Transport
for NSW

NSW
GOVERNMENT

Draft Hunter Regional Transport Plan 2041

A 20 year vision

transport.nsw.gov.au

Acknowledgement of Country

Transport for NSW acknowledges and pays respect to the Traditional custodians of the lands of the First Nations people of the Newcastle area, the Awabakal people. Transport acknowledges the continuous deep relationship and connections by our First Nations people to their land, language, song, dance, art and story for tens of thousands of years and pays respect to the cultural values of the local Awabakal community and their families. Transport pays respect to the ancestors that defended, walked and managed these lands for many generations before us and who have left a legacy of strong culture, wisdom and knowledge embedded within Awabakal Country. Transport acknowledges Newcastle being the Capital and creative hub of the Hunter Region Awabakal Country.

The traditional Awabakal people are a group of First Nations people of New South Wales, located along the coastal area of Newcastle Hunter and Lake Macquarie region of New South Wales. In the Awabakal language, Awaba was the word used for Lake Macquarie, meaning flat or plain surface, and by extension referred to the First Nations people of that area. The Awabakal are bounded to the north–west by the Wonnarua, the Worimi and Guringai to the north–east, and the Darkinjung people to the south. Awaba is now the name of a small town in the region. Awabakal country extends from the Hunter River to the north, the Pacific Ocean in the east, Wollombi to the west and Lake Awaba/Lake Macquarie to the south, the largest saltwater lake systems in the east coast.

Connection to Country

The Hunter Regional Transport Plan 2041 geographical area includes the traditional homelands of the Awabakal, Biripi, Darkinjung, Geawegal, Guringai, Worimi, and Wonnarua First Nations people and remains their traditional lands today. The region also includes 12 Local Aboriginal Land Councils, Birpai, Bunyah, Darkinjung, Purfleet/Taree, Forster, Karuah, Wormi, Awabakal, Mindaribba, Biraban, Bahtabah, Wanaruah.

Between them they are major land holders, all specialising in their own crafts from resources from their Country, all with their own Country totems, skin totems and individual totems. They all have their own songs, dance, markings and story transmitting multi-sensory timely events and lessons on how to behave and survive, depicting caring for Country practises, creation stories and how to travel through Country. They have continued their connection to Country, to their ancestors, language, story and kinship.

The region is rich in diversity, abundance of seafood, flora and fauna and pristine land. The traditional custodians of these lands played a significant part in shaping the environment of their region. There is still evidence in the landscape today of cultural practices such as Firestick farming, ceremonies, buildings, fish traps, artefacts, cave art, scar trees and occupation and the many various forms of cultural practices which assisted in hunting, gathering and to navigate throughout Country. There are many significant cultural landscapes and important spiritual areas within the Hunter Region.

The Hunter Region is part of a major migration route for Aboriginal people travelling from the north to south and west. The routes are also part of ancient Song lines of epic mythological events that connect right across Australia. These travelling routes contain many layers of stories, they are physical, they are spoken to and sung to while travelling along these Songlines. Travelling from Mooney Mooney to Watagans to Mt Sugarloaf to Newcastle Foreshore down to Glenrock State Conservation area and Lake Macquarie. Mt Yengo to Wollombi to Milbrodale to Mt Wingen to Barrington Tops, Middle Brother Mountain and many, many more are just an example of some of the most significant spiritual areas for First Nations people, as they hold important cultural living values in terms of creation, ritual and ceremonial lore still practised today.

Transport acknowledges that many of the transport routes we use today were influenced by First Nations' pathways – from rail lines, to roads, to water crossings that follow the traditional Songlines, trade routes and ceremonial paths in Country that our First Nations people followed for tens of thousands of years. Awabakal nation is a strong and vibrant community that still maintains their custodian rights for speaking and caring for their Country.

Transport champions the NSW Government Ochre Initiative and the Connecting with Country approach to give effect to statutory objectives that require Aboriginal culture and heritage to be sustainably managed in the built environment. Using comprehensive and respectful approaches, planning for the Hunter Region can build capacity and pathways for knowledge sharing between Aboriginal and non-Aboriginal communities.

The Hunter Regional Transport Plan 2041 provides a shared vision for how the transport network, infrastructure and services will be managed and developed over time to realise community aspirations. Aboriginal people maintain a strong belief that if we care for Country, it will care for us. This requires Country to be cared for throughout the process of design and development.

Hunter wetlands
© Ray Kelly Jnr

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.

Contents

▲ Cover Image: Cyclists at Nobbys Beach. © Destination NSW.

◀ Hot air balloons over Pokolbin in the Hunter Valley.

Executive Summary

The Draft Hunter Regional Transport Plan 2041 (the Plan), supports **Future Transport 2056**, 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.

The Plan presents a transport vision for the Hunter, coordinating the key infrastructure, services and policy interventions to achieve the vision at a regional level. Key goals of the vision include:

- Proportionally more people living in the Hunter walk, cycle and use public transport
- More travel choices supporting vibrant and accessible centres to live, work and visit
- Improved multimodal connectivity between the Hunter, Central Coast and Greater Sydney
- Improved freight connectivity to accommodate more efficient vehicle combinations, embrace technology-driven solutions, and address first mile/last mile limitations
- Greater use of technology to support a safer, more efficient, and accessible transport network
- Reduced crash rates in-line with the 'Towards Zero' goal of zero fatalities and serious injuries on our roads by 2056

Newcastle Harbour Entrance.

By 2041, the population of the Hunter will have experienced a population increase of over 100,000 people, making it the most populous region in Regional NSW. Today the majority of the Hunter population choose to use private vehicles to travel, however changing community needs and attitudes will see alternative options become increasingly important.

The Hunter is the largest regional economy in Australia, contributing over $34 billion to the NSW economy and has the largest freight volumes in NSW. The expanding knowledge economy, diversification of Newcastle Port activities and creation of the Williamtown Special Activation Precinct will boost the growing economy. Investments to major freight routes including the M1 Pacific Motorway and the protection of the Lower Hunter Freight Corridor will support the growing freight task in the region.

Strategically improving connectivity within and beyond the region is critical to facilitating the economic growth and diversification of the Hunter Region.

The region's proximity to Greater Sydney with the addition of the Western Sydney International Airport, the continued use of Sydney Kingsford Smith Airport as well as the expansion of Newcastle Airport, will see tourist numbers to the region increase. Improved connectivity through advanced aerial mobility also has the potential to further connect the Hunter Region.

The roll out of the regional rail fleet, digital ticketing for all public transport services and real-time information will be required to provide a seamless experience for visitors throughout the region.

With electric vehicles forecast to reach upfront price parity with traditional combustion engine vehicles in Australia from 2024, there is a need to effectively plan and support the regional transition towards a low emissions future.

The plan has identified 94 initiatives that in combination will support the 2041 vision for the Hunter. These initiatives support the objectives staged over the next 20 years.

What does this Plan do?

A supporting plan of **Future Transport 2056**, the Draft Hunter Regional Transport Plan 2041 (the Plan) provides a vision-led blueprint for transforming the way people and goods travel within, to, from and through the Hunter Region over the next 20 years.

Focusing on the Hunter Region as a whole, the Plan presents the strategic framework for how Transport will proactively respond to anticipated changes in land use, population and travel demand across the region.

The Plan has been prepared concurrently with the Department of Planning and Environment's (DPE's) Draft **Hunter Regional Plan 2041**. It also aligns with DPE's **Greater Newcastle Metropolitan Plan** and Transport's **Greater Newcastle Future Transport Plan**.

To support the planned growth and wellbeing of local communities, businesses, and industries that rely on transport, the Plan responds to challenges and opportunities for the region by identifying initiatives for a safer, more efficient and accessible network for all users.

End of the M1 Motorway Black Hill.

Location to which the plan applies

This plan applies to the Hunter Region, which consists ten Local Government Areas including Cessnock, Dungog, Lake Macquarie, Maitland, Mid-Coast, Muswellbrook, Newcastle, Port Stephens, Singleton and Upper Hunter Shire.

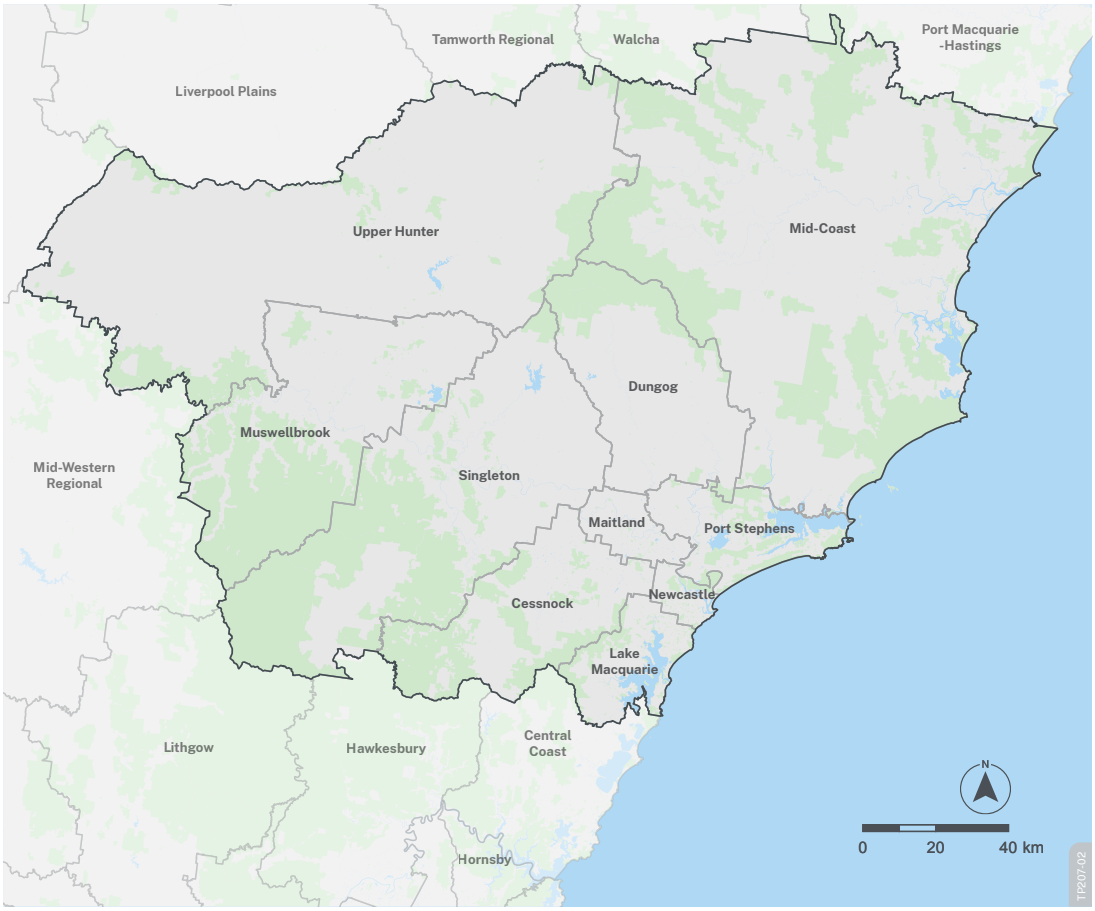


Figure 2: Local government areas of the Hunter region

How to read this plan

This Plan is vision-led and links regional challenges and opportunities through to initiatives needed to address them for the Hunter Region. This link is shown in Figure 3. The Vision, Themes, Objectives and Responses have been drafted to ensure that the Plan has the flexibility to adapt to the challenges as they change over time, while remaining consistent with the ultimate vision.

The 94 Initiatives are listed in the Action Plan. The Action Plan includes staged infrastructure commitments, upgrades, service, technology, and policy initiatives as a key focus in the first ten years of the Plan. The Initiatives are the stepping stones to achieving the transport vision for the Hunter Region and will be validated through Transport's investigation and prioritisation processes.

Furthermore, this Plan aligns with the NSW Government's Net Zero Plan Stage 1: 2020-2030 with the goal to reach net zero emissions by 2050 as well as the ambitious 'Towards Zero' goal of zero fatalities and serious injuries on our roads by 2056.

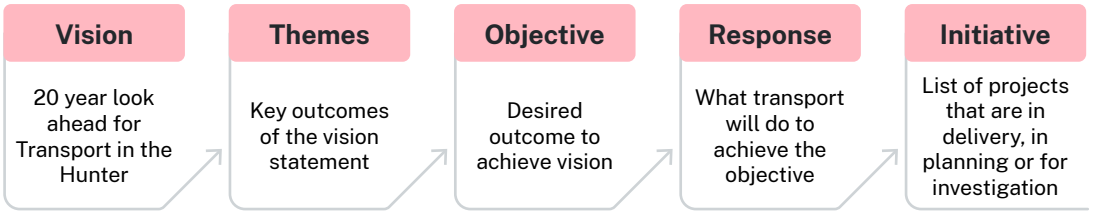


Figure 3: Initiatives steps diagram

Stakeholder engagement

Development of this Plan has been guided by formal engagement and workshops with key stakeholders to inform the transport vision, as well as identify key priorities for transport in the Hunter.

Stakeholders engaged during development of this Plan included representatives from all 10 Councils across the Hunter, Department of Planning and Environment, Department of Regional NSW, and the Hunter Joint Organisation.

Stakeholder engagement will continue during implementation of the initiatives and ongoing monitoring and review of the Plan.

Implementation, reporting and governance

Transport is responsible for the implementation and ongoing management of the Plan.

Collaborative partnerships will be established with key Government agencies, Local Government and industry to deliver on the plan. Transport will actively participate in the Hunter Urban Development Program and Place Delivery Groups.

Initiatives identified for investigation require further analysis in collaboration with key stakeholders to determine feasibility.

This Plan assumes initiatives and priorities will be scoped and funded through the standard business case and program delivery processes.

The Plan will be reviewed to reflect the changing region. Transport will report annually on initiative status and achievement against outcomes with a comprehensive review every five years.

▲ Customs House, Newcastle Harbour Foreshore.

The Hunter is the largest regional economy in Australia, contributing over $34 billion to the NSW economy

The Transport Challenge

The following five trends will reshape the transport needs of the Hunter over the next 20 years.

Coal Transportation by Rail

A growing and ageing population

The region is home to more than 759,000 people, making it the most populous area in Regional NSW. By 2041, the region's population is expected to increase by approximately 13 per cent to 863,000 people, with most of the growth expected to take place within the Newcastle, Lake Macquarie, Cessnock and Maitland LGAs as shown in Figure 4.

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 21 per cent in 2021, to 27 per cent in 2041. During this same period, the proportion of residents aged between 20 and 65 years of age is projected to decrease from 55 per cent in 2021 to 51 per cent. An ageing population will result in different mobility needs, demands, abilities and behaviours.

The region has a large Aboriginal and Torres Strait Islander population, with approximately 5.5 per cent of the population identifying as Aboriginal and/or Torres Strait Islander (compared to 3.4 per cent across NSW). This varies across the region from 3.6 per cent of the population in the City of Newcastle LGA up to 8.3 per cent in the Muswellbrook Shire LGA.

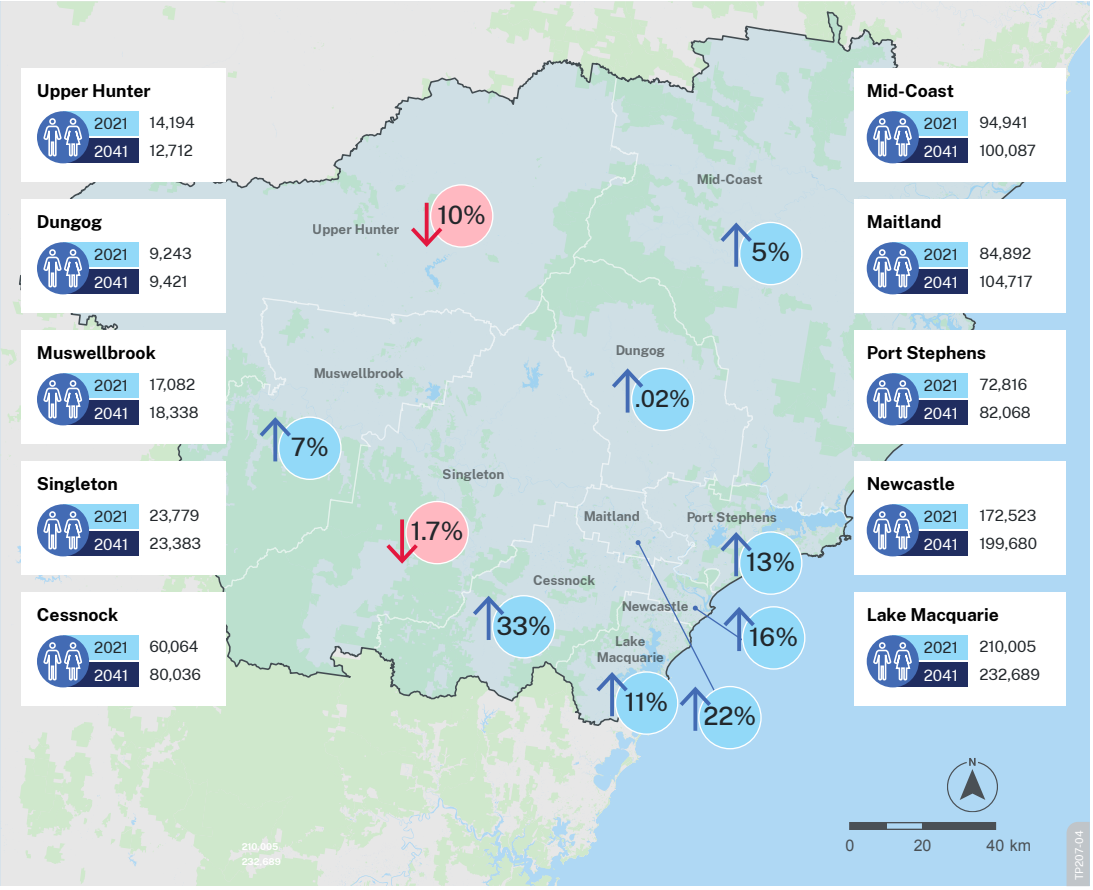
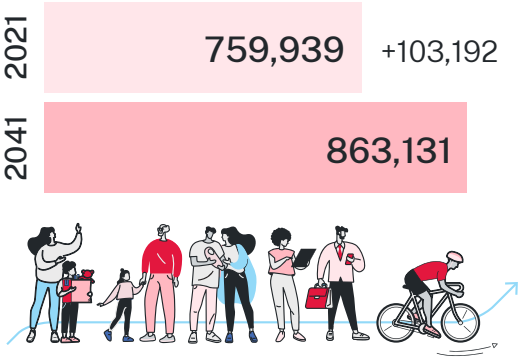


