Transport for NSW

Future Transport Strategy

Our vision for transport in NSW

NSW GOVERNMENT

future.transport.nsw.gov.au

Acknowledgement of Country

Transport acknowledges the traditional custodians of the land and pays respect to Elders past and present.

We acknowledge Aboriginal people as the traditional custodians of the lands and waterways on which we build infrastructure, deliver projects and serve Transport's customers and are grateful to Elders past and present for their continual leadership.

Transport acknowledges for tens of thousands of years the continuous deep relationship and connections of Aboriginal people to their land, language, song, dance, art and story. Transport pays respect to those ancestors who defended, walked and managed these lands for many generations before us and who have left a legacy of strong cultural wisdom and knowledge embedded within Country today.

Transport acknowledges many of the transport routes we use today – from rail lines, to roads and water crossings – follow traditional Songlines, trade routes and ceremonial pathways in Country that Aboriginal people followed for thousands of years.

Transport is committed to honouring Aboriginal peoples' cultural and spiritual connections to the land, waters and seas, and their rich contribution to society.

We recognise the impacts we make on Aboriginal culture and heritage through our infrastructure projects and commit ourselves to a future with reconciliation and restorative programs at their heart.

The implementation of the **Future Transport Strategy**, as noted in Transport's vision for its Reconciliation Action Plan, ensures 'our transport system is a living, breathing network that connects us with each other and which carries our stories across cultural border lines'. This brings us opportunities to work in partnership with Aboriginal people and communities. Our future projects will positively reflect the values, sustainability and spirituality of the Aboriginal cultures in the areas where we work. We acknowledge that our First Nations people and our customers today are still travelling these ancient Songlines, still doing business and still moving resources.

To do this, we will engage early with Aboriginal people on projects; respect and value their expertise; and integrate their understanding of Country and place into the design process and outcome. This is Planning for Country and Designing with Country.

Contents

Minister's foreword

I am pleased to present the **Future Transport Strategy**, setting out the NSW Government's vision for transport in a growing and changing state.

Good transport systems are ultimately about freedom. Being able to move around our cities and regions allows us to spend time with loved ones, undertake our work, access important services and care, experience new places, and create new ideas. Better mobility isn't just about investment, or infrastructure, or technology – it's a social phenomenon and we all need to play our part to make greater mobility a reality.

This Government has fundamentally changed how we think about transport. We have invested record amounts in new infrastructure, delivered new fleets, and boosted public transport services. We have upgraded stations across the state, established a nation-leading plan to encourage the transition to electric vehicles, and modernised our regulatory systems for a 21st century economy.

Transport is continuing its focus from moving vehicles to moving people. It is reshaping our transport networks from a collection of disparate modes into one integrated and multimodal system.

The **Future Transport Strategy** will guide the community on our strategic directions for future planning, investment, delivery and operations. It has been developed in consultation across the NSW Government, so it truly integrates with other government infrastructure and services. The Strategy provides the framework that informs our future network plans, place-based plans, services plans and policy decisions to achieve successsful outcomes.

We will connect communities and businesses via our city-and state-shaping infrastructure and services pipeline.

But we will also be making sure we concentrate on the small things that make big impacts, like targeted enhancements to footpaths and cycleways, and other local enhancements that will produce immediate results in our neighbourhoods.

The pandemic has shown how we need to be agile and alive to shocks to our transport system, and be willing to adapt to new realities and priorities. As commuting patterns have been upended and demand for freight has skyrocketed, our strategies need to reflect our new normal.

We need to continue to drive down emissions in our transport systems to reduce our costs and environmental impacts, and to be sure NSW will sit at the vanguard of the new economy. The previous **Future Transport Strategy** catalysed the electrification of our bus fleet and it's important to keep up this momentum.

Our programs such as Get NSW Active and Streets as Shared Spaces have shown how repurposing public streets and corridors can make it easier to get around enabling us to live happier, healthier, more productive lives.

Together with the State Infrastructure Strategy and our Six Cities Region vision, we are taking an integrated approach to the future of land use, transport and infrastructure in NSW.

We cannot shy away from the challenges we will face into the future. As our world changes, we need a toolkit of ideas, plans and investments to empower our community to remain one of the world's most attractive places to live. The **Future Transport Strategy** will guide us on this journey.

Minister for Infrastructure, Cities and Active Transport, The Hon Robert Stokes

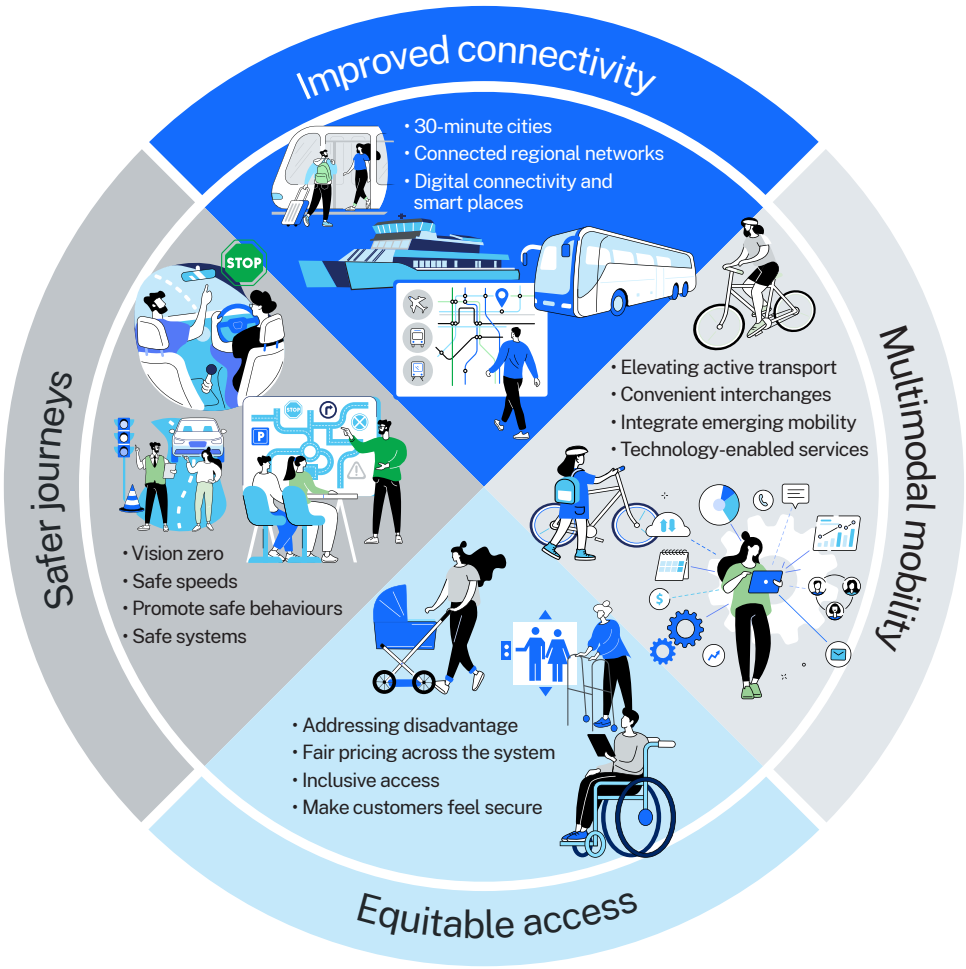


Figure 1
Connecting our customers' whole lives – Transport is committed to connecting our customers' whole lives.

Vision and outcomes

Our transport system will help to make NSW the most liveable state in the world, an economic powerhouse filled with vibrant, sustainable communities where citizens have choice and opportunity.

