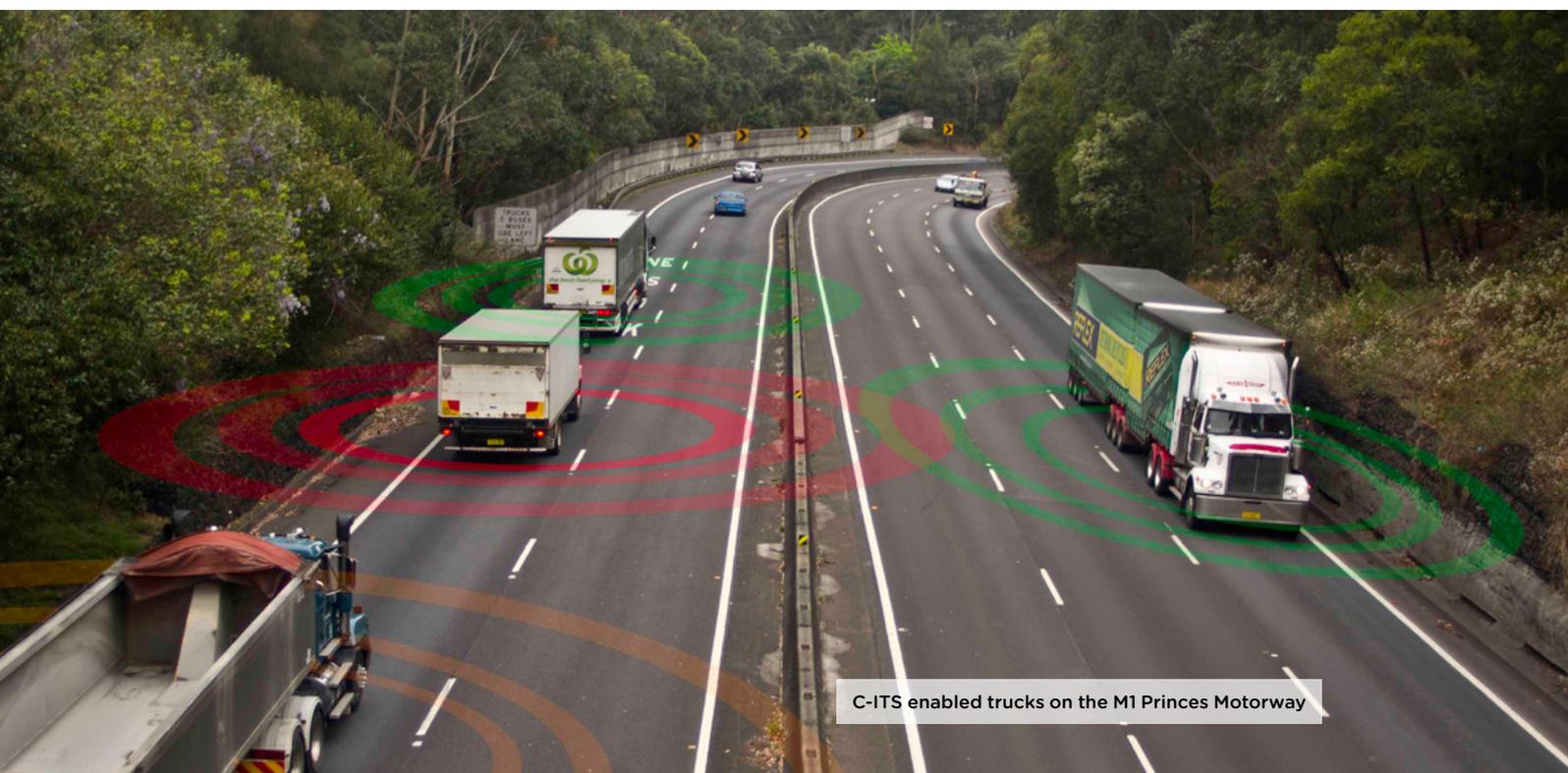
- › expanding trials to include additional traffic signals and railway level crossings, as well as bridges, tunnels and rest areas;
- › improving GPS positioning accuracy;
- › improving network efficiency using freight and emergency services vehicle traffic signal priority;
- › school bus safety; and
- › developing, testing and piloting improved user engagement innovations.

3.2.3 Liveable

Future Transport 2056 acknowledges the vital role transport plays in the land use, tourism, and economic development of towns and cities. It also focuses on the role of transport in supporting the character of the places and communities we want for the future.

Through the following objectives, this Plan will identify initiatives and measures to break down barriers to travel to ensure that the transport network works for all customers regardless of age, ability and income.

- › **Objective 1** – A transport network that enables vibrant places
- › **Objective 2** – A transport network accessible to all customers, regardless of age, ability and income
- › **Objective 3** – Improved travel information and legibility for all customers.

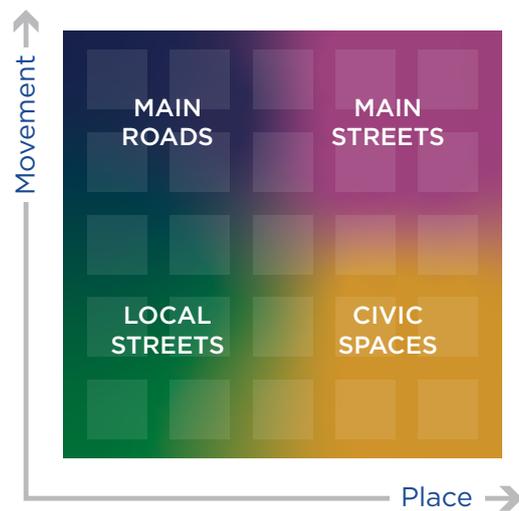


Objective 1 - A transport network that enables vibrant places

Movement and Place is a cross-government framework for planning and managing our roads and streets across NSW. The framework delivers on NSW policy and strategy directions to create successful streets and roads by balancing the movement of people and goods with the amenity and quality of places.

Movement and Place considers the whole street including footpaths, from property line to property line. It takes into account the needs of all users of this space including pedestrians, cyclists, deliveries, private vehicles and public transport, as well as people spending time in those places.

Figure 15: The four street environments that have been identified for analysing the combinations of movement and place in NSW



Crown Street Mall, Wollongong

The framework will be a key tool to deliver improved amenity and liveability for key “places” across the region and will be applied to ensure the right balance is achieved between the need to facilitate movement while supporting successful and vibrant places.

Transport for NSW will utilise the framework to inform improvements proposed for the Illawarra Highway through Albion Park, the Princes Highway through Bulli, and Lawrence Hargrave Drive through Thirroul.

Transport for NSW will also utilise the framework to inform development of Place-based Transport Plans for both Metro Wollongong and Nowra City Centre. Co-designed in collaboration with Local Government and relevant State Agencies, Place-based Transport Plans will provide a clear cross-Government vision for transport, infrastructure and land use in both centres and support shared accountability for the initiatives identified to achieve the vision.

Objective 2 - A transport network accessible to all customers, regardless of age, ability and income

The transport network plays a major role in connecting people with key services no matter where they are located in the region. To fulfil this role, Transport for NSW, together with Local Government, needs to provide a combination of services and infrastructure that facilitates multi-modal transport options for all customers, regardless of age, ability and income.

First announced in 2012, the NSW Government has invested \$1 billion to improve accessibility to transport facilities through the Transport Access Program (TAP). Through ongoing investment in the Program, Transport for NSW will continue to deliver a better experience for public transport customers by delivering accessible, modern, secure and integrated transport infrastructure. The Program aims to deliver:

- ▶ stations that are accessible to people with a disability, limited mobility and parents with prams;
- ▶ modern buildings and facilities for all modes that meet the needs of a growing population, and
- ▶ modern interchanges that support an integrated network and allow seamless transfers between all modes for all customers.

Within the Illawarra-Shoalhaven, delivery is underway for TAP upgrades at Bellambi, Dapto, Towradgi and Unanderra Stations. More information about these projects can be found at transport.nsw.gov.au/projects-tap.

Figure 16: Transport Access Program Fairy Meadow Station Upgrade



The Country Passenger Transport Infrastructure Grants Scheme (CPTIGS) provides subsidies to support the construction or upgrade of bus stop infrastructure across Regional NSW. To date, a number of new bus stop shelters and Disability Discrimination Act (DDA) (Commonwealth of Australia, 1992) compliant upgrades have been funded by the scheme including seven sites in the Kiama LGA and 23 sites in the Shoalhaven LGA.