Figure 4: Projected population growth and demographic change between 2021 and 2041
Source: DPE projections 2021

Population increase by **13%** between now and **2041**



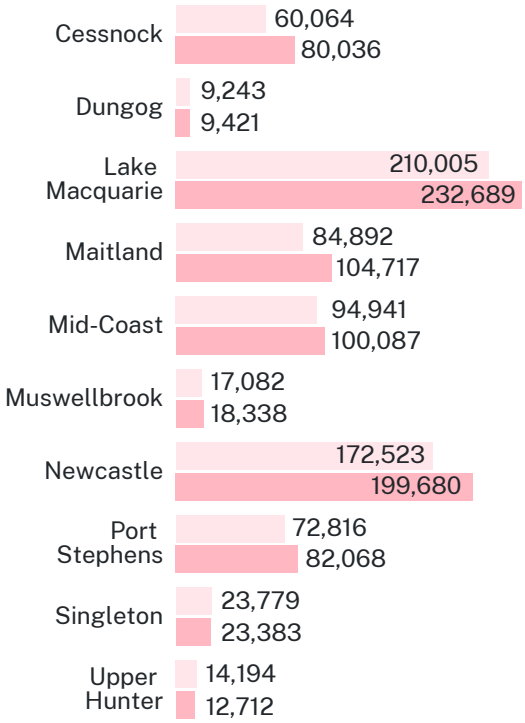


Figure 5: Projected population growth between 2021 and 2041

	2021	2041	
0–19	24% 183,439	22% 189,946	↘
20–64	55% 419,933	51% 444,854	↘
65+	21% 156,166	27% 228,332	↗

Figure 6: Projected demographic change between 2021 and 2041

Growing regional centres for housing and jobs

Newcastle City Centre is NSW's second largest city and is the metropolitan capital of the Hunter Region. The Newcastle economy supports an estimated 102,800 jobs and accounts for approximately 80 per cent of the Hunter Region's office space.[1]

The Hunter has several regional centres that provide important infrastructure and services: Taree, Foster-Tuncurry, Morisset, Maitland, Kurri Kurri, Cessnock, Singleton, Muswellbrook, Nelson Bay, Dungog, Scone and Raymond Terrace.

DPE's Draft **Hunter Regional Plan 2041** identifies a number of regionally significant areas for growth in housing and employment. These areas will be the basis for an integrated land-use and transport planning approach and collaboration between State Government agencies, local government and industry for the provision of coherent and placed-based transport services and infrastructure.

1 app.remplan.com.au/newcastle/economy/summary

One Mile Beach, Forster.
© Destination NSW.

The growth areas are:

Urban activation and employment	Morisset, Taree, Forster-Tuncurry, North-West Lake Macquarie, Broadmeadow, Kotara, Newcastle City Centre
Region shaping gateways and industry precincts	Hunter Expressway Corridor, National Pinch Point (including Beresfield, Black Hill), Williamtown, Newcastle Port, Tamago
Unique industry opportunities	Hunter Valley Viticulture Precincts, Liddell and Bayswater power stations, Scone Equine Precinct, John Hunter Hospital and Innovation Precinct, Callaghan, east Maitland

A diversifying and growing economy and the expanding freight task

The Hunter is the largest regional economy in Australia, contributing over $34 billion to the NSW economy.[2] The region provides 100 per cent of the aluminium production in NSW and contributes to 63 per cent of the state's coal production. In addition to commodities, the Hunter Region has large agricultural production industries including wine, and fresh produce as well as a strong tourism sector. The regional economy is growing and diversifying with an expanding knowledge economy and further growth of the health and education sectors. Diversification of Newcastle Port activities and creation of the Williamtown Special Activation Precinct will boost the growing economy.

2 investregional.nsw.gov.au/regions/hunter/

The Hunter Region has the largest freight volumes in NSW, with more than 170 million tonnes of freight moving in, out and within the region by road and rail in 2016. Key regional freight commodities include coal, general manufactures, construction materials and fuel. The rail network currently facilitates the transportation of most freight across the region, with 79.3 per cent of coal being transported by rail.[3]

Newcastle Port is a vital global gateway for exporting commodities to the world. It handles a significant amount of freight, particularly coal exports, and will continue to diversify its activities to adapt to changing global demands for commodities and resources into the future.

Federal Government funding for upgrades to the Newcastle Airport runway and other facilities will accommodate longer range domestic and international passenger services as well as significantly increased large freight capabilities. This will benefit local exporters and create significant economic potential for the Hunter Region. Adjacent to Newcastle Airport is the Williamtown Special Activation Precinct, a defence and aerospace hub that will boost the local economy and generate thousands of new jobs for the region.[4]

The use of emerging aviation technologies provides an opportunity to improve the last mile delivery process. Benefits of drone delivery are currently being tested but could include lower costs, higher operational efficiency, new revenue streams, fewer accidents and lower emissions.

Current forecasts suggest the regional freight task will increase approximately one per cent per annum over the next 20 years with an estimated 165 million tonnes by 2041, as shown in Figure 7. This growth will need to be accommodated and moved safely and efficiently on road, rail and air networks.

	2016	2041	2056	
Road (outbound)	20.5	26.5	32.4	↗
Road (inbound)	15.9	21.4	26.9	↗
Rail (outbound)	104.5	117.2	103.1	↗
Rail (inbound)	0	0	0	—
Total	140.9	165.1	162.4	↗

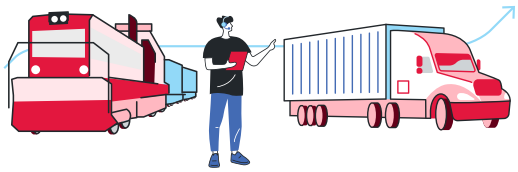


Figure 7: Freight forecasts for the Hunter, in millions of tons per year
Source: TfNSW Strategic Freight Forecasts 2021

The Strategic Statement on Coal Exploration and Mining in NSW sets out the government's balanced approach that allows NSW to continue to benefit from global demand for thermal coal in the medium term, while recognising that in the longer term the world is transitioning to a low carbon future. This approach will ensure regional communities have time to adapt to a decline in thermal coal mining in the long term. The Upper Hunter Economic Diversification Action Plan 2018 also provides a direction for sustainable economic transition incorporating economic diversification priorities.

3 Transport for NSW data 2021
4 nsw.gov.au/snowy-hydro-legacy-fund/special-activation-precincts/williamtown

Scenic mountain landscapes along Thunderbolts Way on the Barrington Coast.
© Destination NSW.

Transport will work closely with DPE to address the transition of existing transport corridors and infrastructure to support the needs of new and diversifying industries in keeping with the objectives of the Hunter Regional Transport Plan 2041. Strategically improving transport connectivity within and beyond the region is critical to facilitating the economic growth and diversification of the Hunter Region as its economy transitions to a low carbon future.

A destination of choice for tourists

The Hunter Region is a diverse tourism region with experiences that include cultural, leisure, food and wine, rural, nature and adventure. Tourism injects billions of dollars into the region annually with visitor numbers increasing over the last decade. The internationally renowned Hunter Valley, the Upper Hunter's acclaimed equine sector, the region's coastline and beaches as well as several national parks including Barrington Tops, are major attractions for tourists.

To effectively capitalise on domestic and international tourism, transport in the Hunter will need to adapt to peak holiday and event periods. Greater uptake of rail and bus by visitors will assist in mitigating road congestion.

The COVID-19 pandemic response restricted mobility and impacted on the visitor economy of the Hunter Region. Total domestic and international visitors in 2020 were down 36 per cent (year on year) at 8.5 million, and expenditure down 33 per cent at $2.1 billion. A quarter of this expenditure came from day trip travellers, with the majority of who (96 per cent) came via private vehicle adding to road congestion and presenting an opportunity for mode shift and travel behaviour change into the future.[5]

5 destinationnsw.com.au/wp-content/uploads/2021/05/hunter-visitor-profile-ye-dec-2020.pdf

Over the next year 20 years, the Hunter Region is forecast to be a popular destination for tourists. The Newcastle Airport expansion will support growing domestic and international tourism to the region, with forecast passenger movements through Newcastle Airport forecast to double by 2041.[6] Other airports in the region that will be upgraded to better serve the tourist industry include Cessnock and Scone airports. Improving public transport links to regional airports will help customers complete end to end multi-modal journeys and boost tourism to the region.

A low emissions future

Higher temperatures and major intense storm and rainfall events place considerable strain on the transport network, impacting 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 NSW.[7] To reach net zero emissions by 2050, it is acknowledged the transport sector will need to play a key role in the transition towards a low emissions future. Transport supports the NSW Government's goal to reach net zero emissions by 2050.

The NSW Government's $70 million hydrogen hub initiative is supporting the establishment and growth of hydrogen industries in NSW and is prioritising projects in the Hunter and Illawarra regions. Hydrogen hubs will help to reduce the cost of delivering hydrogen through providing common infrastructure for the local production, use and distribution of hydrogen.[8] It will also enable the uptake of hydrogen use for transport applications.

Why not business as usual?

Across the Hunter, the car is the dominant mode of travel with 91 per cent of commuter trips in the region made by private vehicle (Figure 8). Of those car-based commuter trips, 90 per cent are made within the region, resulting in increased congestion of local trips on the road network during peak periods.

The development of car dominant urban growth areas in the past has resulted in dispersed settlement patterns with high car dependency making these areas difficult to serve with public transport due to low density and dispersed trips. The integration of land use and transport planning will create opportunities to revitalise growth areas and centres and stimulate an increase in active and public transport across the Hunter Region.

Alternative choices for local trips will become increasingly important as the Hunter population grows. Providing multimodal travel options will help to support the regional community, in particular older people and youth. Shifting general behaviour away from relying on private car use can contribute to more sustainable travel and increased equity of access to jobs and services.

6 newcastleairport.com.au/media/1166/2036-newcastle-airport-vision.pdf
7 Net Zero Plan Stage 1: 2020-2030, NSW Government, March 2020, p.11
8 investregional.nsw.gov.au/news/hunter-hydrogen-hub/

Stockton Beach before sunset. Port Stephens, Anna Bay.

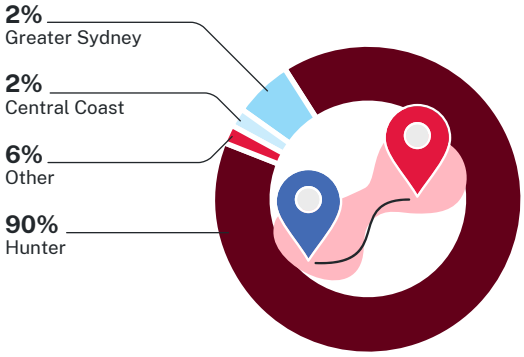


Figure 8: 2016 'Place of Work' and 'Journey-to-Work Mode Share' for the Hunter
Source: 2016 Census, Australian Bureau of Statistics

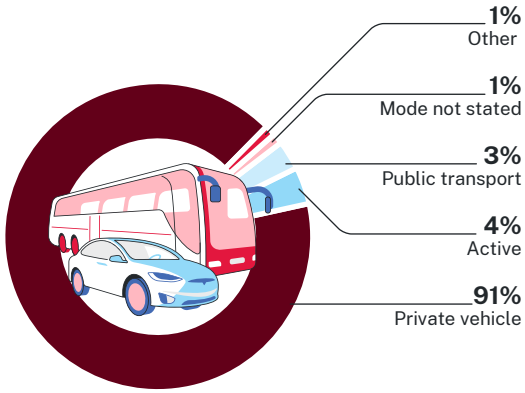


Figure 9: 2016 'Place of Work' and 'Journey-to-Work Mode Share' for the Hunter
Source: 2016 Census, Australian Bureau of Statistics

The Plan aims to proactively respond to anticipated changes in land use, population and travel demand, the 'vision and validate' approach recognises that continuing to accept current travel behaviours, in particular high levels of private car use, is ultimately unsustainable and unlikely to achieve the vision. The approach assumes that existing behaviours and trends will change over time and should not dictate future transport choices.

In addition to these trends, a range of regional opportunities have been identified which have been grouped into the following areas:

- Transport leadership – planning effective ways of delivering improved transport outcomes, better use of existing infrastructure and understanding place
- Supporting planned growth, Special Activation Precincts economic catalyst areas and regional tourism
- Improving rail services and infrastructure to meet the needs of our customers including faster rail to Central Coast and Sydney

- Making roads more efficient and responsive to place for all users
- Improving bus (and coach) services and infrastructure
- Planning for and improving active transport networks and integration into the transport network
- Investigating potential extension of the Stockton Ferry Service
- Improving public transport operations for key centres through integrated network
- Investigate and plan for the potential future extension of Newcastle Light Rail
- Embracing technology to improve transport solutions
- Making our roads safer including improving star rating or safe system alignment for road upgrades
- Improving waterways to be safe and accessible to recreational and commercial needs
- Improving access for our disadvantaged communities
- Addressing the access needs for an aging population
- Addressing the needs of regional youth and the role transport plays in social connection including providing access to entertainment, recreation and educational services
- Respecting Aboriginal culture and heritage
- Reducing emissions moving towards sustainable transport options
- Improving and protecting key freight corridors

Manning River, Cundletown.

The Transport Opportunity

Enabling great places and lifestyles in the Hunter Region with sustainable and integrated transport solutions and strengthening connections to its strategic centres, centres of local significance and the connections beyond the region.

A Transport vision for the Hunter

By 2041, the Hunter will be very different from the region we see today. The region will be well-connected by a safe, efficient, sustainable and reliable network of integrated transport services and infrastructure.

An improved and adaptive transport offering will provide vibrant and accessible centres and towns to live, work and visit. This will result in an increased number of trips in the Hunter made by walking, cycling or public transport leading to vibrant places and healthy communities.

Transport and land use will be integrated and balance the movement of people with the Hunter regional outcomes, contributing to better places and improving public transport attractiveness.

Crossing the Morpeth Bridge.
© Destination NSW.

Greater Newcastle will have emerged as one of Australia's most dynamic and vibrant metropolitan cities and centres like Taree, Foster-Tuncurry, Morisset, Maitland, Kurri Kurri, Cessnock, Singleton, Muswellbrook, Nelson Bay, Dungog, Scone and Raymond Terrace will be vibrant, connected places. Centres across the region will embrace the 15-minute neighbourhood planning principle where people regularly choose to walk, cycle or take public transport to shops, services, schools or work. Rural centres and towns throughout the region will be supported by improved multimodal transport services making them attractive and liveable for residents while preserving and enhancing the local character. Transport services in the Hunter will recognise and respond to the diversity across the region including the different communities, industries and landscapes.

Connections to the region will be improved with faster rail services between the Hunter, Central Coast and Greater Sydney as well as road upgrades to facilitate safer connections and improved efficiency, reliability and capacity for passenger and freight customers. The introduction of the regional rail fleet will make travel into the region more efficient, reliable, comfortable and safe.

On-demand transport, point-to-point services and the evolving micromobility transport sector will complement traditional, timetabled public transport services to provide customers with more travel choices, at times of their choosing, providing a realistic alternative to the private vehicle for more trips.

Innovation in future aviation technologies will provide fast, sustainable and affordable air travel to many regional communities providing greater connectivity with other regions and the metropolitan areas of Newcastle and Sydney.

The Hunter Region will continue to be a destination of choice for visitors with the upgraded Newcastle Airport, improved road network and public transport services as well as integrated walking and cycling connections allowing visitors to easily explore the region.

The region's productivity is supported by integrated transport infrastructure and services that connect residents with jobs, education, leisure and health ensuring the continued growth and diversification of sectors across the region.

Diversification of Newcastle Port activities and creation of the Williamtown Special Activation Precinct will boost the growing economy. Improved regional connectivity will enable economic diversification that includes an expanding knowledge economy and further growth of the health and education sectors.

Supporting road and rail networks will be enhanced to accommodate more efficient vehicle combinations, embrace technology-driven solutions, and address first mile/last mile freight delivery limitations through collaborative partnerships between all levels of government and industry representatives.

The planned protection of a Lower Hunter Freight Corridor will provide for a dedicated freight rail bypass of the Newcastle passenger rail system, which will free up space for more passenger services and allow freight to flow seamlessly to, through and beyond the region.

With the creation of a hydrogen hub and Renewable Energy Zone (REZ), the region will be well on the way to a low emissions future.

Singleton railway bypass.

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. Advances in hydrogen fuel cell technology will address range anxiety for long haul transport, particularly for the road and rail freight sector.

Innovation and advances in technology will continue to deliver improved customer outcomes by enabling new and more personalised mobility solutions. The wider distribution of 'real-time' information will support informed decision-making, improve safety, and create greater network resilience and freight efficiencies.

Road networks will be more efficient and responsive to place and the needs of all users. There will be a continued focus on improving road safety outcomes in line with the 'Towards Zero' goal of zero fatalities and serious injuries on our roads by 2056. Reviewing speed limits to achieve improved safety outcomes that also align with the road environment and land use will create a safer environment for all road users across the Hunter.

Finally, climate and hazard resilience will be built into the network's infrastructure supported by adaptive management strategies that maintain emergency access along key routes and bring the network back on-line quickly following planned and unplanned disruption.