Transport is both an agent of equality and a driver of economic activity. Well-planned and delivered transport can connect, unite and invigorate communities, and bring vibrancy to neighbourhoods. It allows businesses to grow, keeps supply chains efficient and boosts employment opportunities. Through transport innovation and planning, we can support our environmental goals to ensure the planet is sustained for generations to come.

The **Future Transport Strategy** sets our direction for continuing to improve every part of our transport system for the benefit of our customers, the community and the economy. It puts people and places at the centre of our decision making: the people who travel on our traditional Songlines and walking tracks, on our paths, rail, roads and waterways, and the businesses that deliver goods across NSW and around the globe.

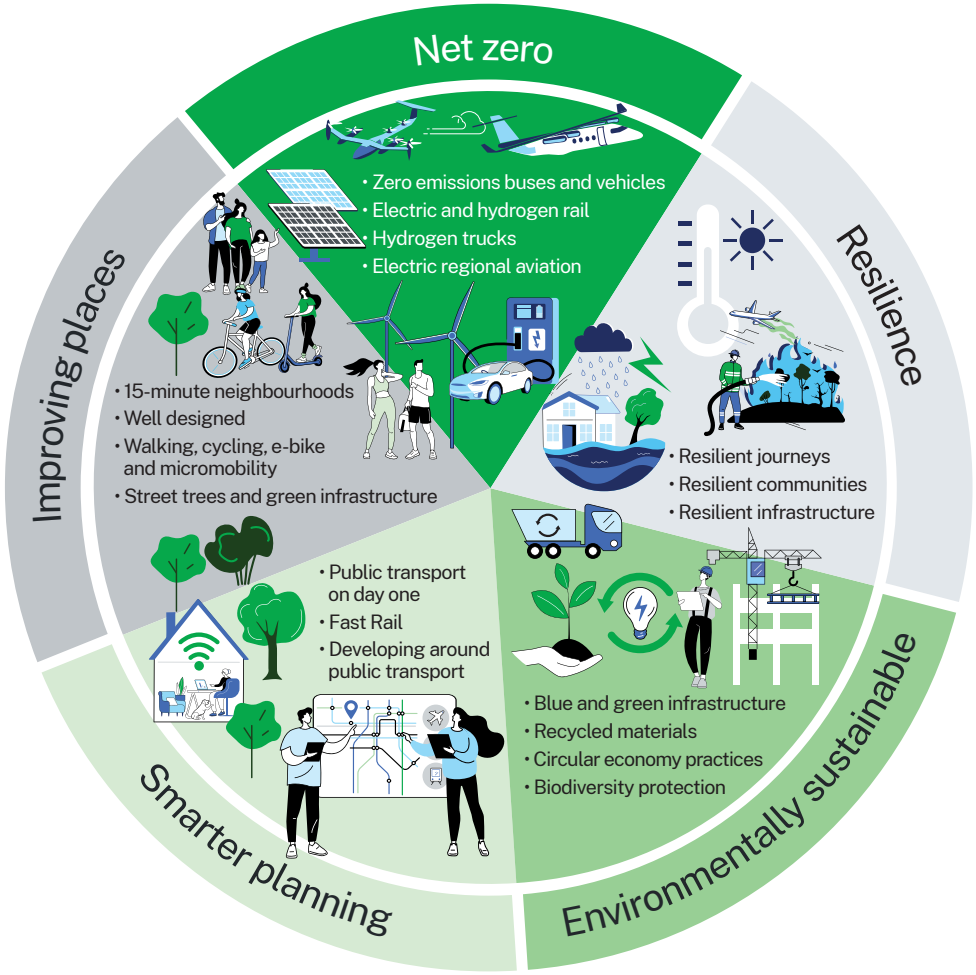


Figure 2
Successful places for communities – Transport is taking a holistic approach to making places successful for communities.

Transport's purpose is to connect customers and communities with a safe, reliable, sustainable and integrated transport system. Our focus continues to be on putting our customers and communities at the centre of everything we do.

This strategy outlines the direction for investment, services and policy to connect people and goods between cities, to regional centres and villages, within neighbourhoods, to Country, internationally, and to each other. We are taking a customer first, unified, multimodal approach to managing transport in NSW based on Transport's three outcomes:

- Connecting our customers' whole lives
- Successful places for communities
- Enabling economic activity.

Transport will play a key role in achieving the NSW Government's vision for the Six Cities. People and goods will be able to move across the six cities using seamless connections. Within each city, customers will have 30-minute access by public transport to jobs, housing, health care and social connections. We will refresh interchanges to reduce connection times. In new developments, we will ensure people can catch public transport, walk and cycle from the day they move into their homes.

Our plan to revolutionise regional connections will bring people in regional, rural and remote areas closer to the services they need. Fast Rail will spread the economic benefits well beyond the Six Cities Region and give people greater access to and from regional NSW. We will connect our centres of innovation, learning, finance and industry in our cities and regions to give people more choice in where they live and work.

Transport will continue to strive to provide equitable access to everyone. We will continue to focus on those who are underserviced by transport. Equally, Transport is committed to a transport system that supports its **Closing the Gap Report 2020** targets and enables Aboriginal social wellbeing, economic activity and prosperity by embedding Country in place making, transport planning and delivery.

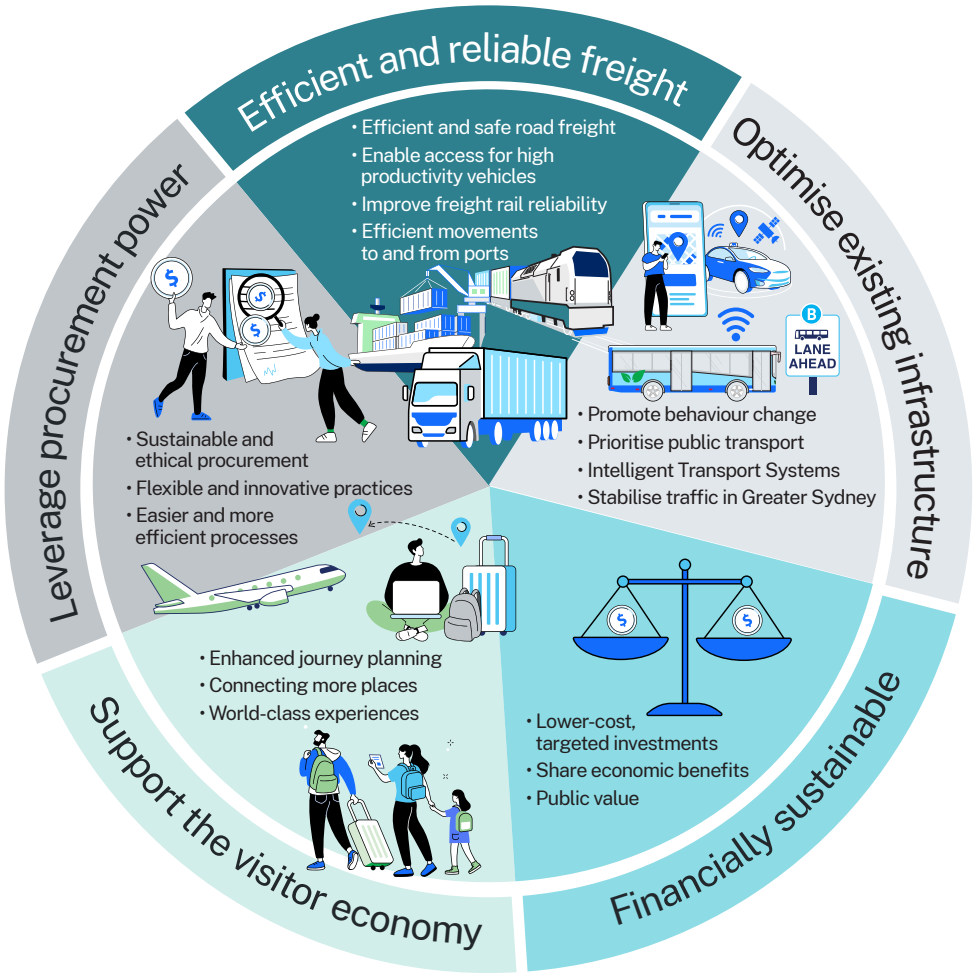


Figure 3
Enabling economic activity – Transport will support NSW to achieve its economic potential.