Point-to-point transport options, like taxis, hire cars, tourist services and rideshare, continue to deliver flexible, convenient options for customers at a time of their choosing, via the route they prefer, and maintain accessibility for people without access to a private vehicle or in areas where public transport services are limited. Community transport also provides options to travel to medical appointments for disadvantaged groups in the community.

The NSW Government is also trialling a travel card for eligible seniors who live in regional, rural and remote areas of NSW to help reduce travel costs associated with living outside of major cities. The Regional Seniors Travel Card is a prepaid card with \$250 included to spend on travel-related expenses such as pre-booked NSW TrainLink train and coach services, fuel and taxi services.

Finally, following recommendations by the Independent Pricing and Regulatory Tribunal (IPART), bus fares in Regional NSW were reduced from January 2021, including the introduction of adult daily tickets capped at \$5 for short trips. More affordable fares provide equity across NSW, eliminate barriers to travel and encourage greater social inclusion.

Objective 3 - Improved travel information and legibility for all customers

Transport for NSW will aim to provide comprehensive, accurate information to deliver a more positive customer experience for more people, more often and empower greater real-time journey planning.

The New Intercity Fleet (NIF) highlighted earlier will feature improved customer information through digital screens and announcements, CCTV and help points to ensure customers have access to the right information to support their journeys.

The Transport Connected Bus (TCB) Program is delivering the technology platform for the tracking and automatic passenger counting of Transport for NSW-contracted buses in Regional NSW, enabling customers to be informed with trip information in real-time and services to be assessed through reporting and analytics.

After successful trials of real-time tracking and passenger occupancy information for buses in Dubbo, Coffs Harbour and Bega Valley, the Program is being rolled out to other regional centres including Nowra-Bomaderry. Technology improvements such as the TCB Program help support improved real-time journey planning for our Regional NSW customers.

The Future Transport Technology Roadmap 2021-2024 builds on these initiatives and identifies a number of new technology programs for Regional and Outer Metropolitan areas. Transport for NSW will investigate the rollout of Opal Contactless ticketing into Regional NSW to provide convenient frictionless ticketing on all public transport across NSW, with cash and paper tickets maintained where needed. This will deliver greater flexibility and seamless journeys for our customers.

We will enable regional and outer metropolitan smart cities with a range of sensor technologies that provide real-time transport and travel information and alerts about road incidents. This data provides real-time customer information and can also be used to prioritise walking and cycling and inform place making decisions.

Finally, to improve the customer experience, we will also investigate ways to improve WiFi digital connectivity at key transport hubs and on board major rail services so that customers can stay informed and connected while they travel.

3.2.4 Adaptive and Sustainable

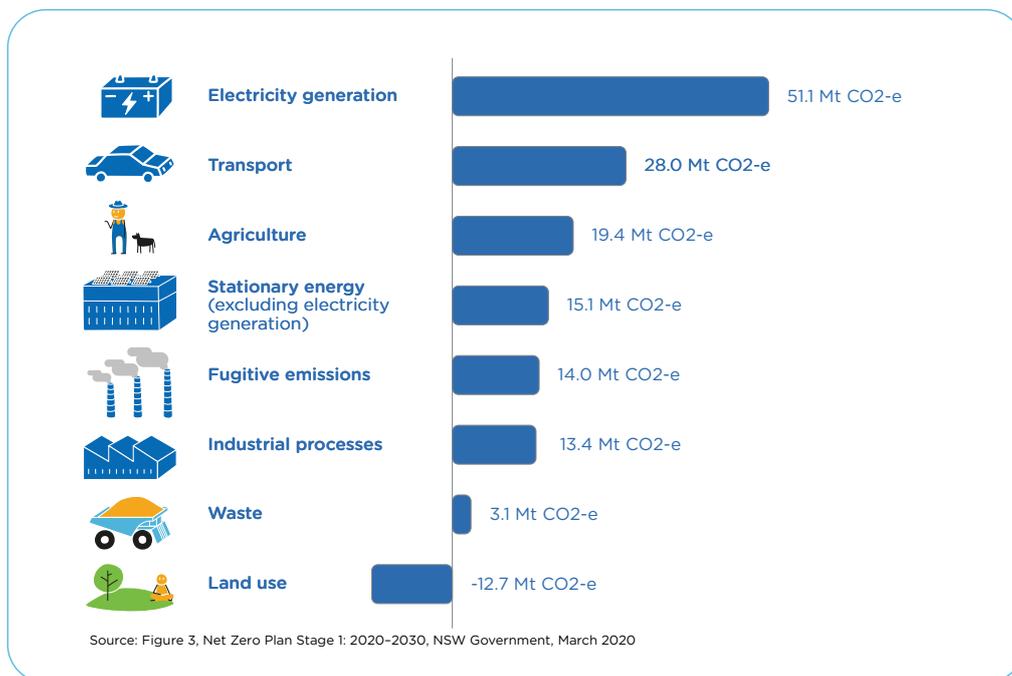
In March 2020, the NSW Government released the Net Zero Plan Stage 1: 2020-2030. The Plan is the foundation for NSW's goal to reach net zero emissions by 2050, and presents a framework for how NSW will achieve a 35 per cent cut in emissions by 2030 compared to 2005 levels.

From a NSW-wide perspective, the transport sector was the second largest contributor to greenhouse gas emissions in 2017.

Transport for NSW supports the NSW Government's goal to reach net zero emissions by 2050 and acknowledges that the transport sector will need to play a key role in the transition towards a low emissions future. Through a combination of infrastructure improvements, policy

interventions and behavioural change, the transport sector will need to adapt over the next 20 years to meet both the interim 2030 target, as well as drive the regional transition to a low emissions future.

Figure 17: NSW emissions by sector in 2017



For the Illawarra-Shoalhaven, Transport for NSW has nominated the following three objectives to drive the regional transition towards a low emissions future.

- › **Objective 1** – Increase the number of trips made by walking, cycling and public transport across the Illawarra-Shoalhaven
- › **Objective 2** – Facilitate the fleet transition to emissions-free technology
- › **Objective 3** – Embrace technology to reduce the need for travel

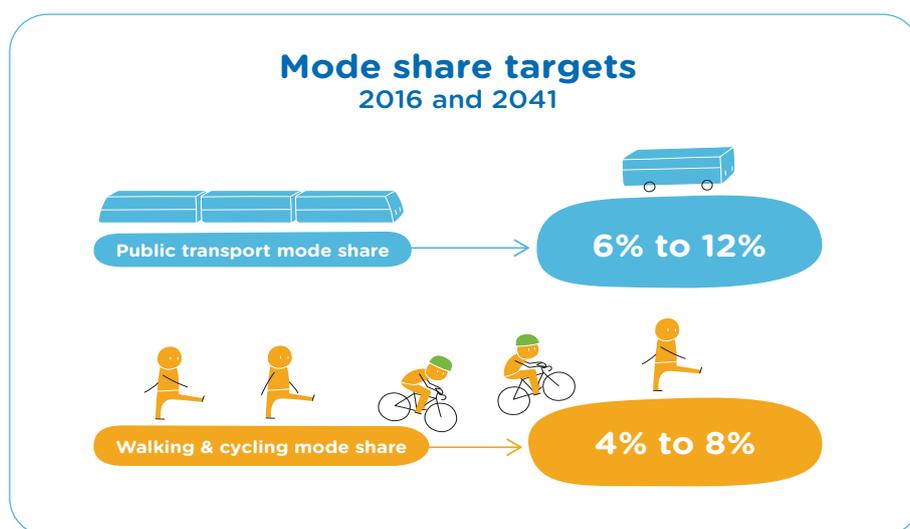
Objective 1 – Increase the number of trips made by walking, cycling and public transport across the Illawarra-Shoalhaven

Trips made by walking and cycling are in essence emissions free. Similarly, while public transport may be predominantly powered by, in essence, fossil fuels today, with Transport for NSW transitioning the NSW bus fleet to zero emission buses, combined with the ongoing transition of the electricity grid to renewables, public transport also has the potential to operate emissions free in the foreseeable future.