Achieving the Vision

In response to issues and opportunities facing the future transport needs of the Hunter, key objectives and initiatives have been identified to achieve the vision and support the Plan's following six Directions:

- **Connected** – a transport network that facilitates seamless, multimodal connectivity between where people live, work and play
- **Safe** – a transport network that delivers a safer future for the Hunter
- **Liveable** – a transport network that supports places while enabling the successful movement of people to access jobs, services and social opportunities regardless of age, ability and income

- **Sustainable** – a transport network that 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 and people to support economic growth for the Hunter
- **Resilient** – a transport network that is resilient to major disruptions associated with natural disasters, climate change and planned and unplanned events

The Directions are discussed in the following sections of the Plan.

Figure 10: Map of the North Coast regional public transport network

Connected

A transport network that facilitates seamless, multimodal connectivity between where people live, work and play.

Improved multimodal connectivity between and within key centres, and beyond the region is key to delivering the vision. Providing greater multimodal choice increases the number of destinations people can access by public transport regardless of age, ability and income.

This Plan nominates the following objectives to help improve connectivity across the Hunter.

Objective 1 – Improve connectivity between key centres and towns within the region

Objective 2 – Improve multimodal connectivity beyond the region

Objective 3 – Support and improve local connectivity within centres

Objective 1 – Improve connectivity between key centres and towns within the region

Improved connectivity with competitive and comfortable transport will be key to making public transport an attractive and viable alternative to the private vehicle. Further improvements to road infrastructure will enhance the safety and efficiency of road travel for people and freight across the region.

The network, shown in Figure 11, provides a 'hub and spoke framework' for the Hunter providing connections radiating from catchment areas of the region's centres and towns which serve as hubs for employment and services. The focus for smaller communities within each catchment will be improving connections to their nearest hub.

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, or air – radiating out from centres and towns ('hubs') and how they interact with each other.

To achieve this objective Transport will:

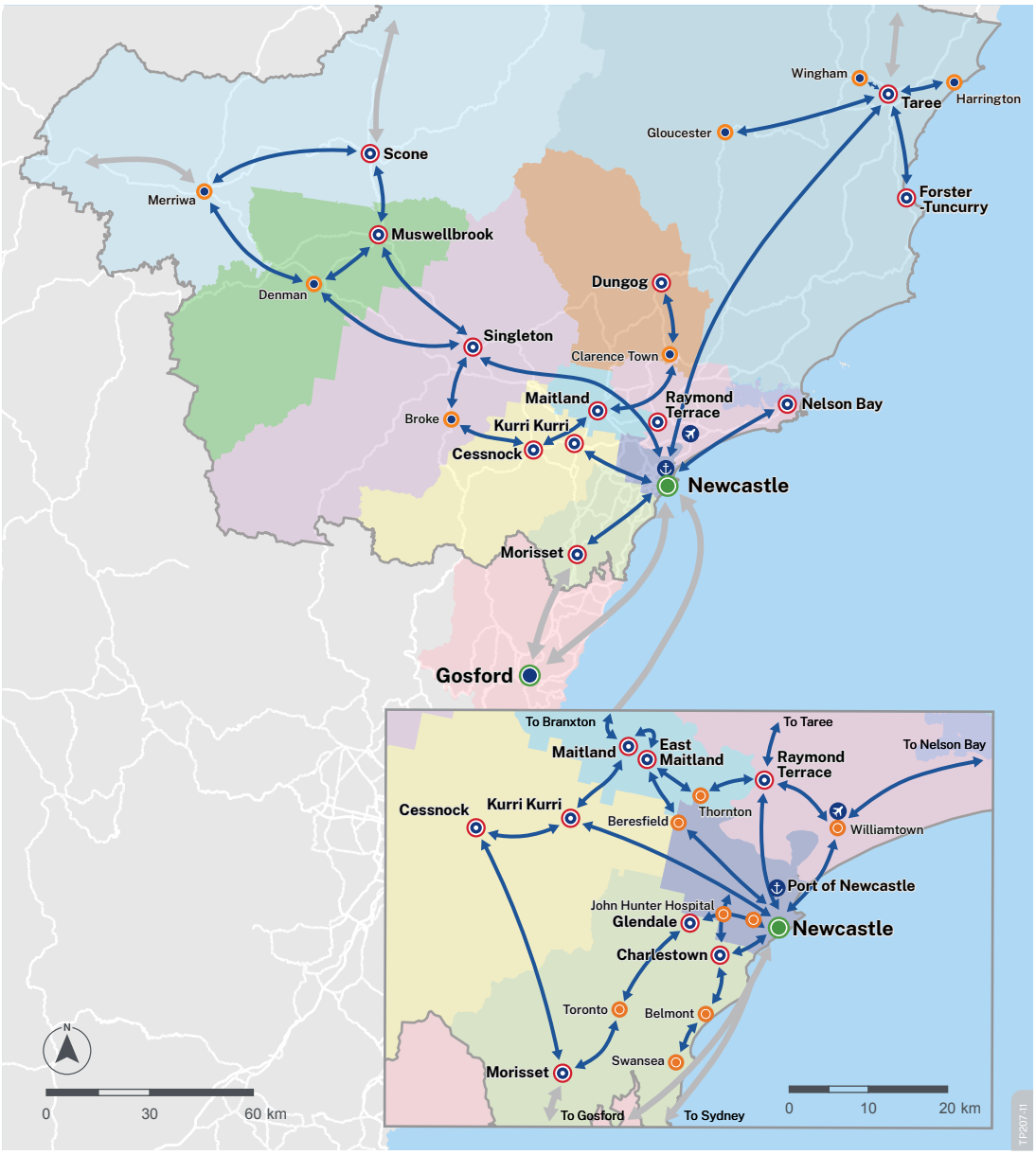
- Plan for infrastructure improvements on major regional corridors
- Transport will investigate day return public transport services between key centres and towns within the region based on population growth
- Collaborate with DPE and Councils to ensure an integrated approach to land use and transport infrastructure

Plan for infrastructure improvements on major regional corridors

The introduction of the Mariyung Fleet and Regional Rail fleet will make rail travel to, through and from the Hunter more comfortable, accessible, and seamless. Improved rail services and infrastructure has potential to improve regional economic development opportunities and metropolitan style operations for Newcastle.

Faster and more customer-focused connections will complement the future Fast Rail network. Fast Rail is currently being investigated along four key corridors linking Sydney to Newcastle and Port Macquarie, the Shoalhaven, Central West and Canberra. In addition to improving inter-regional connectivity into Sydney, a key benefit of the Fast Rail network will be significant improvements in regional connectivity along these corridors, providing centres

such as Gosford and Newcastle higher order connections to other centres. Fast Rail improvements will also present opportunities to improve the existing heavy rail network, allowing services in these regions to improve time of day servicing and frequencies.



KEY

- Metropolitan centre
- Metropolitan city
- Strategic centre
- Town centre
- Significant precinct
- Hunter region

Spokes

- Key spokes
- Cross regional links

Figure 11: Hub and Spoke Network for the Hunter

Transport is planning bus and coach service and network improvements to enable faster trips along key corridors. This will include a rapid bus network along key corridors to improve access to destinations such as Newcastle Airport. These services will, enhance the attractiveness of public transport as a viable alternative.

Transport will investigate the extension of the ferry service between Stockton and Queens Wharf to allow customers to transfer at Newcastle Interchange, improving connectivity for customers wanting to transfer to complete their journey and providing easier access to more destinations.

Additionally, Transport will investigate a bus head start program for the Greater Newcastle area. The program will look to identify opportunities for additional bus services to encourage public transport use between new growth areas and their nearest strategic centres and transport hubs.

Transport will prioritise rapid transport solutions on key corridors between key centres, towns, and other key destinations. New multimodal connections from key centres to and from Newcastle will also be investigated.

Road improvements will improve travel time reliability and safety as Transport delivers several improvements on major regional corridors including the Golden Highway, New England Highway and the M1 Pacific Motorway.

Transport will investigate day return public transport services between key centres and towns within the region based on population growth

The rail network in the Hunter will work towards a combination of intercity, regional and fast rail services, with bus and coach networks to provide seamless day return, end-to-end journeys for customers.

Collaborate with DPE and Councils to ensure an integrated approach to land use and transport infrastructure

Transport will work with State Government agencies and local councils to ensure appropriate transport infrastructure is provided to service the area's transport needs when new development is undertaken. This will ensure that sustainable travel behaviour in growth areas can be supported. Public transport use between new growth areas and their nearest strategic centres will be prioritised and encouraged.

Transport will continue to actively participate in the Hunter Urban Development Program Committee as well as Place Delivery Groups to assist infrastructure coordination in the Hunter Region.

Newcastle Train Customers.
© Simon Freeman.


Newcastle Interchange
Easy access gate
Platforms
Easy access gate
Which platform?
60

Objective 2 – Improve multimodal connectivity beyond the region

Hunter residents commute and travel beyond the region to Greater Sydney, Central Coast, Central West and Orana, New England, North West and North Coast, as shown in Figure 12. Travel for work and leisure relies on multimodal connections beyond the Hunter Region.

Transport is investigating connections which will improve connectivity to and between the key NSW gateways including Newcastle and Sydney. Better transport infrastructure and services will support greater business activity, a wider labour market and improved lifestyles.

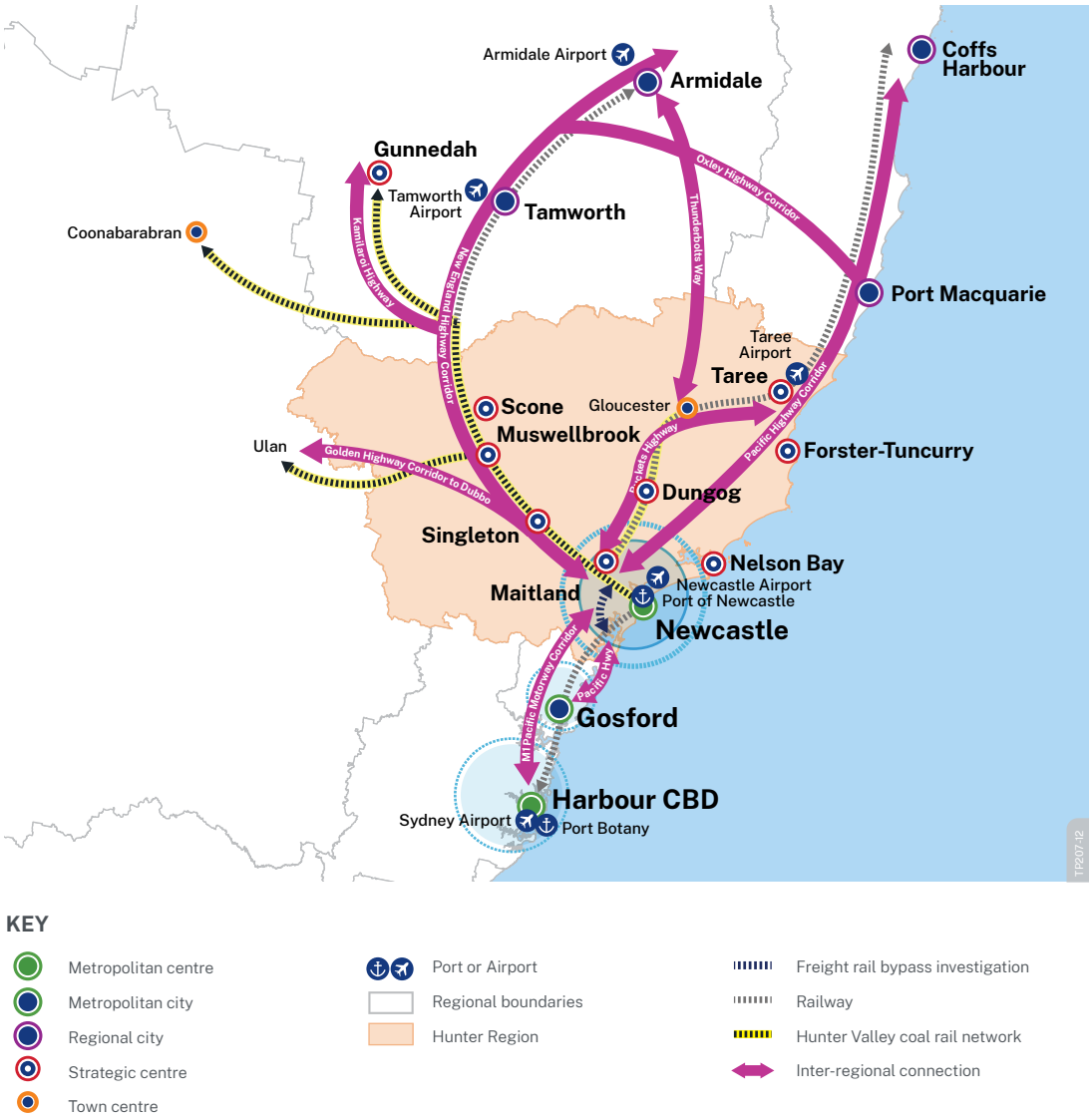


Figure 12: Inter-regional connections

Light rail stopped at the Civic Station, in front of New Space, University of Newcastle

To achieve this objective Transport will:

- Improve connectivity between Greater Sydney and the Hunter for people and freight
- Support the Fast Rail Strategy delivery through infrastructure and service changes
- Leverage the NSW Regional Rail Fleet to improve regional travel for the Hunter
- Support interregional and national linkages to improve the movement of people and goods into, out of and through the Hunter
- Integrate air transport services into the hub and spoke model for the Hunter

Improve connectivity between Greater Sydney and the Hunter for people and freight

Around 70,000 light and heavy vehicles travel along the corridor between the Hunter, Central Coast and Sydney each day on the M1 Pacific Motorway.[9] Transport will investigate the development of an integrated transport network for key centres in the Hunter including a holistic review of all transport services in the region. Connecting the Hunter to Greater Sydney and the Central Coast is a key link for people as well as freight.

Transport will work with State Government agencies, local government and industry to investigate opportunities to improve freight infrastructure linkages between the Inland Rail project and Hunter Region export facilities.

9 roads-waterways.transport.nsw.gov.au/projects/m1-pacific-motorway/index.html

Support the Fast Rail Strategy delivery through infrastructure and service changes

Transport is currently investigating Fast Rail linking Sydney to Gosford and Newcastle.

Transport will also explore opportunities to improve regional rail services to key centres outside of the Hunter Region. These include the daily Sydney to Grafton and Sydney to Armidale services.

Leverage the NSW Regional Rail Fleet to improve regional travel for the Hunter

The NSW Regional Rail Fleet will replace the ageing XPT, XPLORER and Endeavour trains. The new trains will improve safety, accessibility and reliability for customers travelling in regional NSW. The first trains will run from 2023, with the full fleet coming into service progressively including on the Central Coast and Newcastle Line.

Transport is also delivering a new state-of-the-art fleet of intercity trains, the Mariyung, that will provide a new level of comfort and convenience for travel between Greater Sydney and Newcastle.

Figure 13: Artist's impression of external view of the Mariyung Fleet train

Support interregional and national linkages to improve the movement of people and goods into, out of and through the Hunter

Key infrastructure proposals that will support inter-regional linkages include the Lower Hunter Freight Corridor and M1 to Raymond Terrace extension which includes a 2.6 kilometre bridge over the New England Highway and Hunter River.

Transport has been trialling weekly return coach services to better understand customer needs. Since 2020, Transport has operated weekly return coach service between Forster and Coffs Harbour. The coach service, which includes stops at Taree, Port Macquarie, Kempsey, Macksville and Nambucca Heads, provides a convenient connection to Coffs Harbour for work, medical appointments and

shopping with the option to return on the same day. Transport will look to identify opportunities for additional day return services in the Hunter.

Integrate air transport services into the hub and spoke model for the Hunter

Emerging aviation technologies such as electric aircraft and eVTOL represent the expansion of air travel and potentially a new mode of transportation that combines the speed and comfort of air travel with the low cost typically associated with ground transportation options.

Regionally based airlines will be able to utilise this new technology to grow their services and expand into previously unserved communities. The Hunter is well positioned with existing airport infrastructure, an established tourism industry and a growing population to leverage off this new technology to improve overall connectivity to the region. Transport will look to better integrate airports in the Hunter into the hub and spoke model to support greater connectivity.

Objective 3 – Support and improve local connectivity within centres

Over the next 20 years, Transport is committed to improving public transport journey times, frequencies, and service catchments within centres to ensure public transport becomes a viable option for more areas, more often across the Hunter.

To achieve this objective Transport will:

- Make public and active transport attractive and viable for local trips
- Optimise movement for people walking and cycling within centres and precincts in the Hunter
- Support trials and testing of Connected and Automatic Vehicles (CAVs) and smart infrastructure in the Hunter

Make public and active transport attractive and viable for local trips

Transport will seek to improve local connectivity by expanding the active transport network in regional centres, encouraging walking and cycling for short trips within centres. Improved cycling networks in regional centres will improve cycling safety. In the Hunter, this is particularly important in towns where active transport interacts with major highways and rail corridors.

The Newcastle Light Rail has improved connectivity by providing a high capacity, frequent and reliable service through the city centre. The route connects activity precincts from Newcastle Beach to Newcastle Interchange in Wickham. Transport is exploring a future extension of the Newcastle Light Rail west to Broadmeadow and beyond, including the need for corridor protection.

Optimise movement for people walking and cycling within centres and precincts in the Hunter

Safe and integrated walking and cycling connections will further encourage well connected and healthier communities and support the 15-minute neighbourhood principle. Transport will partner with local Councils to improve active transport connections and is currently working with Newcastle and Lake Macquarie councils to develop a connected cycleway network. Additionally, Transport will collaborate and support local councils to integrate first and last mile active travel connections in the planning of new developments in centres.

The Newcastle Inner City Bypass is a project that will provide an orbital road to improve connectivity between the Pacific Highway at Bennetts Green and the Pacific Highway at Sandgate. The project will provide off-road provisions for pedestrians and cyclists between Rankin Park and Jesmond, including a shared path bridge over Newcastle Road at Jesmond. Once complete, the bypass will provide improved traffic flow and connectivity to Charlestown and Jesmond shopping centres, the John Hunter Hospital Precinct and the University of Newcastle at Callahan with connections to the Pacific Highway. The final section of the bypass between Rankin Park and Jesmond is underway and is expected to be completed in late 2025.