As was evident with the COVID-19 pandemic, the swift change in how we are able to work and undertake other activities, such as learning, health and shopping, has changed our daily travel patterns. Digital connections are just as important as physical ones. We will partner across Government and with industry to improve digital access throughout our state. This will give people more choice of when, how and if they need to travel, including plugging into new modes such as e-bikes and electric cars. It will also open opportunities to increase the efficiency of our roads, rail and ports with data sharing, new technologies and travel modes.

The design of neighbourhoods in regional and metropolitan NSW strongly influences the wellbeing of our communities and customers. Our 15-minute neighbourhood concept will improve health outcomes and ensure local streets, businesses and community hubs thrive. We will make public transport, walking, cycling and micromobility safer and easier with better pathways, cycleways and connections. The resulting increase in foot traffic will bring local places and businesses to life.

Transport will meet the challenges of climate change and economic uncertainty head-on by building resilience into our systems. We have already begun to transition our transport fleet to net zero and we will support the roll out of electric vehicles. Transport will identify risks and create new physical and digital pathways to keep people safe, moving and informed in the event of disruption. We will 'build back better' after extreme weather events, reduce waste, and ensure our transport infrastructure makes a positive contribution to places and the environment. Our focus will be on ensuring resilient journeys, resilient communities and resilient infrastructure that can withstand future shocks and stresses.

As the demand for goods grows with our growing population, we will make it easier for businesses to move freight in and out of our ports and airports, around our regions and through our State. Improved freight connections in our regions and cities will reduce delivery times and costs for businesses and customers.

We must ensure we balance our aspirations with operational realities and efficiencies. Investment decisions will place public value at the forefront. A financially sustainable transport system will support day-to-day operations, maintenance, safety and customers' outcomes without financially burdening future generations.

Some changes will happen immediately. Others will take years to implement. By planning now, we can create a future where every journey is people and planet positive.

About the **Future Transport Strategy**

The **Future Transport Strategy** sets Transport's vision for safe, healthy, sustainable, accessible and integrated passenger and freight journeys in NSW.

The purpose of the strategy

The **Future Transport Strategy** sets the strategic directions for Transport to achieve world-leading mobility for customers, communities, businesses and our people. It is part of a suite of government strategies, policies and plans that integrate and guide land use and transport planning across NSW.

It replaces **Future Transport 2056: Shaping the Future**, which was published in 2018.

Pivotal events such as the COVID-19 pandemic, drought, bushfires, floods and global upheaval altered the trajectory of social, cultural and economic trends in NSW. Trends such as energy transition, the digital economy, the impacts of climate change, and our use of data and technology are now likely to accelerate.

Our refreshed **Future Transport Strategy** takes this into account alongside population growth and global megatrends. It includes groundbreaking ideas to revitalise our six cities, connect regional communities, encourage thriving local neighbourhoods, and build on our economic success.

Careful future planning will ensure we allocate transport funding wisely as we build and improve our future cities, towns and regions. In doing so, we will ensure our transport system meets all our customers' needs.

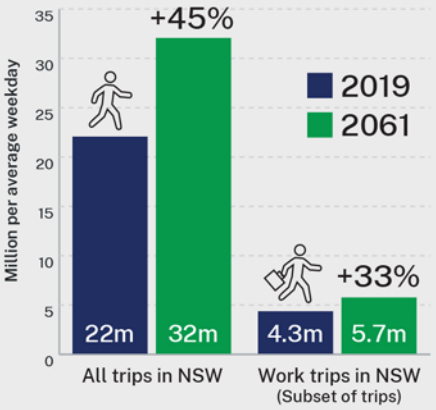
How we developed the strategy

The **Future Transport Strategy** was developed in collaboration with other government agencies to ensure the State's overarching strategies align and complement each other. Transport used a 'vision and validate' approach for Future Transport. This approach starts with a long-term vision and establishes the outcomes we need to deliver that vision for customers and communities.

A growing population

8 million
residents in 2021
+3.5 million
residents by 2061

An increasing number of trips



A growing freight task

2021–2061

Freight volume (million tonnes per annum)

+34%

We analysed key data including population growth, projected growth in passenger trips and freight volumes, emerging megatrends, and the changing needs and values of our customers and communities. We considered future land use scenarios, whole-of-government priorities, and how transport solutions can strengthen communities and improve neighbourhoods, cities, towns and regions.

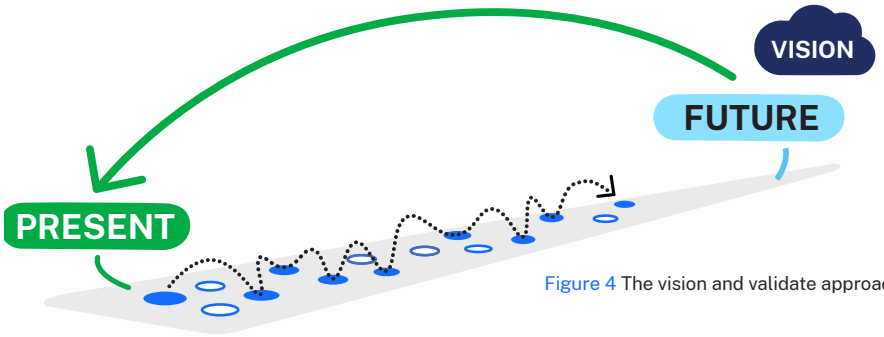


Figure 4 The vision and validate approach.

Delivering against Transport's outcomes

The **Future Transport Strategy** sets Transport's strategic directions and responses. From these directions and responses, we have determined the actions needed to achieve our vision. These actions form the basis of Transport's program of work, funding and delivery options.

At its heart, the **Future Transport Strategy** works to deliver Transport's three high-level outcomes. These are:

- Connecting our customers' whole lives
- Successful places for communities
- Enabling economic activity.

These are the outcomes against which we will track and measure our progress in achieving our vision. The strategy also sets key performance measures related to the improvements we need to achieve.

This strategy provides the framework that informs network plans, service plans and policy decisions to achieve the outcomes.

Using the strategy

The strategy is publicly available and our government and industry partners, customers, and communities and the people of Transport can use it for their different needs:

- Government partners: as a framework when planning and delivering programs with a transport interface.
- Industry stakeholders: for guidance, to see the direction Transport is heading in, giving them the confidence to invest, partner and upskill accordingly.
- Customers and communities: to understand Transport's commitments to improving customer journeys in both regional and metropolitan areas, improving equity and access, achieving net zero emissions, and contributing to the liveability and quality of places around them.
- Our people: to align their plans, programs and deliverables to the strategic directions and responses in the strategy, as future Transport initiatives will be aligned to this strategy.

Connecting our customers' whole lives

Multimodal customer journeys are seamless, personalised and enabled by technology and data.

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Successful places

The liveability, amenity and economic success of communities and places are enhanced by transport.

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Enabling economic activity

The transport system powers NSW's future $1.4 trillion economy and enables economic activity across the State.