As such, encouraging more people across the Illawarra-Shoalhaven to walk, cycle and catch public transport over the next 20 years will play a key role in meeting NSW's goal to reach net zero emissions by 2050.

Data compiled from the 2016 Census shows that for the Illawarra-Shoalhaven, private vehicle transport was the dominant mode of choice for journey-to-work trips at 88 per cent, followed by public transport at six per cent and active transport (walking and cycling combined) at four per cent.

Figure 18: 2041 mode share targets for the Illawarra-Shoalhaven



By 2041, we want to see one in every five (20 per cent) trips – be they work, education, health, retail or recreation-related – made by walking, cycling or public transport across the Illawarra-Shoalhaven. This step change in regional travel behaviour will require collaborative coordination between Local Government, Stage Agencies, industry partners, and local communities, and be underpinned by a comprehensive suite of infrastructure and service improvements, and complementary education campaigns

Through the NSW Government's Walking and Cycling Program, Transport for NSW will work collaboratively with Local Government to address barriers to walking and cycling across the transport network, and ensure active transport is the most convenient option for short trips.

Similarly, Transport for NSW will work collaboratively with the NSW Department of Education, Catholic Schools NSW and Local Government to address barriers to walking and cycling to schools across the Illawarra-Shoalhaven. In the 1970's, three out of every four school children walked or cycled to school¹² in Australia. Today on average, only one in every four school children walk or cycle to school, with the majority now being driven.

For the regionally significant growth areas of West Lake Illawarra and Nowra-Bomaderry, Transport for NSW will work with Local Government, DPIE and industry partners to ensure new neighbourhoods are walking and cycle-friendly, support seamless integration with established active transport networks, and are supplemented with complementary infrastructure that prioritises walking and cycling.

¹² healthyactivebydesign.com.au/images/uploads/Active_Travel_to_School.pdf

In addition, Transport for NSW will investigate the application of the Bus Headstart Program – nominated in the Regional NSW Services and Infrastructure Plan as an Initiative for Investigation over the next 10 years – to support the early implementation of new bus services into growth areas and encourage early public transport use.

Transport for NSW will work collaboratively with DPIE and Local Government to encourage new commercial developments in close proximity of public transport hubs to support greater modal choice and avoid reliance on private vehicle transport. Similarly, we will advocate for the better integration of residential, commercial, educational, retail and recreational land uses in both new and existing precincts to reduce the distances between where people live, work and play, and make walking, cycling and public transport more attractive travel choices.

With Wollongong set to host the UCI Road Cycling World Championships in September 2022, combined with the recent exhibition of Wollongong City Council’s Draft Wollongong Cycling Strategy 2030, the time is right to reshape the transport network to make Metro Wollongong a cycling city. Transport for NSW will work with Wollongong City and Shellharbour City Councils to develop a Principal Bicycle Network (PBN) for the Wollongong and Shellharbour Local Government Areas to ensure a seamless cycle network regardless of the asset owner.



The NSW Government's Streets as Shared Spaces Program provides funding to Local Government for temporary activation projects in the public realm to test ideas for more permanent improvements to local streets, paths and public spaces. The Wollongong City Pop-Up Cycleways Project is an initiative funded under the Program that will pilot two new cycleways with the integration of art and greening initiatives between rail stations and the foreshore. The project will also provide a platform to pilot several 'quick win' cycling connections, enhancing opportunities for agile delivery of future cycling connections across the Wollongong City LGA.

Transport for NSW will also encourage Local Government to necessitate that all new developments include provision of secure bicycle parking and end-of-trip facilities – change room facilities, showers, personal storage space (lockers) – to further support the shift towards more sustainable travel behaviour across the Illawarra-Shoalhaven.

Building on the public transport initiatives highlighted earlier – More Trains, More Services Program, 16 Regional Cities Services Improvement Program, Wollongong Rapid Bus Package – Transport for NSW will investigate opportunities to complement traditional, timetabled services with on-demand transport services.

In the Illawarra-Shoalhaven, Rixons On Demand shuttle, part of Transport for NSW's Rural and Regional On Demand trial, currently operates a daily shuttle service between the South Coast and Canberra. The shuttle offers front door pick up and/or drop off at coastal locations between Milton and Narooma, as well as the towns of Nelligen, Braidwood and Bungendore.

Finally, the evolving micro-mobility transport sector, characterised by electric bikes, electric scooters and shared e-bike services, offer alternatives for first and last mile travel between homes and key public transport hubs. Analysis undertaken by the National Association of City Transportation Officials (NACTO) showed that 136 million trips were undertaken on shared bikes and scooters across the United States in 2019, with an average trip length of between 1.5 to 2.5 kilometres.

Many of these micro-mobility trips replaced private vehicle trips, provided access that was previously time-consuming by foot, or difficult on public transport by making it easier to reach that "first mile"¹³. Given micro-mobility could deliver a similar positive impact across the Illawarra-Shoalhaven, we will investigate how these devices can be safely accommodated into the transport network to provide customers with more choice and greater flexibility.

Objective 2 – Facilitate the fleet transition to emissions-free technology

With electric vehicles forecast to reach upfront price parity with traditional combustion engine vehicles in Australia from 2024¹⁴, combined with the NSW Government's aspirational target for hydrogen to make up 10 per cent of the total gas network by 2030, the region will need to transition towards a future where electric and hydrogen fuel cell vehicles become the norm rather than the exception.

The transition to a cleaner, greener transport future will require both leadership and collaboration between State Agencies, Local Government and industry to deliver the required infrastructure and services that will enable and encourage the change to occur.

¹³ nacto.org/2020/08/27/136-million-trips-taken-on-shared-bikes-and-scooters-across-the-u-s-in-2019

¹⁴ Department of Planning, Industry and Environment 2020, Net Zero Plan Stage 1: 2020-2030, DPIE, Sydney

Under existing conditions, public charging options for electric vehicles across the Illawarra-Shoalhaven are relatively limited, while refuelling opportunities for hydrogen fuel cell vehicles do not yet exist.

To address this issue, Transport for NSW is working collaboratively with DPIE, Department of Regional NSW (DRNSW) and industry to support the development of a comprehensive Electric Vehicle Fast Charging Station Network across both the Illawarra-Shoalhaven and South East and Tablelands regions.

Under the NSW Government Resource Efficiency Policy (GREP), public sector agencies like Transport for NSW are required to use resource-efficient technologies and services to reduce costs and lead by example¹⁵.

Transport for NSW's Future Energy Strategy and Future Energy Action Plan focus on the transport sector in NSW and the actions that Transport for NSW is taking to achieve net zero by 2050. Headline actions to be delivered by 2025 include:

- ▶ transitioning all operational electricity for public transport to net zero energy;
- ▶ 70 per cent of Transport for NSW passenger fleet will be low emissions vehicles; and
- ▶ 20 per cent of Transport for NSW passenger fleet will be battery-electric or hydrogen fuel cell.

¹⁵ Office of Environment and Heritage 2019, NSW Government Resource Efficiency Policy, OEH, Sydney



Over the next three years, Transport for NSW will commence the transition of our passenger fleet in the Illawarra-Shoalhaven to meet this commitment, and work with Local Government to encourage a similar transition in their respective fleets. By working together, the combined purchasing power of the public sector can help deliver confidence to supply more affordable, low emissions products and services to the wider market.

Transport for NSW has also committed to transition the entire NSW fleet of over 8,000 mainly diesel buses to clean and quiet zero-emissions buses. Over 50 electric buses have already been ordered and plans are underway to expand the transition across metropolitan and regional areas.

To boost the commercialisation of low emissions hydrogen production and applications, the NSW Government has set an aspirational target for hydrogen to comprise up to 10 per cent of the gas network by 2030¹⁶. In combination with the Port of Port Kembla being identified as a potential hydrogen hub¹⁷, these commitments will likely deliver associated benefits for the transport sector and open up opportunities for hydrogen fuel cell vehicles within the Illawarra-Shoalhaven and across New South Wales.

Like electric vehicles, hydrogen fuel cell vehicles are also emissions free, converting compressed hydrogen into electricity to power an electric motor. They offer the advantages of longer operating ranges, lighter weight and rapid refuelling capability, which may suit long distance freight operations¹⁸.