The Transport Road User Space Allocation Policy, published in 2021, requires Transport to allocate road user space safely and appropriately to support the movement of people and goods that responds to local context. The policy prioritises active and public transport (and freight) ahead of private cars. Transport will continue to apply the requirements of the policy and will work with councils and developers to ensure that it is applied throughout the region.

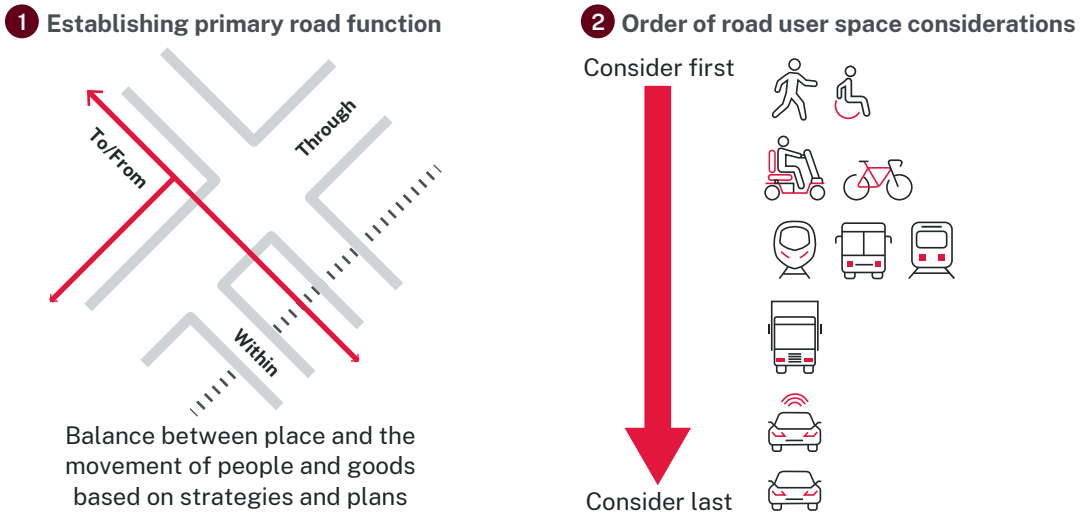


Figure 13: Road user space allocation

Support trials and testing of Connected and Automatic Vehicles (CAVs) and smart infrastructure in the Hunter

In July 2020 for three months, a driverless passenger shuttle trial was held in Newcastle. The purpose of the trial was to assess how shuttles could contribute to the first/last mile of a fully integrated mass transit solution. Transport is committed to extending the trials and testing of connected and automatic vehicles (CAVs) in regional NSW and will identify opportunities to use smart infrastructure on major road corridors to accelerate CAVs use.

Fig 14: Driverless passenger shuttle in Newcastle. Credit: Keolis Downer Hunter

Safe

A transport network that delivers a safer future for the Hunter

The NSW Government is adopting the internationally recognised safe systems approach to transport safety. This approach recognises that responsibility for reducing risk is shared by users and those who design, maintain and regulate the transport network. It acknowledges that people make mistakes and machines can fail and assists us to reduce both the risk of incidents and the consequences when they occur.

A safe transport system has important benefits to the overall performance of the network by minimising disruptions caused by incidents, improving the wellbeing of the broader community, and protecting people who operate and maintain services.

There are several guiding principles to the safe systems approach:

- all parts of the system must be strengthened so if one part fails, transport users are still protected
- the transport system must be designed to account for human error
- the human body has limited ability to tolerate crash forces
- transport planners, designers and users must all contribute towards the zero trauma vision

Safety is also a crucial element to encourage greater uptake of walking and cycling around public transport hubs. Figure 15 shows the number of fatal and serious injury crashes in the Hunter over the last six years have fluctuated.

Traveling along the New England Highway.

	2015	2016	2017	2018	2019	2020
Cessnock	3	3	4	3	1	6
	49	67	43	44	41	42
Dungog	0	2	2	0	0	0
	9	8	10	16	10	9
Lake Macquarie	11	9	13	6	8	6
	116	108	100	102	92	116
Maitland	3	2	2	1	3	2
	33	35	27	20	26	29
Mid-Coast	5	12	14	7	9	3
	67	79	57	89	70	65
Muswellbrook	2	1	4	4	1	2
	4	21	12	8	11	8
Newcastle	5	10	4	3	7	3
	99	116	96	90	88	77
Port Stephens	3	9	4	7	8	4
	47	37	54	53	43	35
Singleton	8	4	8	3	7	2
	28	25	22	24	24	25
Upper Hunter	0	2	4	4	0	1
	12	18	9	16	10	14
Total	40	54	59	38	44	29
	464	514	430	462	415	420

Fatal crashes

Serious crashes

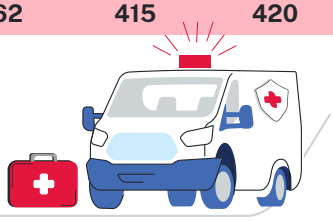


Figure 15: Fatal and Serious Injury Crash totals for the Hunter 2015-2020
Source: Transport for NSW 2021

This Plan nominates the following objectives to help improve safety across the Hunter.

Objective 4 – Proactively address road safety deficiencies and high-risk sections on the road network and address crash clusters across the Hunter

Objective 5 – Target appropriate and integrated speed zones for improved safety outcomes for all customers

Objective 6 – Utilise technology to improve safety outcomes

Objective 7 – Improve safety along the waterways in the Hunter

Objective 4 – Proactively address road safety deficiencies and high-risk sections on the road network and address crash clusters across the Hunter

NSW has set a target of zero trauma on the transport system by 2056, committing to significant reductions in absolute and per capita rates of trauma across our transport services. Achieving our safety vision will require a mix of targeted and proven initiatives that consider how people, vehicles, infrastructure and technology work together to create a safe system now and into the future.

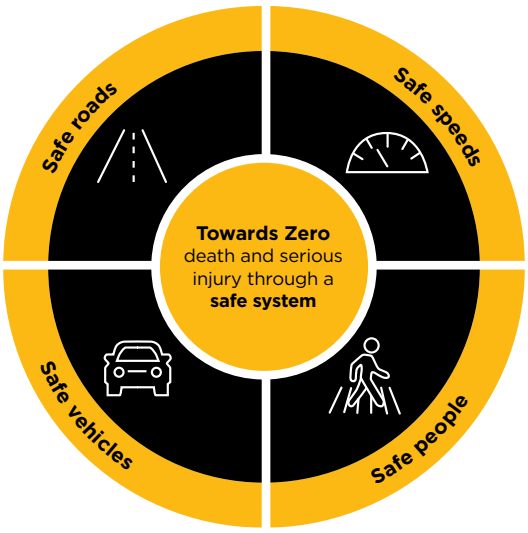


Figure 16: The Safe System Approach

To achieve this objective Transport will:

- Apply the Safe System approach to road safety to proactively move the Hunter 'Towards Zero'
- Utilise the Saving Lives on Country Roads (SLCR) initiative to proactively support a safer road network across the Hunter
- Provide additional rest stop facilities to ensure facilities are provided at appropriate intervals
- Implement targeted improvements through the Hunter to reduce crash clusters and deliver sustainable and long-term reductions in road trauma
- Deliver public awareness and education campaigns to support the proactive approach to road safety

Apply the Safe System approach to road safety to proactively move the Hunter 'Towards Zero'

Work is being carried out to integrate Safe Systems Assessment principles and treatments within the Movement and Place Framework to cater for all road users. This is particularly important for places and streets where greater numbers of pedestrians and cyclists gather.

The Road Safety Plan 2021, a key supporting plan of **Future Transport 2056**, highlights the priority areas, actions and initiatives required to help NSW achieve the ambitious 'Towards Zero' goal of zero fatalities and serious injuries on our roads and waterways by 2056.

A section of the Hunter Expressway, near Kurri Kurri.

Utilise the Saving Lives on Country Roads (SLCR) initiative to proactively support a safer road network across the Hunter

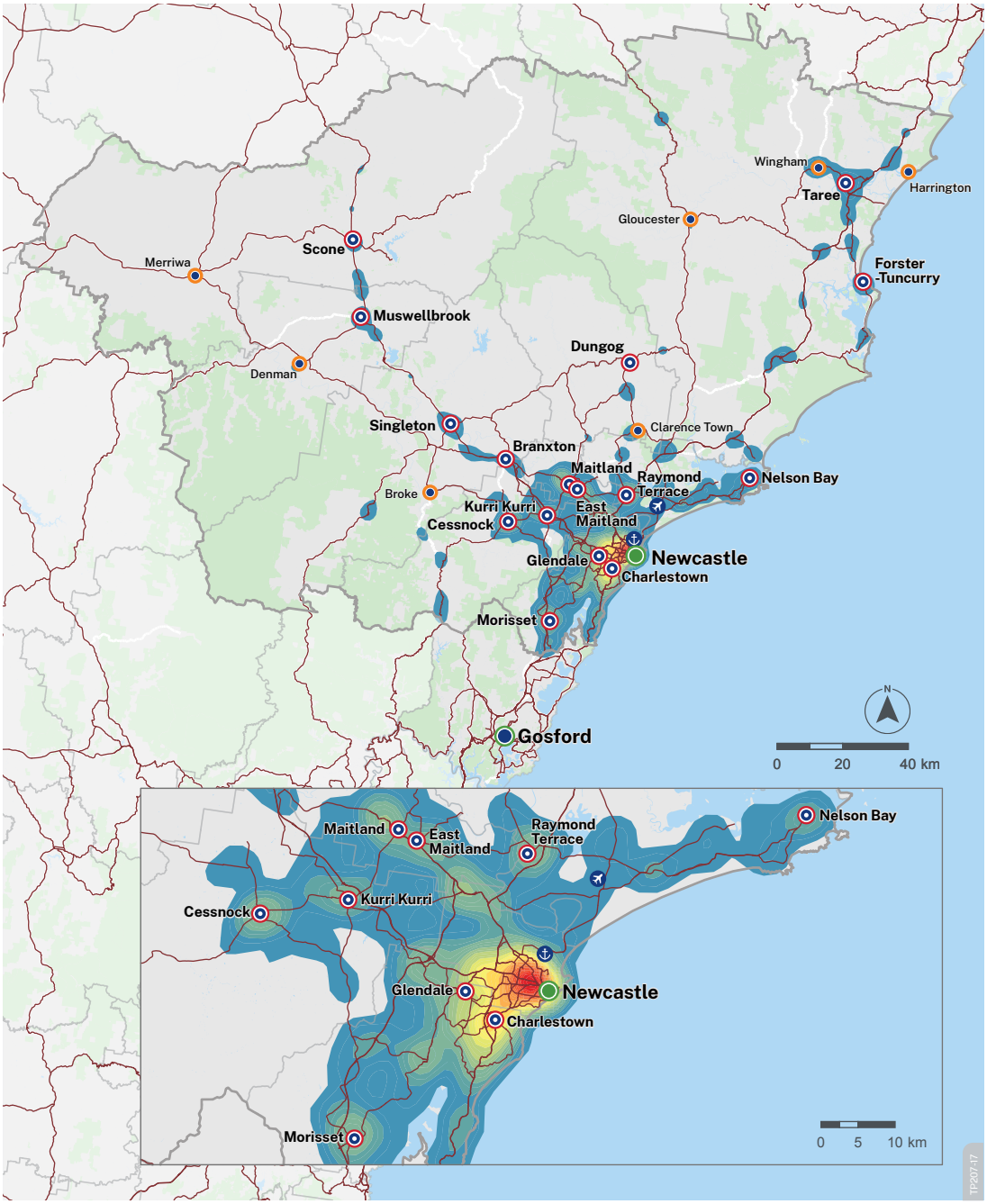
Transport will continue to utilise the Saving Lives on Country Roads (SLCR) initiative to proactively support a safer road network across the Hunter. The initiative is designed to address two key contributors to road fatalities and serious injuries on country roads – high-risk curves and driver fatigue. A complete list of our current projects both in delivery and in planning can be found at towardszero.nsw.gov.au/safesystem/safe-roads.

Provide additional rest stop facilities to ensure facilities are provided at appropriate intervals

Transport will take a network approach when planning for additional rest stop facilities ensuring formal rest facilities are provided at appropriate intervals and comply with the Austroads Guidelines for the Provision of Heavy Vehicle Rest Area Facilities (Austroads, 2019) for all State Roads across the Hunter. Transport is addressing the need of heavy vehicle operators by identifying opportunities to improve access to amenities, food, services as well as the considering the future needs of the heavy vehicle fleet.

While Transport will take a proactive approach to road safety where possible, there will still be an ongoing need to resolve crash clusters and priority sites across the region. For the Hunter, Figure 17 shows the highest concentration of crashes recorded between 2015 and 2020 occurred in inner Newcastle.

Hunter Region FSI crash concentration 2016-2020



KEY

- Metropolitan centre
- Metropolitan city
- Strategic centre
- Town centre
- Hunter region
- Local government areas
- Roads
- State roads

FSI Crash Concentration 2016–2020

Low — High

Figure 17: Fatal and Serious Injury (FSI) Crash Concentration 2016–2020

Implement targeted improvements through the Hunter to reduce crash clusters and deliver sustainable and long-term reductions in road trauma

Through the Safer Roads Program, Transport will continue to work with local government to resolve crash clusters and priority sites across the Hunter to deliver sustainable and long-term reductions in road trauma. The NSW Government is funding a package of upgrades along the Golden Highway, an important connection between the Central West and Hunter regions. The upgrades include road rebuilding, shoulder widening, new overtaking lanes and intersection improvements. In addition, the Federal Government will inject $3.5 million (2021/22 financial year) as part of the Black Spot Program.

A number of behavioural factors can be attributed to fatal and serious injury crashes. Across NSW, speeding is a factor in 42 per cent of fatalities, followed by fatigue in 18 per cent of fatalities. Transport currently has several projects and campaigns underway or planned in the Hunter to address behavioural issues as part of the 'Towards Zero' vision.

Audio tactile line marking (ATLM), which provides a noise (audio) and vibratory (tactile) warning to road users is being rolled out across the region. The purpose of ATLM is to reduce 'run-off-road' or cross carriageway crashes as a result of fatigue or poor visibility due to rain or fog. ATLM is currently being installed on targeted sections of the New England Highway, The Lakes Way and John Renshaw Drive, with this treatment known to reduce targeted crashes by 25 per cent.

Aboriginal people are over-represented in serious road trauma in NSW. A key commitment under the NSW Road Safety Strategy is to improve the safety of Aboriginal people on our roads through a range of actions that will reduce the risk and severity of crashes faced by Aboriginal people on NSW roads.

Deliver public awareness and education campaigns to support the proactive approach to road safety

Transport will continue with public awareness and education campaigns to further support the proactive approach to road safety. The Local Government Road Safety Program (LGRSP) funds educational and behavioural initiatives to address local road safety priority issues such as drink and drug driving, fatigue, speeding and pedestrian safety.

Objective 5 – Target appropriate and integrated speed zones for improved safety outcomes for all customers

Pedestrian trauma currently accounts for around 17 per cent of road trauma deaths in NSW and 9 per cent of serious injuries. A pedestrian struck by a vehicle travelling at 40km/h has a 25 per cent risk of death, compared to an 85 per cent chance of death if struck at 60km/h. Speed settings to support our broad mix of road users, including people walking and cycling will produce better and safer places. Transport will ensure speed limits reflect surrounding land uses and road user types as well as support liveability, amenity, and successful places.

To achieve this objective Transport will:

- Undertake speed zone reviews across the Hunter to determine the appropriateness of existing posted speed limits
- Partner with local councils to trial lower speed zones where appropriate
- Improve safety of level crossing environments

Undertake speed zone reviews across the Hunter to determine the appropriateness of existing posted speed limits

Speed limits criteria provides a framework that responds to potential risks in the road environment. Additionally, speed limits need to be cognisant of place, considering both activities and land use beyond the pavement.

To ensure speed zones improve safety outcomes for all customers, Transport undertakes speed zone reviews across the Hunter to determine the appropriateness of existing posted speed limits. Where there is a clear safety need for speed limit change, speed limits will be adjusted accordingly.

Generally, where more people are encouraged to walk and cycle, lower speed limits are used to reduce the risk of crashes and people being seriously injured. Analysis undertaken by Transport 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 2015.[10]

Partner with local councils to trial lower speed zones where appropriate

A 30km/h speed zone trial is currently in place in Honeysuckle and along the Newcastle foreshore. Transport is working with Councils in regional NSW to trial 30km/h speed zones in areas where the land use and surrounding activity warrant a lower speed environment. Transport will work with councils across the Hunter to identify sites for similar trials where appropriate.

Improve safety of level crossing environments

The Hunter has close to 100 rail level crossings, of which 35 are treated with boom gates and flashing lights, 24 with flashing lights only and 38 just with stop signs. Areas in the Hunter will be reviewed for suitability for investment under the Level Crossing Improvement Program. This program provides funding for priority level crossing upgrades and supports initiatives such as safety awareness and police enforcement campaigns.

10 towardszero.nsw.gov.au/sites/default/files/2018-02/road-safety-plan.pdf

Objective 6 – Utilise technology to improve safety outcomes

Technologies underpin an integrated multimodal safer system approach across road, rail, air and aquatic networks, vehicles, vessels, services, and people, to keep people safe and healthy. Automated safety systems are increasingly important in helping to avoid a crash or reduce the impact when a crash occurs. These technologies will be vital to improve safety, especially in regional NSW, which accounts for one-third of NSW's population but two-thirds of the State's fatalities.

To achieve this objective Transport will:

- Prioritise the uptake of new safety technologies in the Transport vehicle fleet
- Partner with the heavy vehicle industry to support smarter safer vehicle design and technologies
- Integrate smarter road assets to promote safer and smarter speed and incident management

Prioritise the uptake of new safety technologies in the Transport vehicle fleet

NSW's Road Safety Plan prioritises the uptake of new safety technologies in the Transport vehicle fleet, including automated and digitally connected safety features.