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Future Transport Strategy at a glance

More choice, better access

Improving transport solutions for our customers

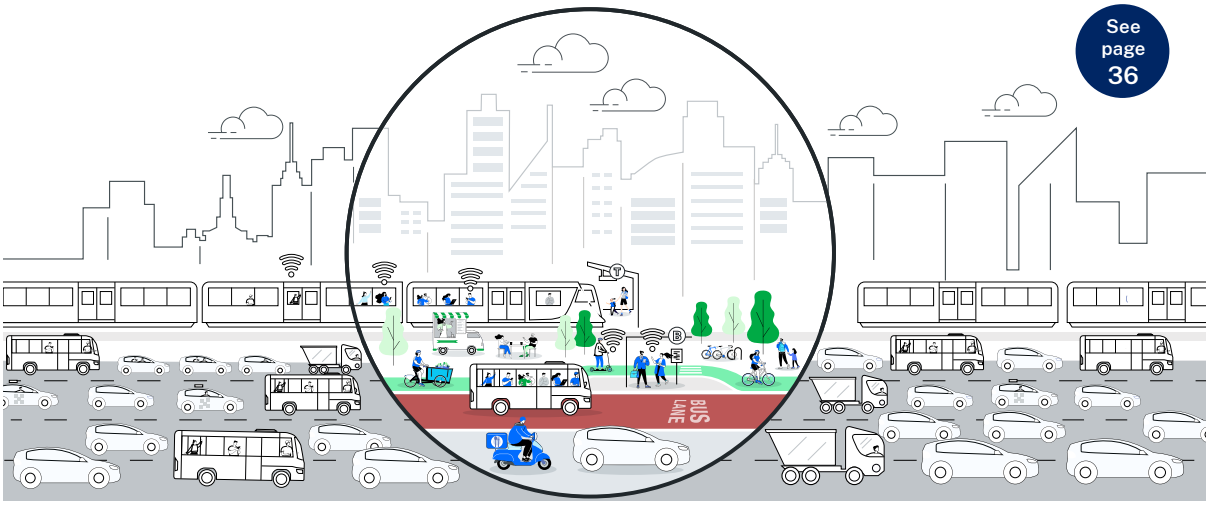
Stronger investment in our public transport, walking and cycling networks will offer convenient alternatives to driving and build a sustainable transport system. This includes targeting small to medium interventions to optimise the transport network and not just mega projects.

Better public transport can make our cities and towns stronger and more sustainable, with seamless networks that deliver more convenient door-to-door journeys.

Regional Connected Networks will help our regions thrive, with more multimodal and technology-enabled options, connecting people within and between regions and cities. Efficient and reliable freight networks will make NSW stronger and more globally competitive.

For more connectivity and choice, dedicated Fast Rail will transform train services between metropolitan cities in the Six Cities Region. This will be complemented by improved public transport networks and services to ensure 30-minute access to key destinations 24/7 in each of the six cities.

The principles of equity and inclusivity will continue to guide the development of our transport system, providing people with equal access regardless of age, ability, socio-economic or personal circumstances.



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Environmentally responsible

Moving towards net zero emissions

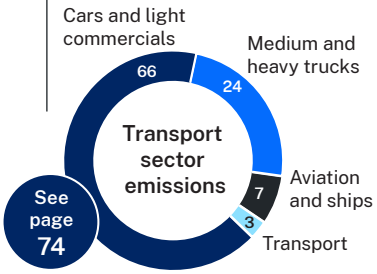
Transport is leading by example directly through our operations in the effort to achieve net zero emissions, with new battery-electric buses, green power purchase agreements, and the roll out of recycled and low-carbon building materials.

Across the State, beyond our own operations, we will assist the broader transport sector through the uptake of electric buses, cars, trucks and trains – and eventually ships and planes – to reduce NSW's second-largest source of greenhouse gas emissions.

Transport will support electric vehicle charging points across the State, zero emission trucks, hydrogen refuelling infrastructure, and trials of electric airplanes.

We will also be considering climate change impacts in all of our decision making, leading to resilient and environmentally sustainable transport solutions.

Transport emissions by mode (%) in 2022



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Thriving places

Enhancing liveability for customers and communities

Our cities and towns will be great places to live, work and visit with more homes within an easy walk or ride to shops, schools and parks. Working with local communities, we can create safer, greener and more liveable 15-minute neighbourhoods across NSW, where wider footpaths, cycle lanes, street trees, pedestrian crossings and lower speeds will improve access to nearby shops and services.

Transport's own projects will be well designed and sustainable. In conjunction with smarter land use planning, we will provide more housing opportunities near transport.

We will recognise the potential of streets as local public spaces and ensure new spaces are accessible on foot by the local community, including young people.

Safer streets will allow more children to walk or cycle to school.


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Maximising the use of our network

Releasing the potential of our infrastructure

We will focus on getting more out of our existing investments, by reallocating road space to more efficient modes of transport like buses, walking, cycling and micromobility devices.

We will embed intelligent sensors and digital systems to improve the real-time management, efficiency and reliability of our networks; prioritise public transport and freight vehicles; and ensure our roads are ready for Connected and Automated Vehicles (CAV). We will also investigate 'no-build' digital options before building new infrastructure.

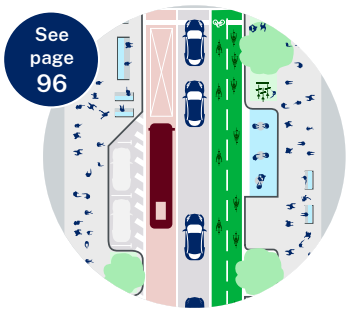
We will instigate behaviour change programs to reduce demand in peak periods and provide options for travel. Dynamic supply and demand measures, including timetabling, will be implemented to ensure more efficient flows of people and goods.

We will manage growing freight demand by integrating our road and rail networks with ports, airports, intermodal terminals and logistics precincts.

We will stabilise traffic levels in Greater Sydney to improve productivity and manage congestion, ensuring we accommodate growth without sacrificing quality of life.

Providing fair access to networks for all our customers is a key driver and we will explore more holistic network and road pricing for efficiency and more equitable outcomes for our customers.

A smarter use of data and automation technologies will make the freight task even more efficient in the future.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Resilient communities

Building for resilience and economic growth

Resilience has emerged as an important focus for our customers and communities. A resilient and reliable transport system will support freight and passenger journeys and successful places. Transport networks will contribute to the overall resilience of our places and communities.

When damaging events occur, we need to reduce the risk and impact on communities and build back to a more resilient standard. Affected assets being renewed or replaced need to be designed to withstand the pressure they may be exposed to over their life, and the changing role they may play in making the entire system more resilient.

For regional communities, better access and services, and significant infrastructure investment (such as Fast Rail) will stimulate the economy and underpin regional employment.


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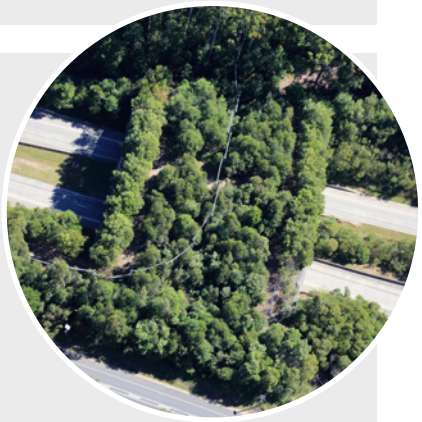
Working towards the long-term vision today

In order to achieve our long-term vision, we need to take steps between now and 2025 to achieve benefits for our customers and communities.