To support greater use of hydrogen fuel cell technology, Transport for NSW will work with DPIE, DRNSW and industry to investigate opportunities for a hydrogen mobility pilot trial in the Illawarra-Shoalhaven. If supported, the pilot would provide valuable lessons for New South Wales on the wider expansion of hydrogen use in the transport sector, as well as support the growth of hydrogen-associated industries within the region.

Objective 3 - Embrace technology to reduce the need for travel

In 2020, the COVID-19 pandemic has seen seismic changes in our way of life. What was once thought impossible, has over the space of a couple of months, become not only possible but in many ways the “new normal”.

The rapid expansion of working from home opportunities and telehealth services, increased online shopping, and greater utilisation of food delivery services have combined to reduce the need to travel during the pandemic. The common thread between these behavioural trends is technology.

The continued embrace of technology-led solutions beyond the pandemic will enable people to travel less, reducing peak demand on the transport network and contribute to greater sustainable behaviour overall.

Over the next 20 years, Transport for NSW will ensure that the transport network across the Illawarra-Shoalhaven is well positioned to embrace the new opportunities and policies that will emerge from this technology-led future.

¹⁶ Department of Planning, Industry and Environment 2020, Net Zero Plan Stage 1: 2020-2030, DPIE, Sydney

¹⁷ Department of Planning, Industry and Environment 2021, Net Zero Industry and Innovation Program

¹⁸ Transport for NSW 2019, NSW Electric and Hybrid Vehicle Plan, TfNSW, Sydney

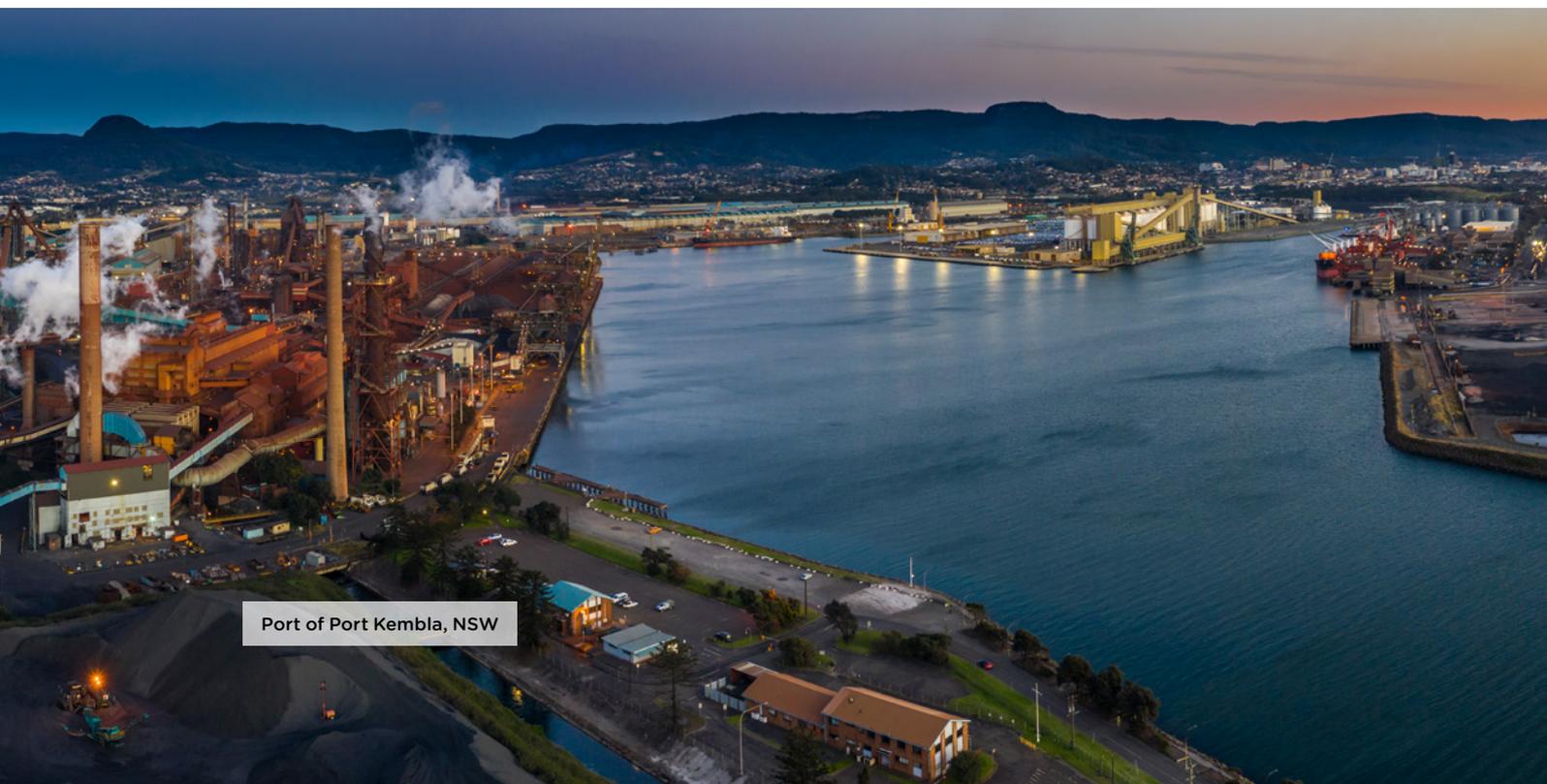
3.2.5 Productive

In 2018, the NSW Government released the NSW Freight and Ports Plan 2018-2023, a key supporting plan of Future Transport 2056, to provide a long-term vision for freight in NSW. The Plan identifies over 70 initiatives that, in combination, will seek to deliver a freight system that is more efficient, accessible, safer and sustainable.

To complement the NSW Freight and Ports Plan 2018-2023, Transport for NSW has also released both the NSW Heavy Vehicle Access Policy Framework and the Future Transport Technology Roadmap 2021-2024 to support the safe and efficient movement of road freight in NSW. A key objective of the Framework is to increase the use of more High Productivity Vehicles (HPVs) to encourage “moving more with less”.

Through the following objectives, this Plan will support the directives of the NSW Freight and Ports Plan 2018-2023, NSW Heavy Vehicle Access Policy Framework and Future Transport Technology Roadmap 2021-2024 to deliver a safer, more efficient, and technologically-advanced freight network for the Illawarra-Shoalhaven both now and into the future.

- › **Objective 1** – Roads support the efficient movement of freight to, from and within the region
- › **Objective 2** – Rail supports the efficient movement of freight to, from and within the region
- › **Objective 3** – First-and-last mile barriers are resolved to support successful places



Port of Port Kembla, NSW

Objective 1 – Roads support the efficient movement of freight to, from and within the region

More than 20 million tonnes of freight was transported by road across the Illawarra-Shoalhaven in 2016, and is forecast to grow to almost 25 million tonnes by 2041, and more than 39 million tonnes by 2056.

In 2016, coal and manufactured goods were the main commodities moved into the region by road, accounting for 83 per cent of the total inbound road freight volume of 11.7 million tonnes. By 2041, inbound road freight volumes across the Illawarra-Shoalhaven are anticipated to increase to 13.8 million tonnes, and 16.8 million tonnes by 2056.

By contrast, vehicle imports, manufactured goods and quarry materials accounted for 87 per cent of the total outbound road freight volume of nine million tonnes in 2016. New motor vehicles are initially imported by ship into the Port of Port Kembla and subsequently distributed by road to markets across Greater Sydney and Regional NSW. By 2041, outbound road freight volumes across the Illawarra-Shoalhaven are anticipated to increase to 10.6 million tonnes and to almost 23 million tonnes by 2056.