Partner with the heavy vehicle industry to support smarter safer vehicle design and technologies

Under the Road Safety Plan 2021, the NSW Government is working with the heavy vehicle industry to support smarter and safer vehicle design and technologies. Improvements to heavy vehicle design and the emergence of a range of different technologies including crash avoidance, protection systems and general safety, have proven to reduce the number and severity of crashes involving heavy vehicles.

Integrate smarter road assets to promote safer and smarter speed and incident management

Transport is also making use of existing infrastructure in smarter ways. A trial has started in Newcastle pairing existing CCTV (Close Circuit Television and Video) cameras with new Artificial Intelligence (AI) and WiFi technologies to better understand the transport network. This will deliver predictive data on when transport infrastructure and services are under stress leading to safer and smarter management of the transport network.

A robust safe system approach also applies to rail and maritime operations and all aspects of freight, with Automatic Train Protection (ATP) technology providing rail safety benefits. ATP ensures trains operate within the permitted track speed and provides a safer train journey for customers. ATP is now operational on the passenger network from Newcastle to Warnervale.

Level Rail Crossing
Clyde Street
Islington Newcastle.

Smart phone applications, such as Speed Advisor, can assist drivers throughout the region, particularly on longer drives or where speed limits fluctuate. The free smartphone application was developed by Transport and is designed to reduce speeding by notifying the driver in real-time when the speed limit has been breached.

The application also provides over-speed alerts for every active school zone in the Hunter Region. Transport will continue to investigate how technologies can play a role in reducing driver distraction.

Transport has implemented innovative technologies including a world-first roll out of mobile phone detection cameras to reduce driver distraction.

▲ Taree Heritage Walk, Taree.
© Destination NSW.

Objective 7 – Improve safety along the waterways in the Hunter

Transport has a central role to play in managing the State's waterways to allow for sustainability while keeping people safe on the water. Transport is currently updating the Maritime Safety Plan which sets the strategic direction in maritime safety for the next four years. The Plan provides the way forward to achieve the long-term target of zero fatalities and serious injuries on NSW waterways by 2056.

To achieve this objective Transport will:

- Monitor and improve maritime infrastructure to continue providing safe access to our waterways
- Maintain access of priority channels by managing natural features
- Provide equitable access to our waterways by managing conflicts between commercial and recreational needs
- Encourage safe use of waterways for Aboriginal communities through Aboriginal boating safety programs
- Continue provision of awareness and education programs to support waterway safety

Monitor and improve maritime infrastructure to continue providing safe access to our waterways

The NSW Boating Now Program will provide grant funding for maritime infrastructure and facilities needed across NSW for safe, accessible, and enjoyable recreational and commercial boating. Projects successful in securing funding include Little Beach Boat Ramp at Nelson Bay, Apex Park Boat Ramp Facility Pontoon Upgrade at Tea Gardens and Belmont Street Jetty Replacement at Swansea. Transport will continue to advertise rounds for the program.

The $205 million Maritime Infrastructure Stimulus Program announced in October 2020 will provide improvements to NSW Government owned maritime infrastructure and assets across NSW including the Nelson Bay wharf extension.

The **NSW Maritime Infrastructure Plan** identifies several key investment locations including Forster-Tuncurry, Port Stephens and Lake Macquarie. Priority infrastructure outcomes have been identified for each location which will support current demand and future growth of commercial fishing, tourism, and recreational boating.

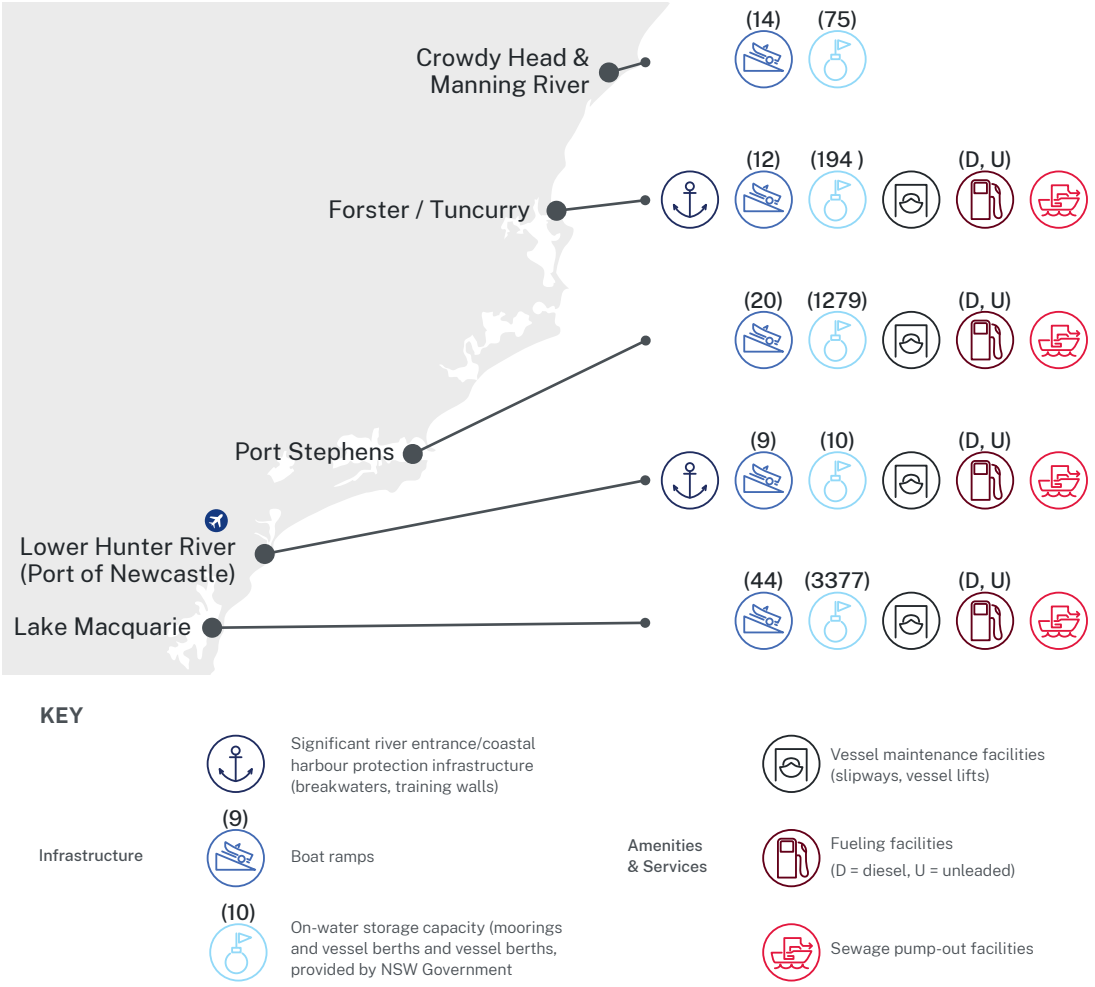


Figure 18: Existing maritime infrastructure at key locations in central NSW

Maintain access of priority channels by managing natural features

At Lake Macquarie, navigation through the Swansea Channel can be constrained due to sand build up and is an ongoing issue for boating in the lake. Transport is developing a new long term dredging program which will help to establish an efficient way of dredging the priority channels along the NSW coast.

Provide equitable access to our waterways by managing conflicts between commercial and recreational needs

Transport will also work with councils to provide equitable and sustainable access to waterways, balancing and managing boating activities for protection of the marine environment. Transport will also provide a network of infrastructure for essential vessel services such as pump out facilities, boat ramps, wharfs, hard stands and harbours.

Encourage safe use of waterways for Aboriginal communities through Aboriginal boating safety programs

Transport recognises that waterways are an important place for Aboriginal people to connect with family members, attend funerals and participate in cultural events. The Aboriginal Maritime Safety Plan will outline appropriate strategies to help prevent boating incidents amongst Aboriginal people by promoting boating safety in NSW and the Hunter.

Continue provision of awareness and education programs to support waterway safety

Transport will release the Maritime Safety Plan for 2026 which supports a waterway safety culture by simplifying and expanding lifejacket laws, use of technology in the marine environment, an updated licensing framework and how it will work with industry to promote an awareness of risk in the maritime environment.

Liveable

A transport network that supports places while enabling the successful movement of people to access jobs, services and social opportunities regardless of age, ability and income.

Integrated land use and transport planning will activate public spaces, transport corridors and networks, and improve the ability of people to access health, education and local government services. Transport can improve the liveability and character of communities across the State by encouraging better patterns of development and achieve wider benefits from public and private sector investment.

This Plan nominates the following objectives to help improve liveability across the Hunter.

Objective 8 – Enable and support successful places to live, work and visit

Objective 9 – Improve mobility options for all customers to reduce transport disadvantage

Objective 10 – Improve access to travel information and legibility for all customers

Objective 11 – Embed and embrace Connection to Country

Sun setting over Anchorage Marina, Corle.
© Destination NSW.

Objective 8 – Enable and support successful places to live, work and visit

As the designer, builder, operator and regulator of state transport assets, the activities of Transport have potential implications on neighbourhoods, centres, cities and regions. Infrastructure design can make a difference to people's perceptions about the places where they live, work or visit.

To achieve this objective Transport will:

- Focus on appropriate movement and place planning outcomes for all infrastructure projects
- Collaborate with local councils on planning and implementing place planning strategies
- Follow the 15-minute neighbourhood planning principles to support successful places

Focus on appropriate movement and place planning outcomes for all infrastructure projects

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 considering the movement of people and goods with the amenity and quality of places.

The Movement and Place framework balances the transport needs of the community with the amenity and quality of place. This framework will help facilitate collaboration with stakeholders and deliver improved amenity and liveability for key places across the region, ensuring balance is achieved between the need to facilitate movement while supporting successful places.

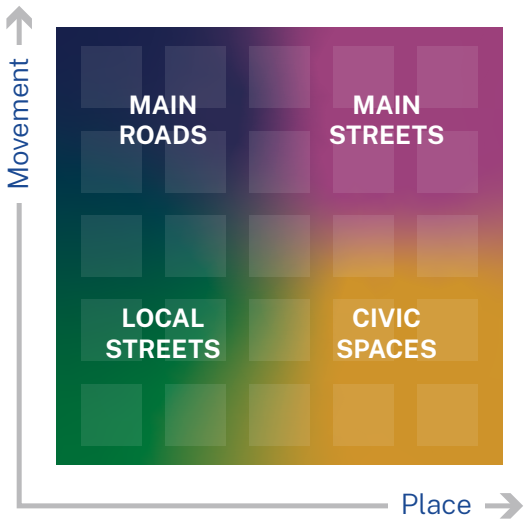


Figure 19: The four street environments that have been identified for analysing the combinations of movement and place in NSW

Collaborate with local councils on planning and implementing place planning strategies

Several town centre bypasses are proposed along the New England Highway including the Muswellbrook and Singleton bypasses. These will improve the amenity and safety for locals in these centres as well as reduce travel times. The Singleton Bypass will remove a large amount of traffic movements through the Singleton town centre which currently sees the movement of approximately 26,000 vehicles and 3,700 trucks each day.[11]

Transport will work with local councils on place planning strategies for Maitland, Scone, Muswellbrook and Singleton town centres to create vibrant and successful places for people to live, work and visit.

Transport will work with local councils to facilitate better place outcomes by applying suitable traffic measures, like speed zones and traffic calming devices in town centres and investigate the potential kerbside amenity benefits of emerging technologies including electric vehicles in town centres.

The Department of Planning and Environment (DPE) has identified seven districts in the Regional Plan: Coastal, Barrington, Newcastle Metropolitan, Hinterland, Central Hunter, Central Lakes and Upper Hunter. Each district has its own existing character, growth areas and a direction to achieve a unified 2041 vision for the Hunter. How people interact with vehicles and the streetscape has potential to improve amenity, and support development of smarter, more successful places in regional areas.

Transport will work closely with DPE and local councils to align and agree on future visions for the districts. This will ensure land use and transport infrastructure will support the Hunter under a Movement and Place framework as the region's population grows.

11 roads-waterways.transport.nsw.gov.au/projects/new-england-highway/singleton-bypass/index.html

Funding has been announced for projects in Singleton, Morpeth, Scone, Newcastle, Nelson Bay and Charlestown through the Streets as Shared Spaces program. This cross-government program aims to support the community during COVID-19 and test ideas for more permanent improvements to local streets, paths, and public spaces.

Follow the 15-minute neighbourhood planning principles to support successful places

Transport will work closely with DPE and local councils to implement the principle of the 15-minute neighbourhood in centres across the region.

15-minute neighbourhoods

The 15-minute neighbourhood is a principle about living locally and reflects the value people place on vibrant neighbourhoods where most of their everyday needs can be reached within 15 minutes by using public transport, walking or cycling – rather than by taking trips by private car. The principle responds to the way people increasingly want to live which has been reinforced in light of the COVID-19 pandemic. It supports healthier, more resilient and equitable communities. The principle also encourages efficient and more sustainable forms of transport and reduces per capita energy use.

Case study: Streets as shared spaces

As part of the NSW Government's Streets as Shared Spaces program, $525,000 was allocated to Newcastle City Council. This grant was used to trial a range of measures along a section of Hunter Street between National Park Street and Worth Place. The introduction of separated bike lanes provides a safer ride for cyclists through part of the city centre. Additionally, Hunter Street's speed limit through the area has been reduced to 40km/h with the bike lanes reducing vehicle lanes to one lane each way.

Objective 9 – Improve mobility options for all customers to reduce transport disadvantage

Transport disadvantage is the effect of having less choice about when, where and how someone can travel compared to other people. Providing equitable access to transport options, regardless of a person's age, ability, personal circumstances or level of disadvantage is an important outcome when designing the transport network.

The Public Transport Accessibility Level (PTAL) is a measure of accessibility from a point of interest on the public transport network and shows where there are opportunities to improve connectivity. The areas that are best served by public transport in the Hunter are also the most advantaged. As shown in Figure 20, data for 2020 shows while some parts of the Hunter have excellent PTAL ratings there are areas where local connectivity improvements are required.

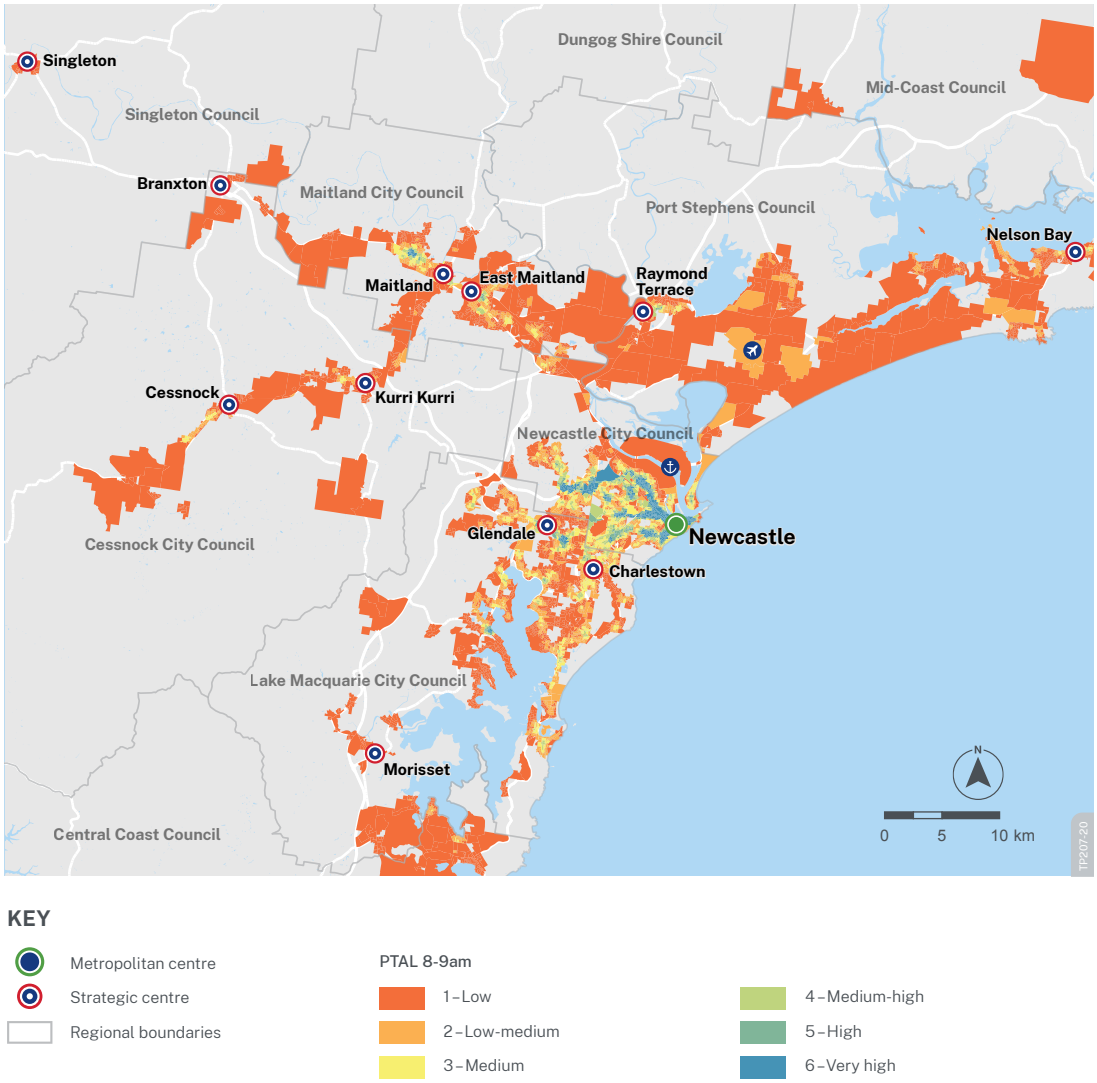


Figure 20: PTAL Index 2020 – Weekday 8-9am sample

Street scene in Maitland NSW.