More choice, better access

Improving transport solutions for our customers

- Plan better transport connections to give customers more choice in how and when they move (C2.1)
- Investigate improved access, transfer times and customer experience at our interchanges (P1.1)
- Begin planning and early works on Fast Rail and the Six Cities Region vision (P1.1)
- Create a new Mobility as a Service platform that will make it easier to plan, book and pay for travel (C1.2)
- Ensure record investment in active transport for walking and cycling infrastructure (P2.1)
- Plan Strategic Cycleway Corridors and prioritise walking and cycling first and last mile options (C2.1)
- Ensure the customer's voice is heard by collecting customer feedback and tailoring resources to the needs of our different customer groups (C2.5)



Environmentally responsible

Moving towards net zero emissions

- Enable electrification of our fleet (P3.1)
- Support for the uptake of electric vehicles (P3.2)
- Transition transport operations to renewable energy, including greening the grid supply of our electrified rail network (P3.1)
- Adopt circular economy principles and use recycled waste in all our projects (P4.4)
- Trial automated and sustainable last mile freight delivery (P3.2)

The actions listed are currently at various stages of planning, development and implementation.
All actions are subject to separate business case development, assurance reviews and funding decisions.

Thriving places

Enhancing liveability for customers and communities

- Partner to provide more attractive neighbourhoods that enable healthier lifestyles (P1.2)
- Undertake planning for game-changing urban renewal projects such as Circular Quay and Central Station (C1.1)
- Investigate more options for safe 24-hour travel and improved security around interchanges (C3.3)
- Utilise smart place princples to transform our streets and public places (P2.2)
- Apply better design in transport projects and improve place outcomes (P2.4)
- Improve partnership approach to give customers, communities and stakeholders more input (P2.4)

Maximising the use of our network

Releasing the potential of our infrastructure

- Promote sustainable travel behaviour to flatten the peak and optimise the network (E2.1)
- Use intelligent sensors and digital systems to improve real-time information, capacity management and running time (E2.4)
- Reallocate road space to make the most of our existing assets (E2.3)
- Build smart transport networks to improve journey times, reliability and efficiency (E2.4)
- Investigate opportunities for more priority for public transport (E2.2)
- Collaborate on data standardisation and develop intelligent data systems (E1.6, E2.5)

Resilient communities

Building for resilience and economic growth

- Factor resilience into the operations and maintenance of existing assets and the design of new assets (P5.4)
- Increase collaboration across government to minimise disruption and improve evaluation in emergencies (P5.2)
- Improve major regional highways and bridges to keep freight and logistics running (P5.3)
- Focus asset renewals and replacements on resilience and ‘building back better’ (P5.3)
- Improve supply chain visibility through better digital systems and data management (E1.6)
- Support the uptake of new technologies such as connected and automated vehicles to boost productivity (E1.5)

Outcomes, strategic directions and re

Each column is a Transport outcome leading 14 strategic directions. Under each strategic direction are our responses.

Connecting our customers' whole lives

C1 Connectivity is improved across NSW

- C1.1 Enhance 30-minute metropolitan cities
- C1.2 Connect our regional cities, centres, towns and villages
- C1.3 Facilitate digital connectivity and smart city technologies
- C1.4 Improve digital connectivity along our transport corridors

C2 Multimodal mobility supports end-to-end journeys

- C2.1 Support car-free, active, sustainable transport options
- C2.2 Provide customer-centric design for public transport interchanges
- C2.3 Integrate emerging mobility choices
- C2.4 Facilitate efficient freight connectivity and access
- C2.5 Improve our technology-enabled customer services

C3 Equitable, accessible and secure transport for all

- C3.1 Provide transport choices for people no matter where they live
- C3.2 Develop an inclusive transport system enabling access to services and places for all
- C3.3 Make customers feel secure travelling day and night

C4 Our transport networks are safe

- C4.1 Deliver strategies to achieve ambitious safety targets
- C4.2 Promote safe behaviours
- C4.3 Expand technology and innovation to improve safety
- C4.4 Integrate a Safe Systems approach
- C4.5 Improve the safety of people walking and cycling
- C4.6 Deliver safer speed settings and infrastructure safety treatments on regional roads
- C4.7 Improve resilience to human threats and disruption
- C4.8 Create safer waterway access and infrastructure

Successful places for communities

P1 Supporting growth through smarter planning

- P1.1 Transform rail between metropolitan cities
- P1.2 Support growth around public transport
- P1.3 Ensure public transport is available on day one
- P1.4 Improve parking provision and management

P2 Transport infrastructure makes a tangible improvement to places

- P2.1 Support thriving and healthy 15-minute neighbourhoods
- P2.2 Manage street space as public space
- P2.3 Incorporate green, blue and OCHRE infrastructure
- P2.4 Build well-designed transport infrastructure that makes places more liveable and successful
- P2.5 Improve the amenity of places along State Roads

P3 Transition to net zero greenhouse gas emissions

- P3.1 Achieve net zero emissions from our operations and fleet by 2035
- P3.2 Help the transport sector achieve net zero emissions by 2050

P4 Transport minimises environmental impacts

- P4.1 Ensure a net increase in urban trees and no net loss in biodiversity
- P4.2 Improve air quality and reduce noise
- P4.3 Use space and assets more sustainably
- P4.4 Use more sustainable materials
- P4.5 Design out waste and keep materials in use

P5 Transport is resilient and adaptable to shocks and stresses

- P5.1 Provide customer journey resilience
- P5.2 Plan and monitor for shocks and stresses
- P5.3 Build and upgrade for shocks and stresses
- P5.4 Consider climate change impacts in all our decisions

sponses

Enabling economic activity

E1 Freight networks and supply chains are efficient and reliable

- E1.1 Improve freight efficiency, access and reliability on roads
- E1.2 Increase rail freight capacity and reliability
- E1.3 Optimise the capacity and performance of ports and airports
- E1.4 Manage and protect employment lands, key freight and logistics lands and corridors
- E1.5 Improve the efficiency of freight in centres and neighbourhoods
- E1.6 Enhance the freight network interoperability and data capabilities

E2 Existing infrastructure is optimised

- E2.1 Promote travel behaviour change to manage networks
- E2.2 Stabilise Greater Sydney's traffic
- E2.3 Improve the use and efficiency of our roads through road space allocation
- E2.4 Optimise the use of our motorways and strategic road network
- E2.5 Continue to develop, invest in, and deploy operational technologies to improve the transport system
- E2.6 Improve network use and efficiency through fairer pricing
- E2.7 Optimise maintenance

E3 Transport supports the visitor economy

- E3.1 Improve access and experiences
- E3.2 Deliver networks, services and technologies that support visitor access across the whole State

E4 The transport system is financially sustainable

- E4.1 Optimise revenue streams for the long-term viability of the transport system
- E4.2 Reduce cost pressures by enhancing spending efficiency

E5 Leverage our procurement power for better outcomes

- E5.1 Promote sustainable and ethical procurement
- E5.2 Make procurement easier and more efficient
- E5.3 Adopt flexible procurement practices to promote innovative services and solutions
- E5.4 Introduce new delivery approaches

Chapter 1

Context

What is the **Future Transport Strategy**?

Our vision for transport in NSW puts people, places and economic prosperity at the centre of our decision making. **The Future Transport Strategy** is part of a suite of strategies, policies and plans that integrate and guide long-term land use, transport planning, and the design, delivery and management of transport. It is enabled by the Transport Administration Act 1988 and the NSW Government's agenda.

It replaces **Future Transport 2056 Shaping the future**, published in 2018.

Transport worked with the Department of Planning and Environment, the Greater Cities Commission, Infrastructure NSW and other government agencies to align the vision for NSW.