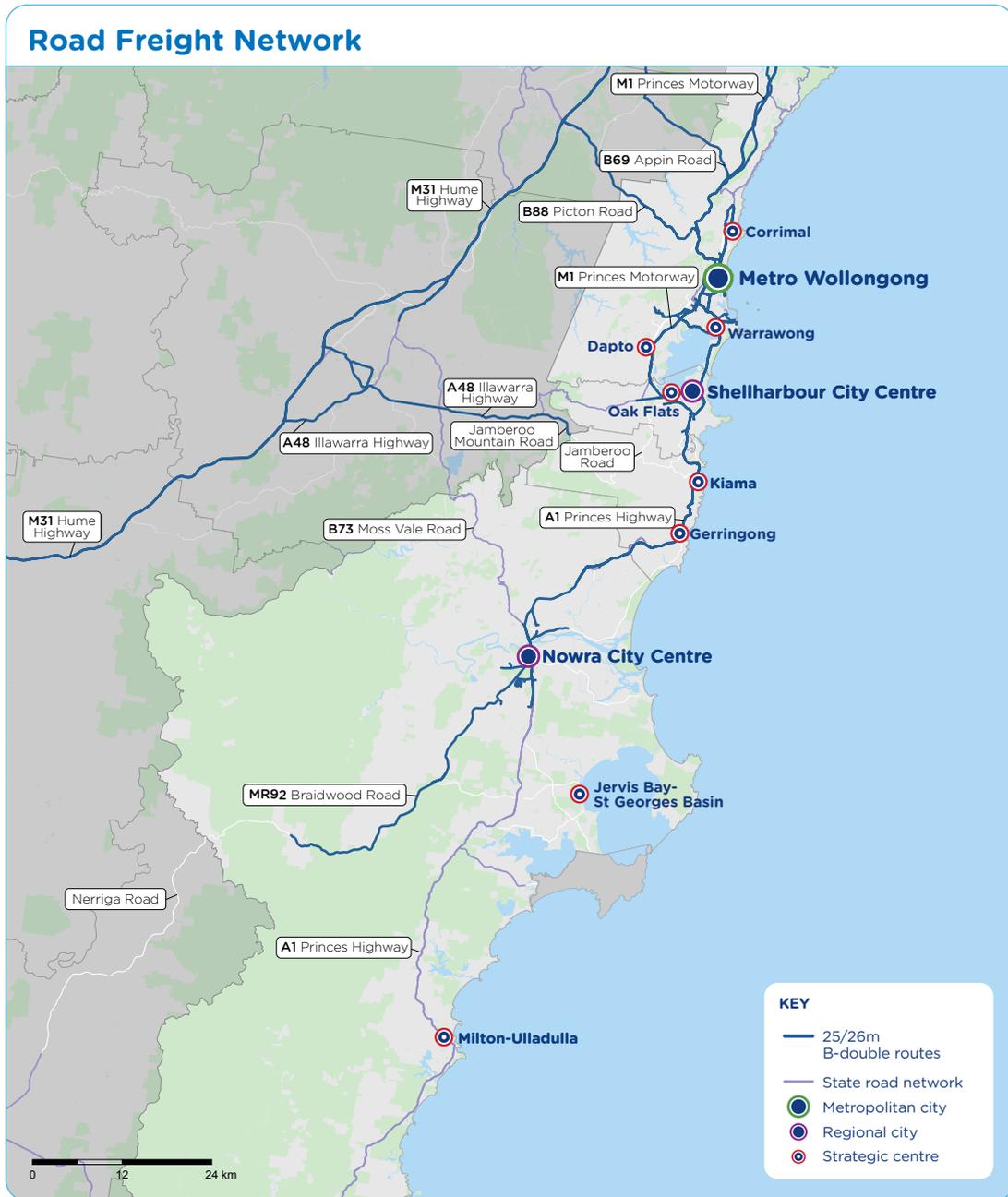
The Princes Highway, in combination with the M1 Princes Motorway, is the most significant north-south road freight corridor in the Illawarra-Shoalhaven and plays a key role in transporting goods to and from the Port of Port Kembla, as well as across the region.

Similarly, Picton Road also plays an important role connecting the M1 Princes Motorway with the M31 Hume Motorway at Wilton, while Appin Road connects Metro Wollongong with the Greater Macarthur Growth Area and the escarpment collieries. By 2056, Picton Road is forecast to carry almost 70 per cent of the total road freight task associated with the region.

Under existing conditions, a number of key freight routes within the Illawarra-Shoalhaven cannot currently support the use of High Productivity Vehicles (HPVs). HPVs are vehicles that can carry more freight more efficiently, with improved safety and environmental performance.



Figure 19: Illawarra-Shoalhaven road freight network



To support the efficient movement of freight along these key road corridors into the future, Transport for NSW will investigate opportunities to expand the network for HPVs on the Princes Highway, M1 Princes Motorway, and Picton and Appin Roads.

In addition, Transport for NSW will also investigate:

- ▶ the upgrading of M92 Nerriga Road between Nowra and Braidwood to facilitate a new route for HPVs between the Illawarra-Shoalhaven and South East and Tablelands, reducing travel times and improving freight efficiencies; and
- ▶ the use of technology to improve heavy vehicle safety on the Illawarra Highway at Macquarie Pass.

Finally, to ensure that the needs of freight are accommodated into the future, key freight corridors will need to be protected from incompatible land uses, such as residential development. Transport for NSW will work collaboratively with DPIE and Local Government to ensure key road freight corridors across the Illawarra-Shoalhaven are protected from incompatible land uses.

Objective 2 - Rail supports the efficient movement of goods to, from and within the region

More than 14 million tonnes of freight was moved by rail across the Illawarra-Shoalhaven in 2016 and is forecast to reduce to approximately 12 million tonnes by 2041. However, this is forecast to increase to approximately 23 million tonnes by 2056.

Approximately 70 per cent of the total rail freight associated with the region utilises the Illawarra/South Coast Line, with the remaining 30 per cent transported via the Moss Vale-Unanderra Line.

In 2016, coal was the main commodity transported into the region by rail, accounting for 72 per cent of the total inbound rail freight volume of 12.7 million tonnes, while steel was the main commodity transported out of the region by rail, accounting for 74 per cent of the total outbound rail freight volume of 1.8 million tonnes.



Over the next 20 years the volume of coal transported into the region by rail is forecast to decline reflecting a combination of the re-routing of export coal originating from the Central West to the Port of Newcastle, and the depletion of local coal reserves.

Figure 20: Illawarra-Shoalhaven rail freight network



Beyond 2041, it is anticipated that Port Botany will reach capacity for container handling. The Port of Port Kembla has been identified as the location for the development of a future container terminal to augment capacity of Port Botany when required. By 2056, approximately 10 million tonnes of container freight is forecast to be transported out of the region from the Port of Port Kembla by rail.

The transport of freight via the shared rail network is constrained by the needs of passenger transport, particularly during morning and afternoon passenger peaks. Transport freight services are often held for up to 11 hours as passenger services are given priority.

To address the growing need for additional rail capacity to and from the Port of Port Kembla, Transport for NSW will investigate the completion of Maldon to Dombarton Line to facilitate additional freight movement between the Illawarra-Shoalhaven and Western Sydney.

Transport for NSW will also investigate improvements to both the Moss Vale to Unanderra Line, and Coniston Junction, to address existing rail freight pinch points across the region.

Finally, Transport for NSW will work collaboratively with DPIE and Local Government to ensure key rail freight corridors across the Illawarra-Shoalhaven are protected from incompatible land uses.

Objective 3 - First-and-last mile barriers are resolved to support successful places

With the Regional Plan nominating regionally significant precincts across the region, first-and-last-mile access for freight on the local road network is vital to support the future success of these places. Transport for NSW will work collaboratively with DPIE and Local Government to ensure that existing and future significant places are supported with appropriate first-and-last-mile solutions to maximise freight connectivity. Options to improve first-and-last mile barriers that may be considered include:

- ▶ investigate last-mile deliveries by drones in suitable areas;
- ▶ trialling of alternate delivery modes for freight delivery in busy urban environments such as bicycles, electric/hybrid and automated freight vehicles;
- ▶ working with Local Government, developers and industry to highlight the importance of providing good off-street loading dock facilities and possible precinct solutions that enhance the amenity of urban locations;
- ▶ using sensors and other emerging technologies to monitor assets critical to the freight network such as bridges, loading docks and compliance of users to posted load restrictions;
- ▶ trialling freight vehicle intersection priority signals on roads in the vicinity of the Port of Port Kembla;
- ▶ where noise impacts can be appropriately addressed, investigate the potential to extend delivery hours in highly congested areas;
- ▶ linking real-time roads data with industry systems to facilitate predictive journey planning, and route and fleet optimisation; and
- ▶ trialling innovative approaches to dynamic road and kerb space allocation for freight.

3.2.6 Resilient

Disruption of the transport network impacts connectivity and generates associated social and economic issues for regional communities and businesses. Network disruption takes many forms whether it be a planned disruption like a special event or network maintenance, or an unplanned disruption like an emergency, incident or extreme weather event.