To achieve this objective Transport will:

- Support the rollout of the Transport Access Program
- Improve and construct bus stop infrastructure across the Hunter
- Investigate new and additional service options for areas of low accessibility
- Continue the rollout of the Transport Access Regional Partnerships Grants Program (TARP program)
- Continue to support improved transport access equity through policy measures like Drivers Licensing Accessing Program (DLAP) and affordable fares

Support the rollout of the Transport Access Program

Since 2011, the NSW Government has invested in more than $2.2 billion accessibility improvements to transport facilities through the Transport Access Program (TAP). Through ongoing investment in the TAP, Transport will continue to improve accessibility for customers providing accessible, modern, secure and integrated transport infrastructure.

Planning is currently underway for a TAP upgrade at Taree Station which will see upgrades to footpaths, improved amenities, tactile indicators on the platform and a new ramp to the platform. Transport will investigate additional station upgrades in the Hunter as part of future TAP tranches.

Opportunities to improve multimodal accessibility to stations and key stops will also be investigated.

Improve and construct bus stop infrastructure across the Hunter

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, several new bus stop shelters, and Disability Discrimination Act (DDA) (Commonwealth of Australia, 1992) compliance upgrades have been funded by the program, including 30 new shelters and 284 upgrades to existing stops across the Hunter.

Investigate new and additional service options for areas of low accessibility

Point-to-point transport options like taxis, hire cars, tourist services and rideshare have delivered 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.

On-demand services at Lake Macquarie demonstrate a flexible approach to investigating new transport services across the region. The Lake Macquarie on-demand service was launched in 2018 and expanded in 2019 due to its popularity. Transport will work with transport providers to identify opportunities for additional on-demand services in the Hunter.

Reforms introduced in Community Transport provide travel for disadvantaged groups in the community. There are several community transport groups across the Hunter Region that provide services to help older people, people with a disability or are transport disadvantaged.

Improving transport access to sporting, recreation and educational services is also a key element in addressing the needs of regional youth. 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.

Continue to support improved transport access equity through policy measures like Drivers Licensing Accessing Program (DLAP) and affordable fares

The Drivers Licensing Accessing Program (DLAP) helps remove the barriers that prevent Aboriginal people and other disadvantaged communities in NSW from obtaining their driver's license. There are several local DLAP service providers in the Hunter Region, including in Cessnock, Lake Macquarie, Maitland, Muswellbrook, Newcastle and Singleton.

Continue the rollout of the Transport Access Regional Partnerships Grants Program (TARP program)

The Transport Access Regional Partnerships Grants Program (TARP) supports initiatives and provides funding to improve services and outcomes for transport disadvantaged groups in regional NSW. In the last two years the program has provided $1.6 million in grants to fund around 80 programs around regional NSW.

Lake Macquarie On-Demand bus. © Keolis Downer Hunter.

Objective 10 – Improve access to travel information and legibility for all customers

Transport will aim to provide comprehensive and accurate information to provide greater real-time journey planning.

To achieve this objective Transport will:

- Improve real-time journey planning through technology improvements
- Deliver a coordinated payment system for all public transport services in the Hunter
- Improve Wi-Fi digital connectivity at key transport hubs and on board major rail services in the Hunter

Improve real-time journey planning through technology improvements

The Transport Connected Bus (TCB) Program is delivering the technology platform for the tracking and automatic passenger counting of Transport contracted buses in regional NSW, enabling customers to be informed with trip information in real-time needed to make informed travel choices.

Deliver a coordinated payment system for all public transport services in the Hunter

The Future Transport Technology Roadmap 2021-2024 supports the rollout of real-time information and digital ticketing for all public transport services in regional NSW. Transport will investigate the rollout of an integrated ticketing solution for the Hunter to support a single, coordinated payment system for all public transport services across the region. The region currently has limited Opal connectivity for public transport services. An integrated ticketing solution would make it easier for customers to pay for services, as well as support seamless interchanges between modes.

Improve Wi-Fi digital connectivity at key transport hubs and on board major rail services in the Hunter

To further improve customer experience, Transport will investigate ways to improve Wi-Fi digital connectivity at key transport hubs and on board major rail services. This will support real-time information and efficient mobility along with information and payment system improvements, to help make public transport a more attractive option.

Objective 11 – Embed and embrace Connection to Country

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

Future Transport 2056 commits to:

- Improving the transport network in a way that respects traditional owners including the protection of Aboriginal cultural heritage
- Respecting and embracing the culture and values of First Nations at every stage of investment

A number of documents have been developed to help inform and guide Transport including the Principles and Framework for Aboriginal Engagement, Aboriginal Cultural Protocol, Aboriginal Art Strategy and Aboriginal Culture and Heritage Framework. These documents along with the NSW Government Architect's Connecting with Country Draft Framework and Designing with Country discussion paper and the Department of Planning and Environment 'Our Place on Country' together make a comprehensive suite to inform planning, design, and delivery of built environment projects in NSW.

To achieve this objective Transport will:

- Incorporate Aboriginal culture and heritage content in projects
- Embrace Aboriginal heritage by integrating storytelling throughout transport options
- Consider cultural values early in the planning stages of projects

Incorporate Aboriginal culture and heritage content in projects

In 2020, several 'Acknowledgement of Country' signs were installed on NSW state roads to reflect the Aboriginal Nation that motorists were driving through. Transport will continue to roll out similar signs across NSW. These signs will help promote cultural awareness, demonstrate respect for Traditional Custodians and promote the use of Aboriginal language.

Transport has also announced that the new fleet of trains are being named 'Mariyung', the Darug word for Emu, in acknowledgement of the local Aboriginal culture. The Mariyung Fleet will run through many Aboriginal Countries such as Darug Country, as well as at final destinations including Awabakal Country at Newcastle.

Yarns on Parai – Stories on Country developed for the Lower Hunter Freight Corridor, painted by Saretta Fielding.

Highlighting the extensive complex Songlines interwoven throughout the Hunter's transport network, an Aboriginal artist was engaged to provide Aboriginal culture and heritage content to be incorporated into the urban design as part of the Rankin Park to Jesmond section of the Newcastle Inner City Bypass. Improving the transport network in a way that respects traditional owners and promoting respect through the inclusion of Aboriginal art are key strategic directions for Transport.

This approach is consistent with actions in the Transport Reconciliation Action Plan (RAP). The RAP has been developed to create more opportunities for Aboriginal and Torres Strait peoples and support a greater understanding of their cultures. The Rankin Park to Jesmond Aboriginal engagement aligns with the following actions from the RAP:

- **Action 9**: Increase Aboriginal and Torres Strait Islander supplier diversity to support improved economic and social outcomes
- **Action 10**: Promote respect for Aboriginal heritage and increase inclusion of Aboriginal art
- **Action 11**: Embed Aboriginal co-design principles across Transport cluster projects

The engagement will result in a number of Aboriginal narratives, designs and specifications embedded in a number of urban design elements along the Rankin Park to Jesmond section of the Newcastle Inner City Bypass. Transport will continue to investigate further opportunities to incorporate Aboriginal heritage in projects.

Embrace Aboriginal heritage by integrating storytelling throughout transport options

In 2021, QR codes were rolled out on trains between Sydney and Newcastle allowing travellers to access up to 13 Aboriginal stories that tell some of the history of the Awabakal and Darkinjung lands. As well as relating to places connected with the train's journey, the stories also reflect the broader theme of Country, and the important link between Aboriginal culture, nature and land.

Consider cultural values early in the planning stages of projects

As part of the Lower Hunter Freight Corridor investigation, Transport worked with local Aboriginal people to deliver an innovative approach to the Aboriginal cultural values assessment. The process ensured cultural values were considered early in the corridor selection process and affirmed Aboriginal leadership on issues affecting them and their heritage and contributes to the NSW Government's strategic economic policy of growing First Nations economy.

The Aboriginal cultural values assessment helped inform the investigation, selection and preferred option preservation of a freight rail corridor through the Lower Hunter Valley between Fassifern and Hexham. The assessment was led by a team of local Aboriginal people with a long historical and cultural association with the corridor investigation area and the broader Hunter Valley. This cultural values assessment and its collective components will support Aboriginal cultural knowledge transmission in the Lower Hunter Valley and it is of great value beyond the corridor investigation process. Using this as an example of good practice, Transport will continue to embed values of Country in early stages of planning and project life cycle.

Sustainable

A transport network that both contributes to and supports a seamless transition to a low emissions future.

From a NSW-wide perspective, the transport sector was the second largest contributor to greenhouse gas emissions in 2017, as shown in Figure 21.

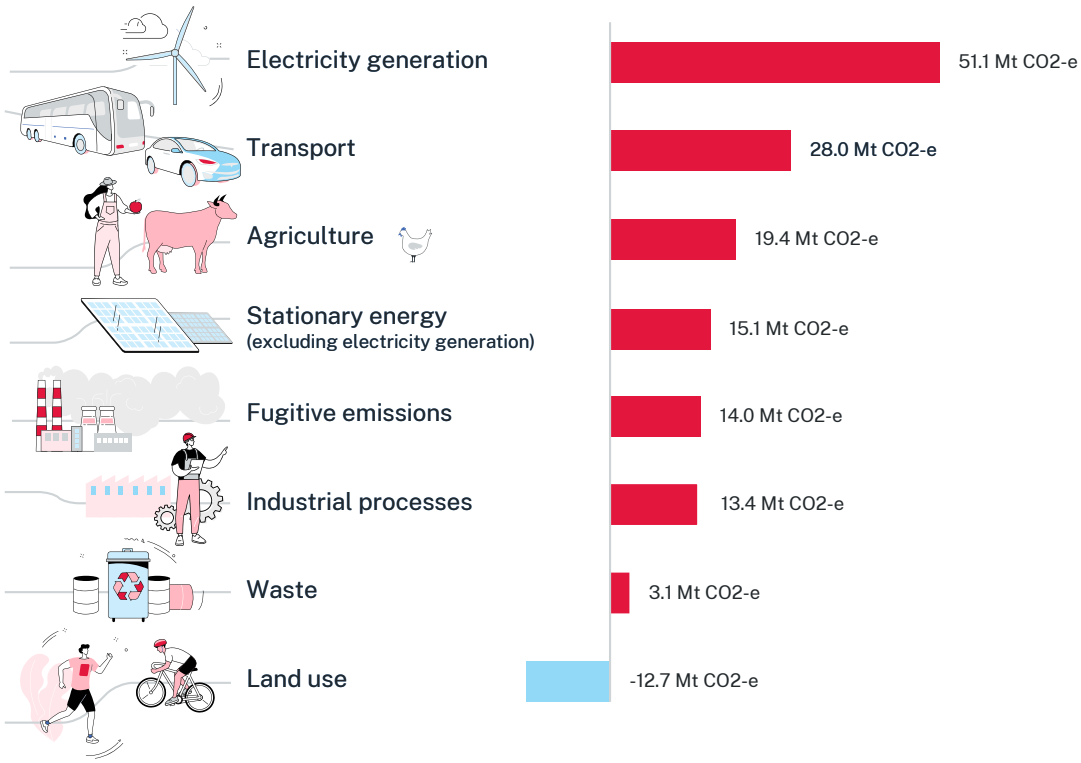


Figure 21: NSW emissions by sector in 2017
Source: Figure 3, Net Zero Plan Stage 1: 2020–2030, NSW Government, March 2020

The Net Zero Plan Stage 1: 2020-2030 is the foundation for NSW's goal to reach net zero emissions by 2050 and presents a framework for how NSW will achieve a 50 per cent cut in emissions by 2030 compared to 2005 levels.

Renewable Energy Zone (REZ)

The Hunter-Central Coast REZ has two main objectives. The first is to connect multiple renewable energy generators and storage projects (such as batteries and pumped hydro) that can support system reliability as the state's ageing coal-fired power stations retire. The second is to provide cheap, reliable and clean electricity to homes, businesses and industry in the Hunter and Central Coast regions and beyond.

The Hunter-Central Coast REZ will ensure these regions have a key role in a renewable energy future, powering existing industries and supporting economic growth, including emerging technology in green hydrogen, ammonia and metal production, electric vehicle fleet operators and electrification of industrial processes.

Views of vineyards Hunter Valley, Australia.

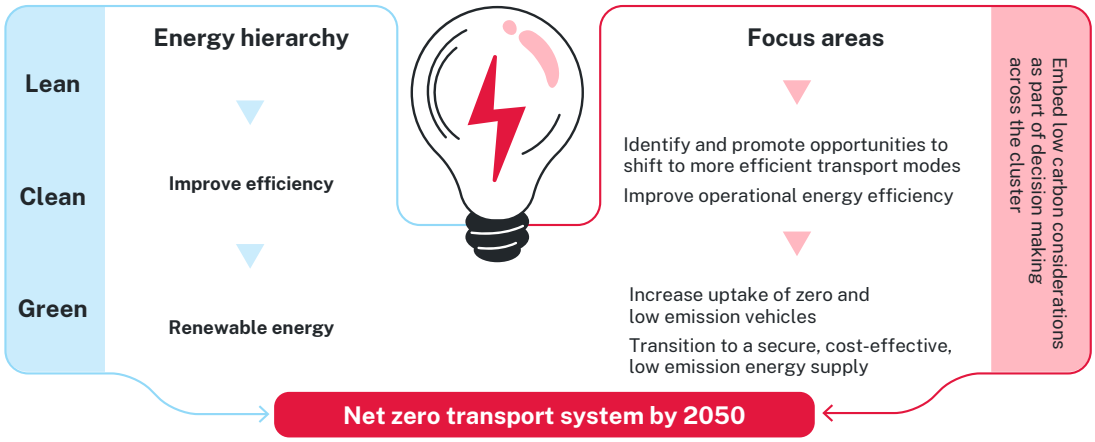


Figure 22: Future Energy Strategy Focus Areas

As such, 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.

This Plan nominates the following objectives to help improve sustainability across the Hunter.

Objective 12 – Increase the number of trips made by walking, cycling and public transport across the Hunter

Objective 13 – Transition to lower emission technologies to improve health and amenity

Objective 12 – Increase the number of trips made by walking, cycling and public transport across the Hunter

Trips made on foot or by bicycle are in essence, emissions free. Walking and cycling for commuting and short trips relieve pressure on the roads and public transport networks as well as providing health and wellbeing benefits.

To achieve this objective Transport will:

- Work with local government to close gaps in active transport networks
- Support efficient and more sustainable methods of using transport for the whole journey from door-to-door
- Work with local and state government and industry to facilitate and support walking and cycling in new neighbourhoods
- Encourage local government to necessitate the provision of secure bicycle parking and end-of-trip facilities for all new developments
- Work with government, community, and industry stakeholders to develop travel demand management (TDM) policies and establish travel plan requirements
- Incorporate provision for walking and cycling in every Transport funded project

Work with local government to close gaps in active transport networks

Through the NSW Government's Walking and Cycling Program, Transport will work collaboratively with local government to address barriers to walking and cycling across the transport network and aim to make active transport a viable and convenient option for short trips. Transport will also explore opportunities to support active transport corridors, networks and linkages in partnership with other key stakeholders. This could also include investigation of strategic tourist focussed cycle trails.

Support efficient and more sustainable methods of using transport for the whole journey from door-to-door

Further sustainability improvements will flow from new services that use vehicles and transport networks more efficiently, including Mobility as a Service (MaaS) where customers can combine private, shared and public transport, rather than rely on a private car. MaaS and On-Demand shared services combined with electric vehicles, offer more customer choices, convenience and affordability with better community amenity, while minimising vehicle numbers on the road, congestion and environmental impacts. Walking, cycling and micromobility options, such as electric bikes, help lower emissions for short trips, provides health and wellbeing benefits and provides connections to public transport.

The evolving micromobility transport sector, characterised by electric bikes, scooters and shared e-bike services, offers potential alternatives for first and last mile travel between homes and key destinations such as public transport hubs. Micromobility could deliver a positive impact across the Hunter, particularly in areas where topography, distance or climate makes walking and cycling challenging.

Work with local and state government and industry to facilitate and support walking and cycling in new neighbourhoods

Transport will work with local government, DPE 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. Supporting new and existing neighbourhoods with improved walking and cycling networks will reduce the need to travel by car and encourage and enhance 15-minute neighbourhoods.

Case study: Newcastle eBike

The on-demand eBike service for the Newcastle area offers 100 electric bikes available for hire across Newcastle West, Newcastle East, The Junction and Newcastle CBD. Pre-COVID, the customer base was mainly tourists however during COVID it has become more popular with locals and subscription-based memberships. The trial has been extended to May 2022 due to the popularity of the service.

Encourage local government to necessitate the provision of secure bicycle parking and end-of-trip facilities for all new developments

Transport will also work with local government to require the provision of secure bicycle parking and end-of-trip facilities, such as change rooms, showers and personal storage space (lockers), for all new developments, further supporting the shift towards more sustainable travel behaviour across the Hunter.

Work with government, community, and industry stakeholders to develop travel demand management (TDM) policies and establish travel plan requirements

Transport will also work with the region's stakeholders to develop Travel Demand Management (TDM) policies (re-time, re-mode, re-route and reduce travel) and establish travel plan requirements for new residential and employment developments. Travel plans and TDM policies assist in bringing about a mode shift away from single occupancy car use towards more sustainable forms of transport for the benefit of residents, businesses, visitors, and the greater community. These policies can include working with employers to promote sustainable working and organisational practices, encouraging travel outside the peak, and reallocation of road space to reduce the number of single occupant vehicle trips.

Reviewing car parking provisions, especially within Greater Newcastle and limiting parking in centres where strong public transport exists will encourage people to catch public transport or to walk and cycle to their destination. Exploring opportunities for park and ride, carpooling and car sharing services will look to further encourage the shift to public transport.

Incorporate provision for walking and cycling in every Transport for NSW-funded project

The recently adopted Providing for Walking and Cycling in Transport Projects Policy will ensure every transport project funded by Transport includes provision for walking and cycling.