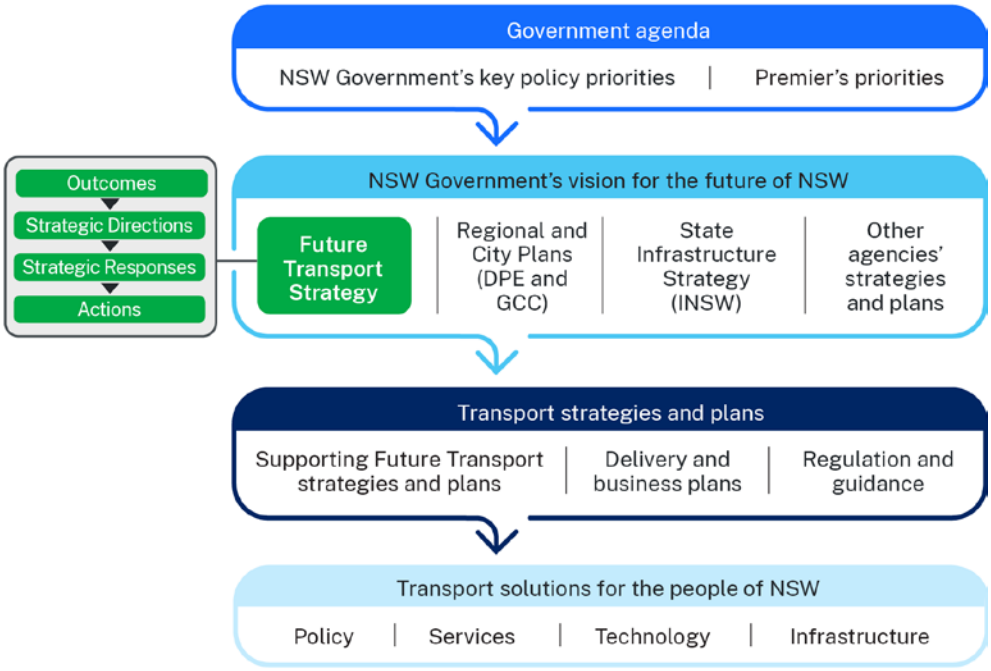


Figure 5 Strategic context for the **Future Transport Strategy.**

The **Future Transport Strategy** will provide the direction for Transport in NSW based on three outcomes that form the chapters of this strategy

- Connecting our customers' whole lives
- Successful places for communities
- Enabling economic activity.

It sets 14 strategic directions, which will guide our work to achieve these outcomes. Each direction contains a set of responses and actions that Transport and our partners need to achieve. The actions will form the basis of our programs of work to realise our vision.

The **Future Transport Strategy** considers every part of our transport system from planning to operations to ensure we have a fully integrated approach. It sets the direction for localised plans and strategies, policy direction and prioritisation.

The aim is to connect customers and communities with a safe, reliable, sustainable and integrated transport system, and to help guide the allocation of transport funding as we build our future cities, towns and regions.

The strategy considers local and global trends such as shifts in population, climate change and the rapid acceleration of technology. It puts the customer at the centre of our decision making so every direction and action we take will benefit the people of NSW.

Average time spent travelling in Greater Sydney, 2019-20

83 mins per day

Private vehicles per person

0.5 Greater Sydney

0.7 Regional NSW

Growth in parcel deliveries in 2020

+60% Metro areas

+51% Regional areas

Source: Australia Post 2021

70% of road freight operators have only one vehicle

The **Future Transport Strategy** covers the whole of NSW, consisting of Regional NSW and the Six Cities Region.

The Six Cities Region is a newly defined global city region that delivers education opportunities and industry growth and reflects and supports new ways of living and working, accelerating the change and revitalisation already occurring across the six cities.

The Six Cities Region includes the Lower Hunter and Greater Newcastle City, the Central Coast City, the Illawarra-Shoalhaven City, the Western Parkland City, the Central River City and the Eastern Harbour City. It encompasses 43 local government areas.

The **Future Transport Strategy** was developed with a strong focus on financial sustainability and greater emphasis on strategic direction rather than delivering an updated infrastructure list. All initiatives are subject to Transport's assurance approach, with a robust review of projects as they progress through the investment lifecycle – from the initial concept and strategic business case to delivery and benefits realisation – and incorporates independent expert reviews of major projects from Infrastructure NSW.

Actions are identified for each response outlined in the **Future Transport Strategy**. They are prioritised as follows:

- Priority actions: Actions to be implemented as a priority, with the view to deliver outcomes in 1-5 years.
- Progress planning: Actions that require (further) planning and investigation prior to an initiative or investment being committed to and delivered.
- Long-term need: Actions that cater to the long-term needs of the State, some potentially requiring significant capital investment in the long term.

Maps in the **Future Transport Strategy** provide a high-level summary of networks. More detailed maps are provided in accompanying Future Transport Plans and will change as individual projects are developed.

The strategy will be updated every 5 years at a minimum as communities' needs change, technology evolves and opportunities emerge.

Future Transport Plans

The Future Transport Plans and place-based transport plans define the initiatives Transport will take in the short, medium and long term based on the **Future Transport Strategy.** Place-based plans give a local context to the vision and through consultation they can be achieved in ways that matter to our customers and communities.

The Future Transport Plans will replace the **Greater Sydney and Regional NSW Services and Infrastructure Plans** released in 2018. They will be developed in coordination with land use and other agencies to ensure an integrated approach across Government.

Supporting strategies and plans

More detailed, issue-based strategies and plans will support the implementation of the **Future Transport Strategy** and place-based Future Transport Plans. Examples of supporting strategies are the **Future Technology Roadmap** and the **Transport Data Strategy**, which will set the direction for how we capture and manage data to unlock its value for our customers, community, people and partners. The supporting strategies and plans will provide further opportunities for us to detail how we will partner with other Government agencies to support whole of Government objectives.

Changes since Future Transport 2056

Future Transport 2056 set Transport on a vision-led planning journey that addressed financial, social and environmental sustainability. **Future Transport Strategy: Our vision for transport in NSW** builds on this momentum, keeping customers and communities at the heart of our decision making.

NSW in the future

NSW is growing and changing. To be successful, our future transport system must take these changes into account.

- NSW's population will grow from 8.2 million to 11.5 million by 2061, requiring 1.7 million additional homes.
- Regional NSW will grow faster than previously forecast, with 16% more people by 2061.

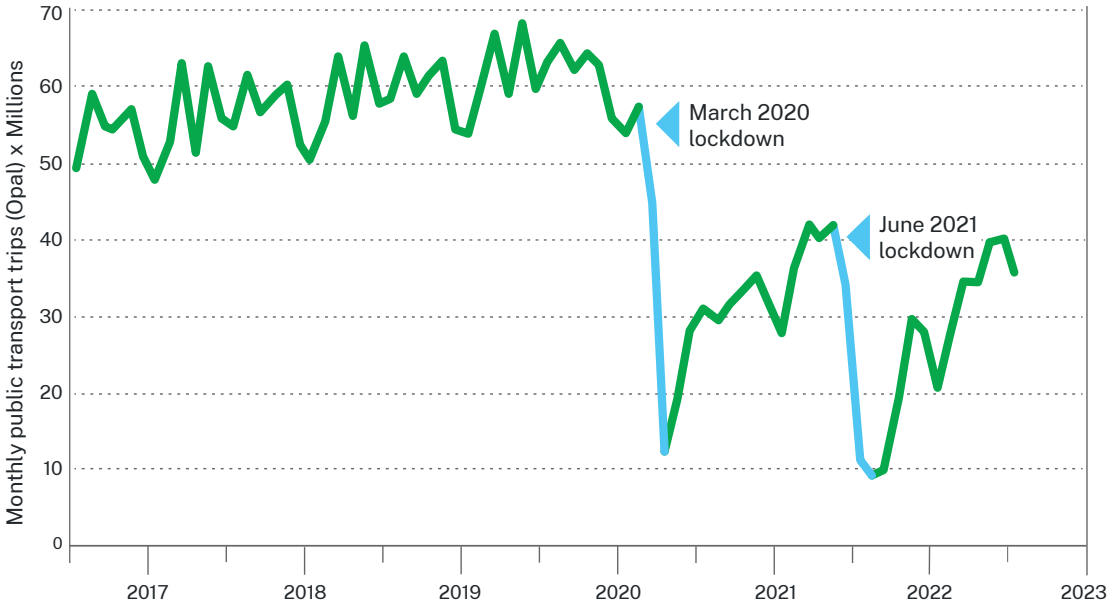


Figure 6
Monthly trips on the Greater Sydney and Outer Metropolitan networks 2016-2022 (TfNSW Opal data).