While planned disruptions are anticipated and prepared for in advance of the event, unplanned disruptions require a dynamic response that happens in real time. By building more resilience into the transport network, it becomes better equipped to successfully manage disruptions and minimises the impact on regional communities and businesses.

Through the following objectives, this Plan will seek to improve the resilience of the network to planned and unplanned disruptions.

- › **Objective 1** – Build greater resilience into the transport network
- › **Objective 2** – Planned network disruptions are communicated early and clearly
- › **Objective 3** – Utilise technology to improve network resilience



Objective 1 – Build greater resilience into the transport network

Improving network resilience requires a combination of measures including how network infrastructure is designed through to having appropriate risk management, incident management and response procedures in place. Part of our ability to build resilience and minimise network disruption is to anticipate and appropriately plan for disruption.

Transport for NSW will develop contingency plans to improve our ability to effectively respond to unplanned network disruptions and ensure that our response practices are world class.

In addition, Transport for NSW will undertake climate change risk assessments in the early stages of all projects and manage identified risks throughout the asset lifecycle. We will also seek to ensure an integrated approach to resilience that not only improves the transport network and asset resilience to climate change but also to other shocks and stressors like pandemics or social instability.

The catastrophic bushfires that impacted the region in the 2019/20 fire season had a corresponding impact on key transport routes across the Illawarra-Shoalhaven. One of the lessons learnt from the event was that management of land adjacent to the transport network is a major factor in the severity of the impact of fires on the network.

Transport for NSW will implement practices to better manage land adjacent to the transport network to ensure that these impacts are mitigated in the future, including clearing additional vegetation in high-risk areas and replacing burnt culverts with new pipes which are more capable of withstanding future bushfires.

We will also work with other State Agencies, Local Government and key stakeholders to implement the recommendations of the independent expert inquiry into the 2019-2020 bushfire season to reduce the severity and impact of future bushfire events.

Seasonal demands on the transport network can also be disruptive but are more predictable than other forms of disruption. Across the Illawarra-Shoalhaven, seasonal disruption is usually driven by visitation during long weekends, school holidays and summer weekends.

Understanding when these disruptions are likely to occur enables us to plan ahead to minimise the disruption to local businesses and communities, while giving visitors a better travel experience. Some of the innovative measures currently employed in the region to mitigate seasonal disruption include:

- ▶ the deployment of temporary traffic controls (used in Milton and at the Jervis Bay Road and Princes Highway intersection);
- ▶ temporary speed reductions (used on the Princes Highway on approach to the Jervis Bay Road intersection); and
- ▶ increased presence of traffic incident response teams to respond to network incidents in Nowra and Bomaderry.

Transport for NSW will continue to implement lessons learnt from past events and disruptions to enhance network resilience, and support improved customer outcomes.

Objective 2 - Planned network disruptions are communicated early and clearly

Keeping the community informed about disruptions on the transport network empowers customers to make alternative travel plans and supports “real-time” decision-making. Variable message signs along key routes such as the M1 Princes Motorway currently provide information to drivers about disruption on the regional road network.

Transport for NSW will look to further expand the network of variable message signs in the region to improve customer access to “real-time” information.

Early communication can also help to keep the community safe, reduce risk to life and property and reduce the likelihood of conflict with emergency responders. For natural disasters like bushfires and floods, early communication can provide customers the opportunity to evacuate to safety before being cut-off or isolated.

The Live Traffic NSW website is a key tool for keeping customers informed and avoid network congestion and delays. During the 2019/20 bushfire season, where corridors such as the Princes and Kings Highways were impacted, Live Traffic usage was up 25 per cent across NSW.

Objective 3 - Utilise technology to improve network resilience

Innovation and new technologies have the potential to provide new tools and opportunities to benefit responders, decision-makers and the community in understanding and responding to network disruptions.

Transport for NSW will enable regional and outer metropolitan smart cities, with a range of sensor technologies that provide real-time transport and travel information and alerts about road incidents. In the Illawarra-Shoalhaven, this could include the use of artificial intelligence (AI) cameras, Bluetooth sensors and video analytics to alert customers of changes to their journeys as they happen in real time.

Some of the key opportunities we will target include making better use of existing and new data sources to improve our management and responses to incidents, as well as new ways to communicate with customers in real-time no matter where they are across the transport network.

Monitoring network assets using drones and CCTV can improve situational awareness for daily operations and management, minimise disruption impacts and deliver more reliable journeys.

Transport for NSW will continue to investigate new ways in which technology can be used to enable customers to make informed decisions in real time, and respond to planned and unplanned events.

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CHAPTER

4

Initiatives

Initiatives

This Plan identifies 71 initiatives required to deliver the regional transport vision for the Illawarra-Shoalhaven over the next 20 years. While some initiatives are already in the delivery or planning phases, new initiatives will require further investigation to determine feasibility, as well as ensure what is progressed for funding is aligned with the regional transport vision and delivers value for money for the people of NSW.

Transport for NSW will aim to commence investigations for all new initiatives listed in this Plan within the next 10 years to ensure that essential services and infrastructure are proactively delivered to meet anticipated changes in land use, population and travel demand across the region.

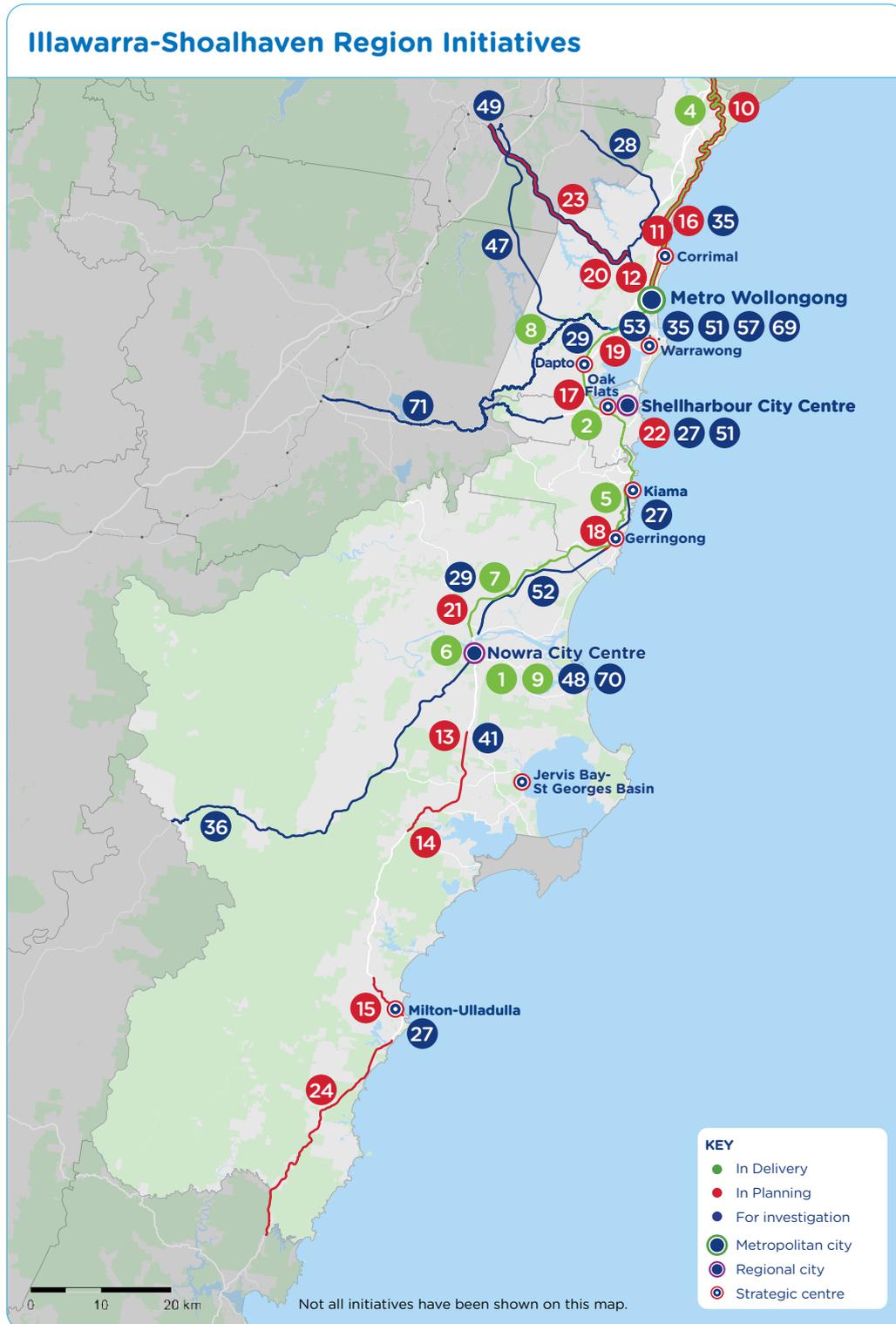
Transport for NSW has split the identified initiatives into three distinct categories – own, collaborate and influence. Initiatives that fall into the “own” category are those that will be led by Transport for NSW while initiatives that fall into the “collaborate” category acknowledge the need for a partnership with other State Agencies, Local Government, industry and/or community to commence the initiative. Finally, initiatives that fall into the “influence” category, although not led by Transport for NSW, provide an opportunity to support delivery of the regional transport vision through influencing the outcome.