Objective 13 – Transition to lower emission technologies to improve health and amenity

With Electric Vehicles (EVs) forecast to reach upfront price parity with traditional combustion engine vehicles in Australia from 2024,[12] combined with the NSW Government's aspirational target of having up to 10 per cent hydrogen blended into the NSW gas network by 2030, this necessitates the need for a transition towards a future where both electric and hydrogen fuel cell vehicles become the norm rather than the exception.

To achieve this objective Transport will:

- Partner with state agencies, local government and industry to deliver the required policy, infrastructure, and services supporting lower emission technologies
- Incorporate supporting technologies (like chargers) into our transport projects and assets where possible
- Work with local government and industry to encourage a transition in their respective fleets to lower emissions technologies
- Support and encourage innovation that supports transition to lower emission technologies in the Hunter

12 environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Climate-change/net-zero-plan-2020-2030-200057.pdf

Partner with state agencies, local government and industry to deliver the required policy, infrastructure, and services supporting lower emission technologies

As part of the transition to a cleaner, greener transport future, Transport will facilitate collaboration between state agencies, local government and industry to deliver the required policy, infrastructure and services that will enable and encourage the change to occur.

Incorporate supporting technologies (like chargers) into our transport projects and assets where possible

The NSW Government has partnered with the NRMA to deliver at least 20 additional EV fast chargers along the State's major highways in regional NSW, including the Pacific, Golden and New England highways.[13]

Transport is working collaboratively with DPE and industry to support the development of a comprehensive Electric Vehicle Charging Station Network across NSW, including the Hunter. Transport's Future Energy Action Plan 2020-2025 commits Transport to work with industry partners to encourage the uptake of EVs by providing EV chargers in commuter car parks.

Work with local government and industry to encourage a transition in their respective fleets to lower emissions technologies

Over the next three years, Transport will start to transition its passenger vehicle fleet in the Hunter 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 provide the market with confidence to supply more affordable, low emissions products and services to the wider market.

Figure 23: Part of the Transport for NSW electric vehicle fleet

Transport will power its electric trains with renewable energy sources by 2025 and will require green power to be used for all new public transport service contracts. Additionally, Transport is committed to reducing emissions and

13 mynrma.com.au/cars-and-driving/electric-vehicles/future/powering-the-regions

have begun transitioning the state's fleet of more than 8,000 diesel and gas buses to Zero Emission technology.

Aviation makes up 2% of transport sector emissions in NSW and is expected to rise over the next 20 years without intervention. In order for NSW to reach its net zero targets, aviation will need to play a role. Electric/Hydrogen propulsion technology will reduce emissions and enable more sustainable air services while acting as a catalyst for investment and economic development. Research and funding into electric/hydrogen charging infrastructure at airports will be key to the transition to emission free regional air travel.

Support and encourage innovation that supports transition to lower emission technologies in the Hunter

Transport will also work with state agencies, local government and industry to investigate the economic synergies and regional development opportunities arising from the strategic location of EV and hydrogen charging infrastructure.

Productive

Supporting improved productivity in the Hunter Region requires a transport network that supports the efficient, safe and sustainable movement of people and goods to support economic growth.

The 20-Year Economic Vision for Regional NSW is supported by both the vision and initiatives in the NSW Freight and Ports Plan as well as objectives in Transport's Heavy Vehicle Access Policy Framework.

The 20-Year Economic Vision for Regional NSW (2021) sets out the government's priorities and plans to achieve long term social and economic success for regional communities across the state. This vision has been impacted in recent years by drought, bushfires, flood and the Covid-19 pandemic.

NSW Government's NSW Freight and Ports Plan 2018-2023, a key supporting plan of **Future Transport 2056**, identifies over 70 initiatives that, in combination, seek to deliver a freight system that is more efficient, accessible, safer and sustainable.

This Plan nominates the following objectives to help improve productivity across the Hunter.

> **Objective 14** – Strengthen freight connections to Williamtown Special Activation Precinct, Newcastle Port and major freight generating precincts
>
> **Objective 15** – Provide a more productive freight network within the region
>
> **Objective 16** – Improve connectivity to jobs, health, education and visitor attractions

New England Highway, Gowrie Rail Overpass.

Objective 14 – Strengthen freight connections to Williamtown Special Activation Precinct (SAP), Newcastle Port and major freight generating precincts

Economic growth in regional NSW relies on the movement of goods through efficient and effective freight connections. The ability of NSW producers to move agricultural, industrial products and natural resources to domestic and export markets in a timely and efficient manner directly impacts on productivity and competitiveness and is a major factor driving economic performance in regional NSW.

To achieve this objective Transport will:

- Support Williamtown SAP and Newcastle Airport with strategic road upgrades
- Strengthen access to the global gateway of Newcastle Port
- Monitor key freight precincts to understand demand for improved transport connections
- Investigate alternative means to reduce load on the existing freight network

Support Williamtown SAP and Newcastle Airport with strategic road upgrades

The Williamtown SAP is strategically positioned to attract a range of industries and programs to facilitate major economic growth at international, national and regional scales. The SAP will create long-term job opportunities, attract investors and strengthen the region's economy.[14] The protection of existing freight corridors to and from the SAP will be key to support the growing importance of freight.

14 rgdc.nsw.gov.au/precincts/williamtown

Williamtown Special Activation Project

The Williamtown Special Activation Project (SAP) will build on the Hunter region's history of supporting Australia's defence industry an emerging aerospace industry. Williamtown is located around the Royal Australian Air Force (RAAF) base and Newcastle Airport in close proximity to Newcastle City Centre and Newcastle Port.

The Newcastle Airport catchment area houses 1.1 million people giving it the sixth largest passenger area in the nation[15] despite the airport ranking thirteenth in the country by passenger movements.[16] The runway and other airport infrastructure improvements will increase the tourism and other passenger flows through this region with potential for direct international and increased interstate flights and further promoting defence and other industry expansion in the Williamtown SAP.

The Pacific Highway intersection at Medowie Road will become a key connection as growth around Newcastle Airport and Williamtown SAP increases. This interchange will be considered by Transport to identify upgrades required due to future growth and improve the safety, efficiency and freight access outcomes of the Pacific Highway.

Strengthen access to the global gateway of Newcastle Port

Newcastle Port is the economic and trading centre for the Hunter, New England North West and Central West and Orana regions. Transport will continue to support the growth and diversification of the Newcastle Port through a focus on improving access, efficiency and integration with the surrounding network.

Road upgrades are underway on key access routes to the Port including the New England, Golden and Pacific highway's. The section of the Pacific Highway known as Hexham Straight is a critical link from Newcastle Port to the National Land Transport Network, carrying some of the highest traffic volumes in the Hunter. The Hexham Straight project will widen the dual carriageway from two lanes to three in each direction, improving traffic flow, safety and efficiency for all users.

Monitor key freight precincts to understand demand for improved transport connections

Employment precincts such as Tomago, Thornton and Heatherbrae handle significant freight movements within the region and create an additional demand of freight on the existing road network. Additionally, the Black Hill Employment Precinct is set to become a key freight and logistics hub. Planning is currently underway to improve transport connections around the precinct. Transport will monitor existing constraints on the road and rail networks and work with government agencies to plan for improved access to key employment precincts.

Investigate alternative means to reduce load on the existing freight network

Transport will investigate a fuel pipeline between Newcastle Port and the Central West and Orana via the Hunter. This project could provide a cost-effective, safe and reliable fuel supply alternative to road transport for important agricultural and mining industries, and regional customers.

15 2036 Newcastle Airport Vision
16 BITRE Airport Data 2019

Coal loading at the Port Waratah Coal Services Channel Berth, South Arm Hunter River Newcastle Port.

Objective 15 – Provide a more productive freight network within the region

Currently, rail freight dominates outbound freight movements from the Hunter making up 104.5 million tonnes of the total 125 million tonnes of total commodities moved out of the region by road and rail. Coal dominates the outbound rail freight totalling approximately 103.9 million tonnes. By comparison, road freight in total accounts for only 20.5 million tonnes. By 2041, total commodities moved by road is expected to increase to 26.5 million tonnes with general manufactures being the primary commodity moved out of the region.[17]

To achieve this objective Transport will:

- Investigate rail infrastructure opportunities to capitalise on existing rail freight links
- Deliver new and upgraded road infrastructure to support the productive movement of freight through the Hunter
- Protect key freight corridors with compatible land uses
- Provide infrastructure suitable for High Productivity Vehicles in key locations
- Investigate first and last mile freight accessibility

Investigate rail infrastructure opportunities to capitalise on existing rail freight links

Transport for NSW is consulting on a recommended corridor option for the Lower Hunter Freight Corridor which will provide for a future dedicated freight rail line between Fassifern and Hexham, bypassing Newcastle urban area. The future freight rail line will help meet the long-term freight needs of NSW, relieve pressure on regional roads to accommodate the growing freight task and increase rail capacity for passenger and freight trains across the broader rail network.

17 Transport for NSW data 2021

Greta Train Support Facility.

As the Hunter transitions away from the coal industry, the need for existing rail lines used for the coal industry can be repurposed for activities such as other freight, commuter services, or tourism and rail trail opportunities. The Strategic Statement on Coal Exploration and Mining in NSW addresses opportunities for the Hunter Region's transition.

Deliver new and upgraded road infrastructure to support the productive movement of freight through the Hunter

Transport is seeking to improve key freight routes, making them as efficient and attractive as possible to freight operators. This includes the New England Highway as part of the inland route of the Sydney to Brisbane National Land Transport Network and the primary route connecting the Upper Hunter with Maitland and Newcastle.

Transport is upgrading the New England Highway between Belford and the Golden Highway. The project will provide two travel lanes in each direction and a flyover for vehicles turning from the Golden Highway towards Maitland and Newcastle, providing a safe, efficient and reliable freight connection.

Additionally, the Pacific Highway Future Growth Program will identify upgrades required due to future growth and improve the safety, efficiency and freight access outcomes of the Pacific Highway.

Protect key freight corridors with compatible land uses

Transport will work collaboratively with the DPE and local government to ensure key road and rail freight corridors across the Hunter are protected from incompatible land uses. A key east-west freight corridor is the Hunter Expressway (HEX). The HEX, a 40 kilometre dual carriageway freeway between Seahampton on the M1 and Branxton, plays an important role for the movement of freight. DPE have identified six Interchange Growth Areas along the HEX with significant land use changes. With DPE, Transport will ensure new infrastructure developments at the Interchange Growth Areas protect the operation of the Hunter Expressway maintaining connectivity, productivity and maximising accessibility.

Old railway line on the Fernleigh Track, Newcastle.

Case study: Tillegra Bridge

The newly upgraded Tillegra Bridge in the Upper Hunter now allows Performance-Based Standards (PBS) vehicles to access Williams and Allyn Valleys, important for agriculture and logging freight movements. The new bridge will save heavy vehicles a detour of 46 kilometres, substantially reducing travel time for trucks and heavy vehicles.

Provide infrastructure suitable for High Productivity Vehicles in key locations

Heavy vehicles have a significant ongoing role in delivering the growing freight task in a safer, more productive (through increased volume of freight per trip) and efficient manner. There are currently a number of restrictions throughout the region that limit freight movements especially High Productivity Vehicles (HPV) and Class 1 Oversize and Overmass (OSOM) vehicles.

Transport, guided by the NSW Heavy Vehicle Access Policy Framework will investigate a staged approach to improve access for HPVs OSOM vehicles on key freight routes by upgrading intersections, level crossings and bridges. Each of these vehicles can carry more freight, reducing the number of vehicles needed.

As identified in the NSW Freight and Ports Plan, the NSW Government will continue to provide funding for infrastructure upgrades through programs such as Fixing Country Roads, Fixing Country Bridges, Fixing Country Rail and the Regional Road Freight Corridor Fund to continue to improve access for freight operators across NSW.

Investigate first and last mile freight accessibility

Transport will investigate the feasibility of improvements to first and last mile connectivity and efficiency across the freight network. This could include partnering in investigating last-mile deliveries by drones in suitable areas and trialling alternative delivery modes in busy urban environments such as bicycles and automated freight vehicles. Additionally, Transport, in collaboration with Councils, will seek to address urban access and servicing constraints that inhibit freight productivity and impact the economic success of places.

Objective 16 – Improve connectivity to jobs, health, education and visitor attractions

The transport system will continue to play a key role in driving productivity and enabling economic activity across the Hunter by providing access to jobs, goods, and services as well as supporting mobility and choice for residents and visitors and supporting jobs growth.

Delivering improved multimodal connections will be critical to enabling resilience in the network, driving productivity and supporting economic success. Transport will support growth in visitor numbers and diversification of businesses in the Hunter by providing viable options to travel and improved services.

To achieve this objective Transport will:

- Provide improved connections to the John Hunter and Maitland health precincts
- Explore additional transport options for education campuses
- Support the Hunter's visitor attractions by providing improved transport infrastructure
- Investigate public transport options to support improved airport infrastructure

Provide improved connections to the John Hunter and Maitland health precincts

John Hunter Hospital is the busiest hospital in NSW outside of Sydney, serving patients from Newcastle to as far north as Lismore. The NSW Government is funding the John Hunter Health and Innovation Precinct which will redevelop and expand the existing hospitals and deliver a new acute services building. The Rankin Park to Jesmond section of the Newcastle Inner City Bypass and the future light rail extension of the Newcastle Light Rail will provide improved connections to the John Hunter precinct.

Additionally, the NSW Government is building the new Maitland Hospital in East Maitland servicing residents in the lower and upper regions of the Hunter. Victoria Street Station in East Maitland will act as the hospital's primary train station. Ensuring the new Maitland Hospital is easily accessible to staff, patients and visitors is a key part of the planning process of the new hospital. The site will provide a bus stop and approximately 680 parking spaces on site.

Explore additional transport options for education campuses

Transport will continue to explore opportunities for additional transport options so students from across the Hunter can access regional educational facilities by public transport. The University of Newcastle's campuses are already well serviced by bus, train, and walking and cycling paths, as well as light rail to the Newcastle campus. Opportunities will be explored to connect the new Nihon University campus (due for completion in 2022) in the Newcastle City Centre as well as the range of TAFE NSW campuses across the Hunter which will continue to be important providers of vocational education and training.

Support the Hunter's visitor attractions by providing improved transport infrastructure

The Hunter Region is the third most visited NSW region behind Sydney and the North Coast. The region offers a diverse range of visitor experiences and attractions including the Hunter Valley wine region, Upper Hunter equine region, Forster-Tuncurry,

▲ Barrington Tops mountains.

Nelson Bay, Port Stephens, Lake Macquarie and Barrington Tops National Park as well as a number of live music events and major annual events. Additionally, in the Hunter there are a range of special interest tourism sectors, including nature and eco-tourism, cultural tourism and heritage tourism. Currently, 92 per cent of visitors come from within NSW and 54 per cent from Sydney. Of these, only 3 per cent of visitors came by rail with the remainder by car.[18] The opportunity to provide greater accessibility to visitors will help enhance visitor experience and attractions in the region.

The tourism market is expected to experience a challenging environment in the medium term as the impacts of COVID-19 continue to influence international travel, making significant NSW tourist destinations vital in capturing the domestic tourism market.

Transport will focus on developing integrated multimodal transport options to, from and within the Hunter to effectively capitalise on tourism, both domestic and international in the post-COVID environment. These options will need to be legible, integrated, and operate in a way that can adapt to peak holiday and event periods while encouraging visitors to arrive by rail and bus, mitigating the congestion impacts on roads.

Under the Fixing Local Roads program, road upgrades for Moonan Brook Road and Hunter Road will improve road access to the Barrington Tops National Park.

Investigate public transport options to support improved airport infrastructure

Air access to regional NSW destinations is supported through regional airports with improvements to infrastructure attracting more visitors and making it more attractive for private sector investment and business opportunities. Improving public transport links and infrastructure to Williamtown and other regional airports will help customers complete end to end multimodal journeys and boost tourism.

18 Hunter Visitor Profile – YE December 2020 (destinationnsw.com.au) pg 1

Smoke from the bushfires near Kurri Kurri, 13th December 2016.

Resilient

A transport network that is resilient to major disruptions associated with natural disasters, climate change and planned and unplanned events.

As the regional transport network continues to grow, there is a need for planning to consider its resilience, ensuring the safety and accessibility of the transport network for all our customers. A resilient transport network is based on the principles of knowing the risks to the network, planning for disruption and taking action to minimise and improve recovery.

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

This Plan nominates the following objectives to help improve resilience across the Hunter.

Objective 17 – Build greater resilience into the transport network

Objective 18 – Utilise technology to inform network resilience and respond to network disruptions

Promotion day for the Coates Hire Newcastle 500 V8 motor race.

Objective 17 – Build greater resilience into the transport network

Our ability to build resilience and minimise network disruption relies on anticipating and planning for potential disruption. It considers long-term resilience implications of the asset's location, operations, climate risks and the shocks and stresses that are likely to impact them over their lifetime. This includes a combination of measures such as how we design our network infrastructure, manage the risks and incidents and respond to them.

Severe weather events and other major shocks impact on our large and complex transport networks. While we cannot eliminate disruption, we can improve the resilience of passenger and freight transport and build redundancy into our network infrastructure and service provision.

What are we doing?

A number of projects in the Hunter are reducing the impact caused by major disruptions by improving connections and planning for redundancy. Key projects are Cessnock Road at Testers Hollow, the planned M1 Pacific Motorway extension to Raymond Terrace and the Golden Highway upgrade at Mudies Creek, which includes building a new 30-metre-long bridge, five metres above the current road level, high enough to withstand a one in 100-year flood.

To achieve this objective Transport will:

- Improve levels of resilience and redundancy across the Hunter transport network
- Minimise network disruption during major events

Improve levels of resilience and redundancy across the Hunter transport network

Transport is developing a Journey Resilience Strategy which considers multimodal choices made as part of customer journeys. The vision for this strategy is to create an agile and resilient network to reduce the impact on any future unplanned events which may cause major disruptions to customer journeys. This will be supported by making information on network disruption more readily available to customers.