- By 2061, nearly 25 per cent of the population will be over 65 years old, up from 17 per cent in 2021.
- NSW is on track to have a $1.4 trillion state economy, with average full-time wages growing to $139,000 per year by 2061.
- The volume of commodity freight is forecast to increase by 34 per cent in NSW and 56 per cent in Greater Sydney (comprising the Western Parkland City, Central River City and Eastern Harbour City) by 2061.
- In 2021, eCommerce grew approximately 50% in NSW, driving parcel delivery growth of 27% at Australia Post.

Population growth is expected to be greatest in the Six Cities Region. We will need innovative solutions, new connections and potentially new forms of transport to ensure we meet people's current and future needs.

Our population is ageing and this will bring new challenges for maintaining mobility, the productivity of our economy and our strong healthcare system. Easy access to health care will be a priority for a growing sector of our population. NSW seeks to provide age-friendly environments.

NSW is already diverse and overseas migration will be one of the biggest drivers of population growth. In future, we will need to ensure people from diverse backgrounds and languages can easily plan, book and access safe and secure transport. Our state has more than 70 Aboriginal nations, and we are committed to meaningful improvement for Aboriginal people and communities in NSW.

The NSW economy will continue to grow. More women and people aged over 65 will be in the workforce and more people will work part time. The workforce will be more highly skilled and will increasingly work in the health, social and business services sectors. Super-fast digital connectivity has already enabled more people to work, study and shop from home and this trend is set to continue. These changes in how, when and where we work will alter the time and location of employment and travel patterns across NSW. We may need to cater to a decrease in the number of trips taken for work and an increase in the number for recreation, particularly at night and on weekends, and consider any long-lasting impacts of the COVID-19 pandemic.

New technologies and transport services such as automated vehicles, aerial passenger drones and micromobility devices will shape how we move. In the future, walking, cycling, e-bikes and micromobility will increasingly become a part of thriving neighbourhoods.

Rapid growth in online shopping is also changing the patterns of freight delivery. This will continue to drive significant growth in light commercial traffic and delivery vehicles on our roads.

Australian and NSW Government initiatives such as Inland Rail, Special Activation Precincts and Regional Job Precincts will boost regional economies and position regional businesses to take advantage of global markets. The mix of freight carried by transport is set to change as coal declines and commodities such as grain, beef and steel increase alongside emerging industries such as renewable energy and waste management. This shift will generate changes in freight flows from regional NSW to key port and market infrastructure.

Megatrends

In a globalised world, the major trends that drive our economy and population growth will shape life in NSW.

The COVID-19 pandemic, geopolitical uncertainty and economic shocks have shown how global trends can cause significant disruption to our transport network.

Transport is building a scenario-planning capability, drawing on the NSW Trend Atlas so we can adapt and provide timely strategic responses to unforeseen trends or disruptions.

Impacts of COVID-19 pandemic

Travel behaviours are likely to continue to change, particularly for commuters, shifting those who can work remotely away from the traditional 9 to 5, five days a week commute. This may bring altered peak times and increased travel in local centres and neighbourhoods, including more freight deliveries to homes. Subject to available digital connectivity, it may result in the relocation of city residents to regional areas, increasing the number of irregular work commutes between regions and releasing pressure on city destinations.

Impacts of climate change

Climate change will cause rising sea levels, urban heat and more extreme weather events. Key challenges include assessing existing transport networks for future vulnerability and meeting the costs of developing and implementing adaptation measures to existing and replacement assets.

Decarbonisation

Achieving NSW's goal of net zero emissions by 2050 will require decarbonisation and electrification, with a focus on renewable sources across the transport sector. Decarbonisation of heavy freight will require collaboration with the Commonwealth and other states and territories as well as extensive research, planning, technological innovation, supportive policies, and infrastructure.

Consumer demand for goods

The accelerating demand for consumer goods and expectations of rapid delivery is putting pressure on global supply chains. Future transport systems must improve existing infrastructure and harness technological innovation to improve the efficiency and viability of freight movements.

Rapid technological changes

New mobility options such as mobility as a service, connected and automated vehicles, and autonomous passenger and freight transport will become more popular and commercially viable. Quantum computing, automation, machine learning and technology will enable better planning, management and evaluation of transport services and infrastructure.

Data as an enabling asset

Data is crucial to digital transformation. The increased generation, consumption and use of data will drive untold value for our customers and communities as we invest in smart, predictive and proactive ways to design, plan and manage our customer experiences, services and places.

Economic growth markets

By 2030, four of the five largest economies in the world are expected to be in Asia. Providing efficient transport links, including through emerging aviation technologies and airport upgrades in regional areas, will help NSW take advantage of these growing markets.