The following sections summarise the key initiatives by project phase (i.e. in delivery, in planning, for investigation) and by responsibility.



Princes Highway Upgrade - Foxground and Berry bypass

Figure 21: Illawarra-Shoalhaven Region Initiatives





Illawarra-Shoalhaven Region Initiatives

Key  In delivery  In planning  For investigation

Initiatives in delivery (0-5 years)

-  1. 16 Regional Cities Services Improvement Program - Nowra-Bomaderry
-  2. Albion Park Rail Bypass
-  3. More Trains, More Services Program
-  4. New Intercity Fleet
-  5. New Regional Fleet Program
-  6. Nowra Bridge Project
-  7. Princes Highway Upgrade - Berry to Bomaderry
-  8. Transport Access Program - Bellambi, Dapto, Towradgi and Unanderra Stations
-  9. Transport Connected Bus (TCB) Program - Nowra-Bomaderry

Initiatives in planning (delivery to commence within 3 years)

-  10. 30 km/h Speed Limit Trial - Helensburgh
-  11. Bulli Town Centre Improvements
-  12. Mount Ousley Interchange
-  13. Princes Highway Upgrade - Jarvis Bay Road Intersection
-  14. Princes Highway Upgrade - Jarvis Bay Road to Sussex Inlet Road
-  15. Princes Highway Upgrade - Milton-Ulladulla Bypass
-  16. Thirroul Town Centre Improvements

Initiatives in planning (delivery timeframe yet to be confirmed)

-  17. Albion Park Town Centre Improvements
-  18. Kiama to Bomaderry Project including additional platform at Bomaderry Station and new rail crossing loop at Toolijooa
-  19. M1 Princes Motorway Improvements between Figtree and Dapto
-  20. Mount Ousley Safety and Reliability Improvements
-  21. Moss Vale Road, Princes Highway and Cambewarra Road Intersection Improvements
-  22. New Lake Entrance Road and Pioneer Drive Intersection Improvements
-  23. Picton Road Upgrade
-  24. Princes Highway Upgrade - Burrill Lake to Batemans Bay
-  25. Work with DPIE, DRNSW and industry to develop an EV Fast Charging Network

Initiatives for investigation

-  26. 30-minute public transport catchments for regionally significant growth areas
-  27. 30-minute public transport catchments for Shellharbour City Centre, Kiama and Milton-Ulladulla
-  28. Appin Road Safety and Reliability Improvements
-  29. Bus Headstart Program for West Lake Illawarra and Nowra-Bomaderry Growth Areas
-  30. Encourage Local Government to necessitate all new developments include provision of secure bicycle parking and end-of-trip facilities
-  31. Encourage Local Government to transition their fleet to electric or hybrid passenger vehicles
-  32. Establish consistent public transport payment system across region
-  33. Ensure rest stops are provided at intervals consistent with Austroads Guidelines
-  34. Establish guidance for roadside vegetation management to improve bushfire resilience
-  35. High Occupancy Vehicle Lanes for Wollongong



Illawarra-Shoalhaven Region Initiatives (continued)

Key  In delivery  In planning  For investigation

Initiatives for investigation (continued)

-  **36.** HPV Access for MR92 Nerriga Road between Nowra and Braidwood
-  **37.** Identify opportunities for expansion of C-ITS technology
-  **38.** Identify opportunities for technology to improve heavy vehicle safety on Macquarie Pass
-  **39.** Identify opportunities to implement 30 km/h Speed Zones
-  **40.** Illawarra Highway Safety and Reliability Improvements
-  **41.** Investigate improved bus services between Milton-Ulladulla and Nowra City Centre
-  **42.** Investigate improved bus services between Campbelltown, Appin and Wollongong and Picton, Wilton and Wollongong
-  **43.** Investigate medium-term rail improvements between Bomaderry, Wollongong and Greater Sydney
-  **44.** Investigate opportunities for technology to support improved network resilience
-  **45.** Investigate opportunities to safely accommodate micro-mobility transport options
-  **46.** Lawrence Hargrave Drive/Princes Highway/Memorial Drive Safety and Reliability Improvements
-  **47.** Maldon to Dombarton Line Completion
-  **48.** Nowra Safety and Reliability Improvements
-  **49.** Outer Sydney Orbital 2 (OSO2) Project
-  **50.** Prepare Incident Response Plans to effectively respond to unplanned network disruptions
-  **51.** Principal Bicycle Network (PBN) for Wollongong and Shellharbour
-  **52.** South Coast Line Electrification – Kiama to Bomaderry
-  **53.** Sydney to Bomaderry Fast Rail Improvements
-  **54.** Transition Transport for NSW passenger fleet to 70% low emission and 20% battery electric or hydrogen fuel cell vehicles by 2025
-  **55.** Transition Transport for NSW bus fleet to 100% zero emission buses (ZEB)
-  **56.** Trial on-demand transport services
-  **57.** Wollongong Rapid Bus Package
-  **58.** Work with community transport service providers to identify opportunities for integration with timetabled services
-  **59.** Work with DPIE, Councils and Developers to support the delivery of State Infrastructure Contribution (SIC) funded transport infrastructure to support Regionally Significant Growth Areas
-  **60.** Work with DPIE, Councils and stakeholders to develop transport strategies for the Regionally Significant Growth Areas
-  **61.** Work with DPIE, DRNSW and industry to develop a hydrogen refuelling station network to service the heavy vehicle sector
-  **62.** Work with Local Government, DPIE and industry to ensure regionally significant growth areas support walking and cycle-friendly neighbourhoods
-  **63.** Work with Local Government, DPIE and industry to ensure significant places are supported with appropriate first and last mile freight solutions
-  **64.** Work with Local Government and DPIE to protect key freight corridors from incompatible land uses
-  **65.** Work with Local Government and industry to support provision of appropriate off-street loading facilities
-  **66.** Work with Local Government to improve wayfinding information in the vicinity of key transport nodes
-  **67.** Work with NSW Department of Education, Catholic Schools NSW and Local Government to address barriers to walking and cycling to school
-  **68.** Work with State Agencies, Local Government and stakeholders to implement the recommendations of the independent expert inquiry into the 2019–20 bushfire season
-  **69.** Work with State Agencies and Local Government to develop a Place-based Transport Plan for Metro Wollongong
-  **70.** Work with State Agencies and Local Government to develop a Place-based Transport Plan for Nowra City Centre
-  **71.** Moss Vale to Unanderra Line and Coniston Junction Rail Improvements

4.1 In Delivery

Timeframe	Item	Initiative	Vision Themes	Responsibility
	1	16 Regional Cities Services Improvement Program - Nowra-Bomaderry	Adaptive and Sustainable, Connected	Own
	2	Albion Park Rail Bypass	Connected, Productive, Safe	Own
	3	More Trains, More Services Program	Adaptive and Sustainable, Connected	Own
	4	New Intercity Fleet	Connected, Liveable	Own
	5	New Regional Fleet Program	Connected, Liveable	Own
	6	Nowra Bridge Project	Connected, Productive, Safe	Own
	7	Princes Highway Upgrade - Berry to Bomaderry	Connected, Productive, Safe	Own
	8	Transport Access Program - Bellambi, Dapto, Towradgi and Unanderra Stations	Liveable	Own
	9	Transport Connected Bus (TCB) Program - Nowra-Bomaderry	Liveable	Own