Minimise network disruption during major events

Seasonal demand on the transport network and major events such as the V8 Supercars Championship in Newcastle are predictable forms of disruption. Across the Hunter Region, seasonal disruption is usually driven by long weekends, school holidays and major events. A key route for tourists, Nelson Bay Road, is currently being upgraded which will result in improved travel times and support tourism in the wider Port Stephens area.

Objective 18 – Utilise technology to inform network resilience and respond to network disruptions

Innovation and new technologies provide new tools and opportunities to benefit responders, decision-makers and the community in understanding and responding to network disruptions. Technology strengthens networks and assets to minimise disruptions from extreme events like bushfires and floods, allowing fast adjustments and response with continued connection to customers.

To achieve this objective Transport will:

- Embed technology in all major infrastructure projects
- Develop appropriate communication channels to enable customers to make informed choices on where and when to travel
- Network disruptions are communicated early and clearly

Dust storm in the Hunter Valley.

Embed technology in all major infrastructure projects

NSW's Smart Places Strategy and Smart Infrastructure Policy commits Transport to embedding sensors and technology into all major infrastructure projects, sharing data and insights to drive better informed decisions, and improving the productivity, liveability and resilience of centres. Transport is also investigating technologies to improve the way to assess assets needing replacement, to achieve more reliable and resilient solutions.

Develop appropriate communication channels to enable customers to make informed choices on where and when to travel

The Live Traffic NSW website and app is a key tool for keeping customers informed and helping drivers avoid network congestion and delays. Live Traffic provides up-to-minute news of incidents and conditions across the 18,000 kilometres of NSW State roads. This information helps customers make the best possible travel decision that contributes to the safe and efficient management of NSW roads.

Network disruptions are communicated early and clearly

Transport will continue to investigate new tools and ways of communicating the status of network disruptions across the Hunter to enable customers to make more informed decisions about their travel needs and safety.

Initiatives action plan

This Plan has identified 94 key initiatives required to deliver the transport vision for the Hunter 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.

▲
Kayaking along the Karuah River.
© Destination NSW.

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.

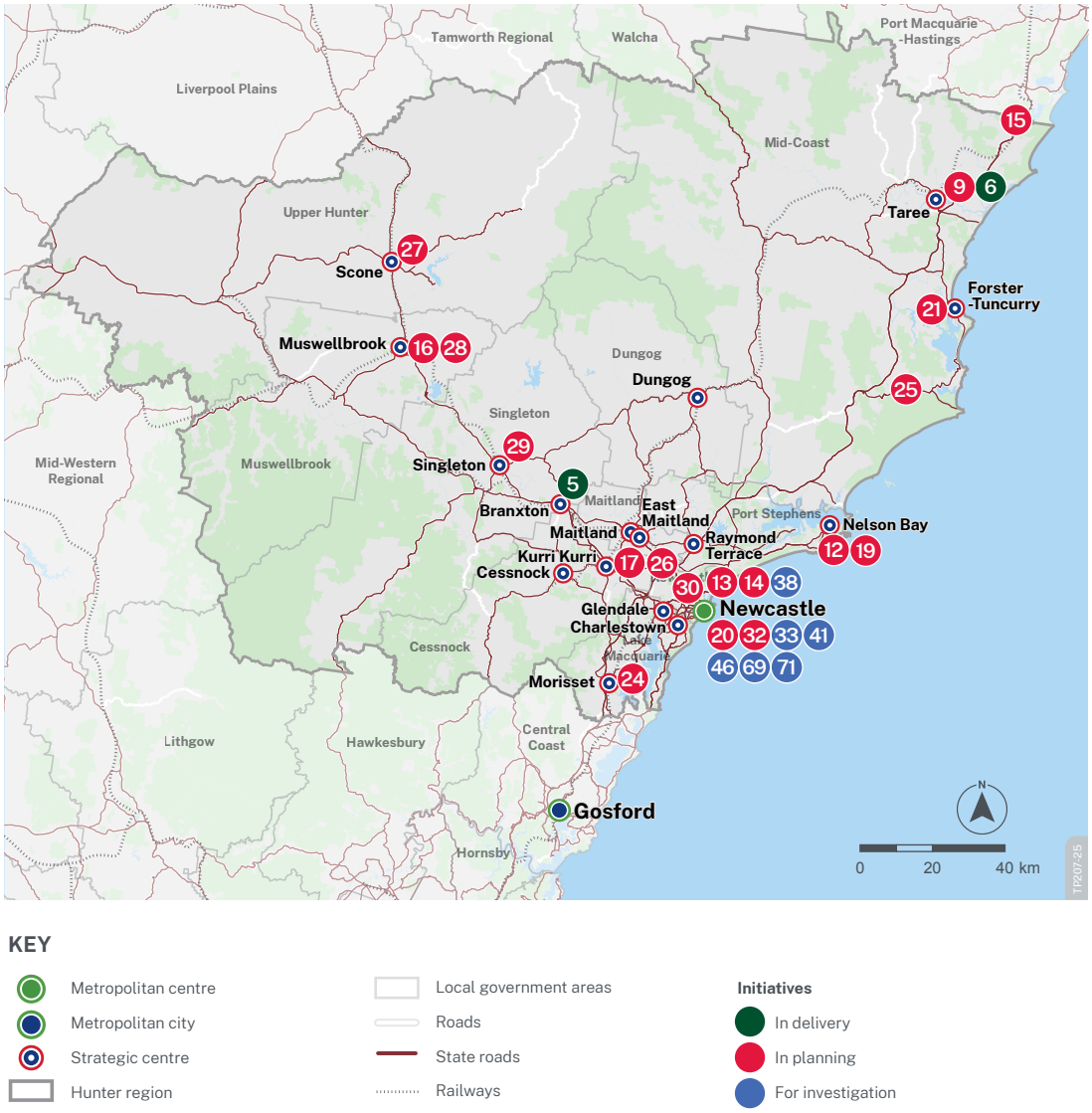


Figure 25: Hunter region initiatives

In Delivery

Timeframe	Item	Initiative	Vision Theme	Responsibility
Ongoing	1	Rankin Park to Jesmond – Newcastle Inner City Bypass	Productive, Safe, Connected	Own
Ongoing	2	Hunter Pinch Points program	Productive, Safe	Own
Ongoing	3	New (Mariyung) Intercity Fleet	Connected, Liveable	Own
Ongoing	4	New Regional Rail Fleet program	Connected, Liveable	Own
0-3 years	5	New England Highway upgrade between Belford and the Golden Highway	Productive, Safe, Connected	Own
0-3 years	6	Taree Northern Gateway upgrades and roundabout	Productive	Collaborate
Ongoing	7	Review trial of train services between Singleton and Newcastle	Connected	Own
Ongoing	8	Walking and Cycling Program	Sustainable, Liveable	Collaborate

In Planning

Timeframe	Item	Initiative	Vision Theme	Responsibility
Ongoing	9	Transport Access Program (TAP) upgrades – Taree Railway Station	Liveable	Own
Ongoing	10	M1 Newcastle Smart Motorway project	Connected, Productive, Safe	Own
Ongoing	11	Golden Highway upgrades to heavy vehicle rest areas	Safe, Productive, Connected	Own
Ongoing	12	Upgrade of Nelson Bay Road from Williamtown to Bobs Farm	Connected, Productive, Safe	Own
0-3 years	13	M1 Pacific Motorway extension to Raymond Terrace	Connected, Productive, Safe, Resilient	Own

Timeframe	Item	Initiative	Vision Theme	Responsibility
0-3 years	14	Pacific Highway improvements at Hexham (Hexham Straight)	Productive, Safe	Own
0-3 years	15	Pacific Highway – Harrington Road and Coopernook Road intersection upgrade	Safe, Productive	Own
0-3 years	16	Muswellbrook bypass – New England Highway	Connected, Productive, Safe, Liveable	Own
0-3 years	17	Kurri Kurri to Maitland improvements	Connected, Productive, Liveable	Own
0-3 years	18	Journey Resilience Strategy	Resilient	Own
5-10+ years	19	Traffic improvements to Tomaree Peninsula townships	Safe, Connected	Own
0-3 years	20	Hillsborough Road between Warners Bay and the Newcastle Inner City Bypass	Connected	Own
0-3 years	21	Forster-Tuncurry centre improvements	Connected, Liveable	Own
0-3 years	22	Lower Hunter Freight Corridor Protection	Productive	Own
0-3 years	23	Sydney – Central Coast – Newcastle Fast Rail business case	Connected, Liveable	Own
0-3 years	24	Additional commuter car parks at Morisset, Fassifern and Cardiff Stations	Connected	Own
0-3 years	25	The Lakes Way Corridor improvements	Connected, Safe, Resilient	Own
0-3 years	26	Place-based Transport Plan for Maitland	Liveable	Collaborate

Timeframe	Item	Initiative	Vision Theme	Responsibility
0-3 years	27	Place Planning Strategy for town bypass project – Scone	Liveable, Sustainable	Collaborate
0-3 years	28	Place Planning Strategy for town bypass project - Muswellbrook	Liveable, Sustainable	Collaborate
0-3 years	29	Place Planning Strategy for town bypass project – Singleton	Liveable, Sustainable	Collaborate
0-3 years	30	Investigate Beresfield area (John Renshaw Dr / M1 / Weakleys Dr / New England Hwy) to support the National Land Freight Network	Productive, Safe	Own
0-10 years	31	Further New England Highway upgrades – Belford to Singleton	Safe, Connected, Productive	Own
0-3 years	32	Newcastle Link Road Integrated Transport Plan	Safe, Connected, Productive	Own

For Investigation

Timeframe	Item	Initiative	Vision Theme	Responsibility
0-10 years	33	Rapid Bus Package – high frequency bus network along key corridors	Connected, Resilient	Own
0-10 years	34	Work with DPE, DRNSW, Local Councils and industry to develop an EV fast charging network and a hydrogen refuelling station network	Sustainable	Collaborate
0-10 years	35	Work in partnership with Destination NSW and local government to support active transport corridors, including rail trails	Sustainable, Connected, Liveable	Collaborate

Timeframe	Item	Initiative	Vision Theme	Responsibility
0-10 years	36	Improvements to first and last mile connectivity and efficiency of freight network	Connected, Productive	Own
0-3 years	37	Golden Highway safety and reliability improvements to enhance East West connectivity	Connected, Productive, Safe	Own
On-going	38	Upgrade Nelson Bay Road from Fern Bay to Williamtown	Productive, Safe	Own
0-10 years	39	Travel Demand Management (TDM) and precinct travel plans	Sustainable, Liveable, Safe, Productive	Influence
0-10 years	40	Signposting Country – Investigate dual signage opportunities in Hunter Region	Liveable	Collaborate
0-5 years	41	Bus Headstart Program to improve bus services to newly developing residential growth areas	Connected	Own
0-10 years	42	Promote transition to electric and zero emissions fleet and freight vehicles for local councils and businesses	Sustainable, Resilient	Influence
0-5 years	43	Transition Transport for NSW passenger fleet to 70 per cent low emission and 20 per cent battery electric or hydrogen fuel cell vehicles by 2025	Sustainable, Resilient	Own
0-10 years	44	Transition Transport for NSW bus fleet to 100 per cent zero emission buses (ZEB)	Sustainable, Resilient	Own
0-10 years	45	Establish an integrated ticketing solution to provide a consistent public transport payment system across the region	Connected, Liveable	Own

Timeframe	Item	Initiative	Vision Theme	Responsibility
0-10 years	46	Connected cycleway network for Greater Newcastle	Sustainable, Liveable, Connected	Collaborate
0-10 years	47	Provide end-of-trip facilities at key transport interchange locations	Sustainable, Liveable	Own
0-10 years	48	Encourage local government to necessitate all new developments provide end-of-trip facilities at key trip generators including major transport and employment nodes, shopping and commercial precincts and schools	Sustainable, Liveable	Influence
0-10 years	49	Develop a regional cycling plan that identifies key cycling and micromobility opportunities and a strategic business case that evaluates investment options and timing	Sustainable, Liveable, Safe	Own
0-10 years	50	Ensure rest stops are provided at intervals consistent with Austroads Guidelines across the region	Productive, Safe	Own
0-10 years	51	Investigate a range of opportunities to improve regional network resilience	Resilient	Own
0-10 years	52	Investigate new tools and ways of communicating the status of network disruptions during major events	Resilient	Own
0-10 years	53	Identify opportunities to implement 30km/h speed zones	Liveable, Safe	Collaborate
0-10 years	54	Investigate opportunities to utilise on-demand transport services	Connected, Sustainable	Own

Timeframe	Item	Initiative	Vision Theme	Responsibility
0-10 years	55	Work with DPE and local government to protect key freight corridors from incompatible land uses	Liveable, Productive	Influence
0-10 years	56	Work with DPE, local government and stakeholders to develop transport strategies for growth areas	Sustainable, Connected, Liveable	Collaborate
0-10 years	57	Work with DPE, local government and stakeholders to ensure growth areas support walking and cycle friendly neighbourhoods	Sustainable, Connected, Liveable	Collaborate
0-10 years	58	Work with NSW Department of Education, Independent Schools, Catholic Schools NSW and local government to address barriers to walking and cycling to school	Sustainable, Connected, Liveable	Collaborate
0-10 years	59	Work in partnership with participating councils under the Local Government Road Safety Program to improve road user safety	Safe, Liveable, Resilient	Collaborate
0-10 years	60	Work with local government to improve wayfinding information in the vicinity of key transport nodes	Sustainable, Connected, Liveable	Collaborate
0-10 years	61	Improved multimodal access to airports	Connected	Influence
0-10 years	62	Continue community-based road safety education to change road user behaviour and improve road safety	Safe, Liveable, Resilient	Own

Timeframe	Item	Initiative	Vision Theme	Responsibility
0-10 years	63	Work with tourism operators and event organisers to facilitate public transport services to, from and between events and locations	Connected, Liveable, Sustainable	Collaborate
0-10 years	64	Investigate public transport services to support remote communities	Connected, Sustainable	Own
0-10 years	65	Investigate Park and Ride, car pooling and car sharing services opportunities at key transport interchange locations	Sustainable	Own
0-10 years	66	Investigate additional High Productivity Vehicle access in the region	Productive	Collaborate
0-10 years	67	Investigate inclusion of emerging aviation technologies into the wider transport network, including infrastructure requirements	Connected	Own
0-10 years	68	Identify opportunities for drone usage for last mile freight delivery	Productive, Connected	Collaborate
0-10 years	69	Extension of ferry network in Newcastle	Connected, Sustainable	Own
0-10 years	70	Tomago Road improvements – Pacific Highway to Williamtown	Connected, Productive, Safe	Own
0-10 years	71	Explore a future extension of the Newcastle Light Rail west to Broadmeadow and beyond, including the need for corridor protection	Connected, Sustainable	Own

Timeframe	Item	Initiative	Vision Theme	Responsibility
0-10 years	72	Undertake a feasibility study looking at opportunities to better align the growth areas in the Maitland (and Cessnock) LGAs with a focus on the rail corridor, potential electrification of the line and including better overall public transport integration and service frequency and timetable structure needs	Sustainable	Own
0-10 years	73	Cessnock to Newcastle rail services via Kurri Kurri	Connected, Sustainable	Own
0-10 years	74	Hydrogen train trial – Dungog section of Hunter Line	Sustainable	Own
0-10 years	75	New rail alignment of North Coast Line between Hexham and Stroud Road	Connected, Productive, Sustainable	Own
0-10 years	76	Fast Rail – Sydney to Newcastle	Connected, Liveable	Own
0-10 years	77	Hunter Orana Fuel Pipeline	Productive, Sustainable	Own
0-10 years	78	Investigate public transport and coach services to and from key tourist destinations leveraging fast rail and Newcastle Airport	Connected	Collaborate
0-10 years	79	Investigate improved environmental outcomes through the use of new / recycled materials or processes for civil /road construction	Productive, Sustainable	Own
0-10 years	80	Investigate opportunities for improved road access and active transport connections to tourist locations	Connected, Productive	Collaborate

Timeframe	Item	Initiative	Vision Theme	Responsibility
0-10 years	81	Investigate opportunities to improve multimodal accessibility to stations and key stops	Connected, Productive	Collaborate
0-10 years	82	Investigate adequacy of road freight rest stops to address forecast freight task	Connected, Productive	Own
Ongoing	83	Partner with stakeholders to encourage uptake of safety features and technologies addressed in *Safety features and technologies for heavy vehicles 2020*	Safe, Resilient	Own
Ongoing	84	Monitor and improve maritime infrastructure as outlined in the **NSW Maritime Infrastructure Plan**	Safe, Connected, Sustainable, Resilient	Own
Ongoing	85	Undertake a strategic business case for a long-term dredging program	Safe, Resilient	Own
Ongoing	86	Monitor implementation of the new Maritime Safety Plan 2022-2026 (to be released) and the Aboriginal Maritime Safety Plan to continue working towards zero fatalities and serious injuries on navigable waterways in NSW by 2056	Safe	Own
Ongoing	87	Utilise Community-based maritime safety education and compliance actions if necessary to improve maritime safety outcomes	Safe	Own
Ongoing	88	Investigate the use of real-time journey planning to provide customers greater opportunity to access services	Connected, Liveable	Own

Timeframe	Item	Initiative	Vision Theme	Responsibility
Ongoing	89	Increase Aboriginal and Torres Strait Islander supplier diversity to support improved economic and social outcomes at every stage of investment	Liveable, Productive	Own
Ongoing	90	Partner with Aboriginal community, LALCs and their organisations to improve supply side engagement in neighbourhood/precinct planning	Liveable	Own
Ongoing	91	Promote respect for Aboriginal heritage and increase inclusion of Aboriginal art	Liveable	Own
Ongoing	92	Embed Aboriginal co-design principles across Transport Cluster Projects	Liveable, Productive	Own
Ongoing	93	Investigate incorporating local stories and art while improving the transport network in a way that respects traditional owners including the protection of Aboriginal cultural heritage	Liveable	Own
Ongoing	94	Work with local Aboriginal communities and LALCs to find ways to acknowledge and visually celebrate Country for all walking and cycle ways	Liveable, Connected	Own

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