4.2 In Planning

Timeframe	Item	Initiative	Vision Themes	Responsibility
Delivery to commence within 3 years	10	30 km/h Speed Limit Trial - Helensburgh	Liveable, Safe	Own
	11	Bulli Town Centre Improvements	Connected, Liveable, Safe	Own
	12	Mount Ousley Interchange	Connected, Productive, Safe	Own
	13	Princes Highway Upgrade - Jervis Bay Road Intersection	Connected, Productive, Safe	Own
	14	Princes Highway Upgrade - Jervis Bay Road to Sussex Inlet Road	Connected, Productive, Safe	Own
	15	Princes Highway Upgrade - Milton-Ulladulla Bypass	Connected, Productive, Safe	Own
	16	Thirroul Town Centre Improvements	Connected, Liveable, Safe	Own

Timeframe	Item	Initiative	Vision Themes	Responsibility
Delivery timeframe yet to be confirmed	17	Albion Park Town Centre Improvements	Connected, Liveable, Safe	Own
	18	Kiama to Bomaderry Project including additional platform at Bomaderry Station and new rail crossing loop at Toolijooa	Connected, Productive	Own
	19	M1 Princes Motorway Improvements between Figtree and Dapto	Connected, Productive, Safe	Own
	20	Mount Ousley Safety and Reliability Improvements	Connected, Productive, Safe	Own
	21	Moss Vale Road, Princes Highway and Cambewarra Road Intersection Improvements	Connected, Liveable, Safe	Own
	22	New Lake Entrance Road and Pioneer Drive Intersection Improvements	Connected, Liveable, Safe	Own
	23	Picton Road Upgrade	Connected, Productive, Safe	Own
	24	Princes Highway Upgrade - Burrill Lake to Batemans Bay	Connected, Productive, Safe	Own
	25	Work with DPIE, DRNSW and industry to develop an EV Fast Charging Network	Adaptive and Sustainable, Connected	Collaborate

4.3 For Investigation

Timeframe	Item	Initiative	Vision Themes	Responsibility
	26	30-minute public transport catchments for regionally significant growth areas	Adaptive and Sustainable, Connected, Liveable	Own
	27	30-minute public transport catchments for Shellharbour City Centre, Kiama and Milton-Ulladulla	Adaptive and Sustainable, Connected, Liveable	Own
	28	Appin Road Safety and Reliability Improvements	Connected, Productive, Safe	Own
	29	Bus Headstart Program for West Lake Illawarra and Nowra-Bomaderry Growth Areas	Adaptive and Sustainable, Connected, Liveable	Own
	30	Encourage Local Government to necessitate all new developments include provision of secure bicycle parking and end-of-trip facilities	Adaptive and Sustainable, Liveable	Influence
	31	Encourage Local Government to transition their fleet to electric or hybrid passenger vehicles	Adaptive and Sustainable	Influence
	32	Establish consistent public transport payment system across region	Connected, Liveable	Own
	33	Ensure rest stops are provided at intervals consistent with Austroads Guidelines	Productive, Safe	Own
	34	Establish guidance for roadside vegetation management to improve bushfire resilience	Resilient	Own
	35	High Occupancy Vehicle Lanes for Wollongong	Adaptive and Sustainable, Connected	Own
	36	HPV Access for MR92 Nerriga Road between Nowra and Braidwood	Connected, Productive	Own

Timeframe	Item	Initiative	Vision Themes	Responsibility
	37	Identify opportunities for expansion of C-ITS technology	Productive, Resilient, Safe	Own
	38	Identify opportunities for technology to improve heavy vehicle safety on Macquarie Pass	Productive, Resilient, Safe	Own
	39	Identify opportunities to implement 30 km/h Speed Zones	Liveable, Safe	Collaborate
	40	Illawarra Highway Safety and Reliability Improvements	Connected, Productive, Safe	Own
	41	Investigate improved bus services between Milton-Ulladulla and Nowra City Centre	Adaptive and Sustainable, Connected, Liveable	Own
	42	Investigate improved bus services between Campbelltown, Appin and Wollongong and Picton, Wilton and Wollongong	Adaptive and Sustainable, Connected	Own
	43	Investigate medium-term rail improvements between Bomaderry, Wollongong and Greater Sydney	Adaptive and Sustainable, Connected	Own
	44	Investigate opportunities for technology to support improved network resilience	Resilient	Own
	45	Investigate opportunities to safely accommodate micro-mobility transport options	Adaptive and Sustainable, Liveable, Safe	Own
	46	Lawrence Hargrave Drive/Princes Highway/Memorial Drive Safety and Reliability Improvements	Connected, Resilient, Safe	Own
	47	Maldon to Dombarton Line Completion	Connected, Productive	Own

Timeframe	Item	Initiative	Vision Themes	Responsibility
	48	Nowra Safety and Reliability Improvements	Adaptive and Sustainable, Liveable	Collaborate
	49	Outer Sydney Orbital 2 (OSO2) Project	Connected	Own
	50	Prepare Incident Response Plans to effectively respond to unplanned network disruptions	Resilient	Own
	51	Principal Bicycle Network (PBN) for Wollongong and Shellharbour	Adaptive and Sustainable, Liveable	Collaborate
	52	South Coast Line Electrification - Kiama to Bomaderry	Connected, Adaptive and Sustainable	Own
	53	Sydney to Bomaderry Fast Rail Improvements	Connected, Adaptive and Sustainable	Own
	54	Transition Transport for NSW passenger fleet to 70% low emission and 20% battery electric or hydrogen fuel cell vehicles by 2025	Adaptive and Sustainable	Own
	55	Transition Transport for NSW bus fleet to 100% zero emission buses (ZEB)	Adaptive and Sustainable	Own
	56	Trial on-demand transport services	Adaptive and Sustainable, Connected, Liveable	Own
	57	Wollongong Rapid Bus Package	Adaptive and Sustainable, Connected, Liveable	Own
	58	Work with community transport service providers to identify opportunities for integration with timetabled services	Adaptive and Sustainable, Connected, Liveable	Collaborate

Timeframe	Item	Initiative	Vision Themes	Responsibility
	59	Work with DPIE, Councils and Developers to support the delivery of State Infrastructure Contribution (SIC) funded transport infrastructure to support Regionally Significant Growth Areas	Adaptive and Sustainable, Connected, Liveable	Collaborate
	60	Work with DPIE, Councils and stakeholders to develop transport strategies for the Regionally Significant Growth Areas	Adaptive and Sustainable, Connected, Liveable	Own
	61	Work with DPIE, DRNSW and industry to develop a hydrogen refuelling station network to service the heavy vehicle sector	Adaptive and Sustainable, Productive	Collaborate
	62	Work with Local Government, DPIE and industry to ensure regionally significant growth areas support walking and cycle-friendly neighbourhoods	Liveable, Adaptive and Sustainable, Safe	Collaborate
	63	Work with Local Government, DPIE and industry to ensure significant places are supported with appropriate first and last mile freight solutions	Liveable, Productive	Collaborate
	64	Work with Local Government and DPIE to protect key freight corridors from incompatible land uses	Liveable, Productive	Influence
	65	Work with Local Government and industry to support provision of appropriate off-street loading facilities	Productive	Influence
	66	Work with Local Government to improve wayfinding information in the vicinity of key transport modes	Adaptive and Sustainable, Connected, Liveable	Collaborate

Timeframe	Item	Initiative	Vision Themes	Responsibility
	67	Work with NSW Department of Education, Catholic Schools NSW and Local Government to address barriers to walking and cycling to school	Adaptive and Sustainable, Safe	Collaborate
	68	Work with State Agencies, Local Government and stakeholders to implement the recommendations of the independent expert inquiry into the 2019-20 bushfire season	Resilient	Collaborate
	69	Work with State Agencies and Local Government to develop a Place-based Transport Plan for Metro Wollongong	Adaptive and Sustainable, Connected, Liveable, Productive, Safe	Collaborate
	70	Work with State Agencies and Local Government to develop a Place-based Transport Plan for Nowra City Centre	Adaptive and Sustainable, Connected, Liveable, Productive, Safe	Collaborate
	71	Moss Vale to Unanderra Line and Coniston Junction Rail Improvements	Connected, Productive	Own





Illawarra-Shoalhaven Regional Transport Plan

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