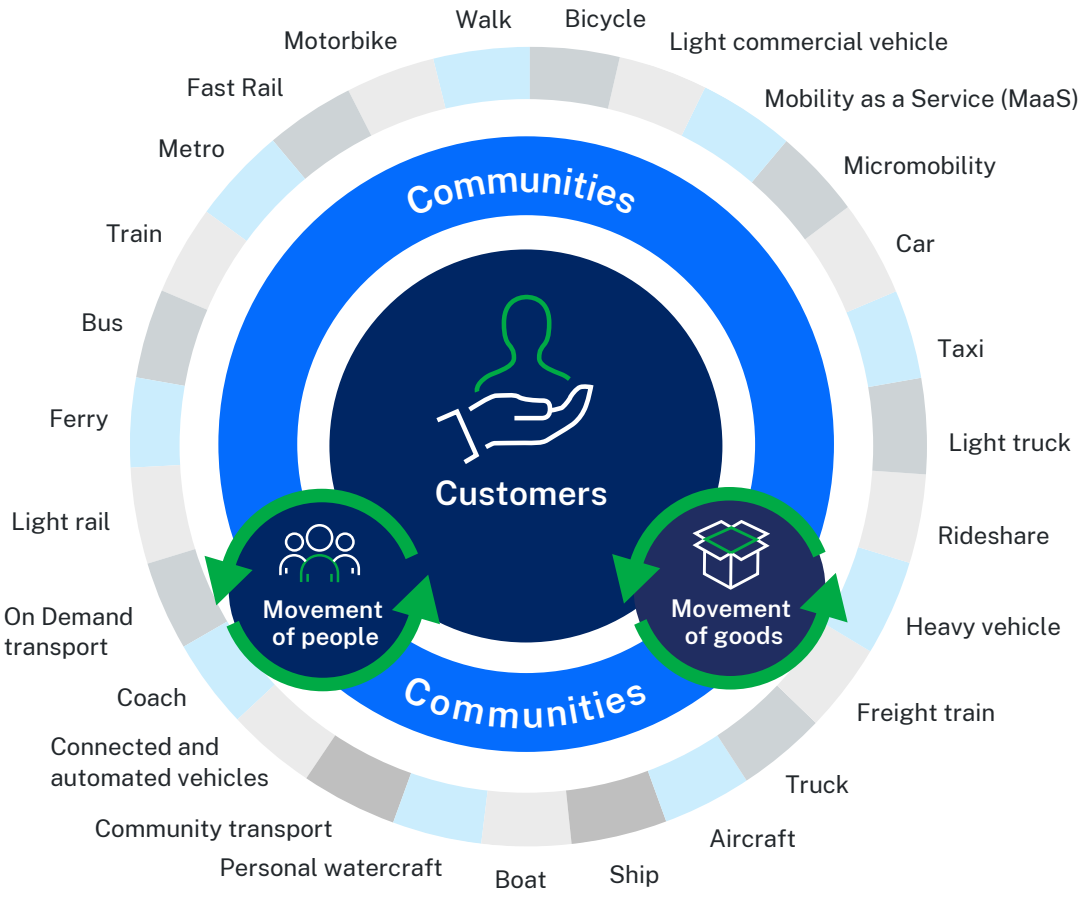


Figure 7
Communities across the State are the ones affected by our work and experience the outcomes of our activities.

Our customers and communities

Our customers and communities are at the centre of everything we do – this is a core value embedded in our culture at Transport.

Our multimodal transport system is designed around the needs of our customers and communities.

Transport customers are the people who travel on or derive value from our paths, rail, roads and waterways. They are also the businesses who deliver commodities for export or goods to our cities, centres, towns or homes. Our customers have diverse needs and access levels vary across the State, often with better access and higher frequency of services in metropolitan areas.

Transport's work today will have a lasting impact on whole communities and future generations. Transport strives to use participation and engagement to give communities an active role in co-design. Customer and community needs are translated into business requirements for planning, testing and refining solutions in partnership with both groups.

Customers on passenger services

We are taking a customer-first, unified, multimodal approach to managing customer journeys. Our customers have diverse needs and their access to transport varies across the State.

The voice of the customer is critical in the design of our transport system. Meaningful two-way communication with our customers and communities ensures the delivery of a successful transport system. Co-design, participation and engagement with customers and community is a key part of all our projects. The NSW Government's customer strategy **Towards a customer-centric government** summarises our approach to achieving high-quality customer outcomes. Understanding our customers' needs based on data and insights is key to this. We aim to improve the collection of data and insights, particularly in regional areas, to better identify and meet changing needs in an increasingly proactive and predictive way.

Transport takes a customer-first, multimodal approach to managing customer journeys.

Transport surveys more than 17,000 customers each year to measure customer satisfaction levels across a range of modes. As our digital technologies advance, we are shifting to more timely and holistic ways to listen to our customers, pairing this with human-centred design and co-design approaches to develop and deliver services. Our Voice of Customer and community listening programs will create an understanding of needs that transcends single trips into end-to-end connected journeys that recognise the importance of place and design in creating a seamless experience for our communities.

While customer priorities vary by trip purpose and mode, our approach to understanding the needs of customers and communities will focus on those who are either under-serviced by transport or who cannot, or do not, use transport solutions for their education, work or family life.

As a result, we will review our segmentation and segment value propositions to:

- Identify and support customers whose needs are not being fully met; and
- Identify positive behaviour change opportunities such as increasing the use of public and active transport, off-peak travel and better driving practices.

We will focus on equity and design for customer inclusion, community participation, and sustainability.

Freight customers

Freight travels across most parts of our NSW transport network. Our freight customers include road freight operators, rail freight operators, freight forwarders, port owners, stevedores and shipping lines, airlines and airport owners, intermodal terminal operators, business owners and individuals who rely on freight for personal or business needs.

Freight is critical to the economic competitiveness and success of local communities in our State. That's why understanding our freight customers is so important to integrated transport planning.

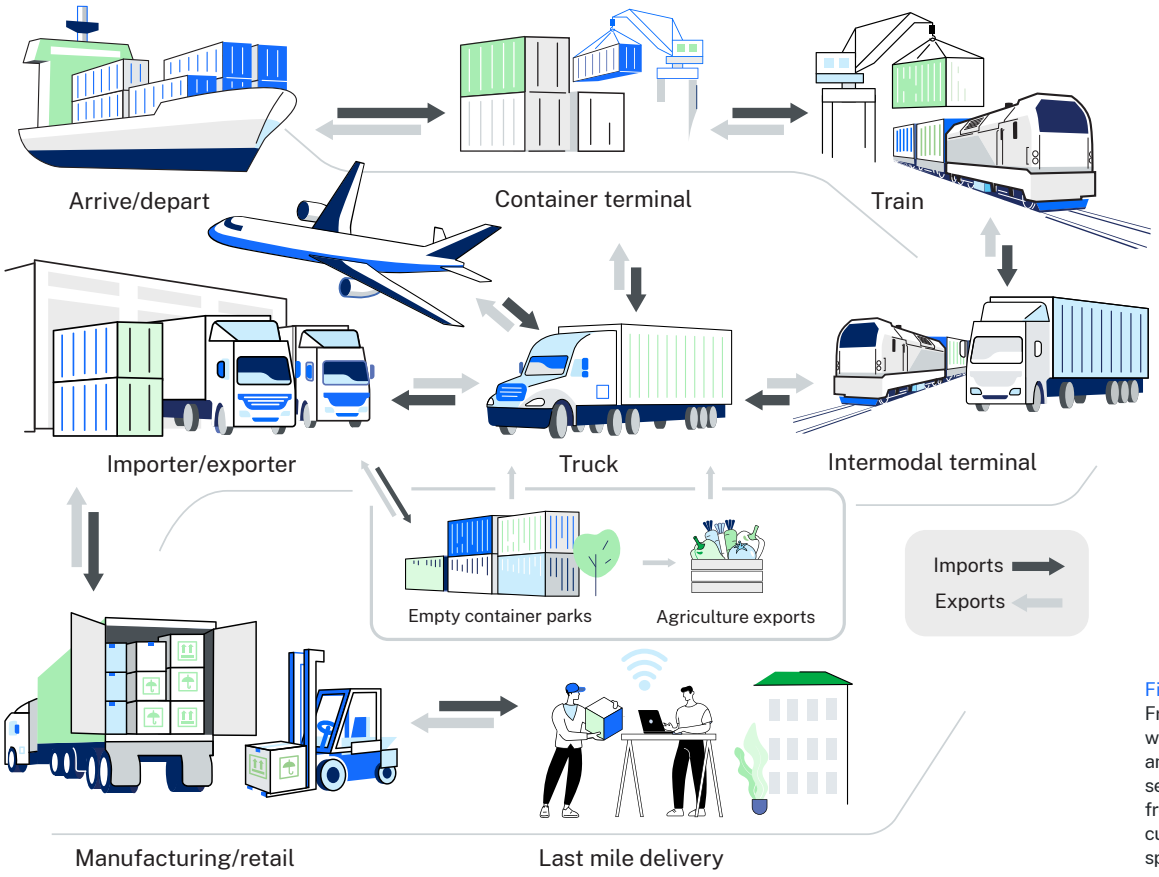


Figure 8
Freight operators as well as businesses and individuals who send or receive freight and their customers have specific needs and requirements.

Table 1 Freight customer requirements

Need	Operator requirements	Business owner and individuals' requirements
Access	Access to infrastructure must be assured to provide industry confidence to invest.	Ability to collect and distribute freight.
Capacity and flexibility	Sufficient capacity is needed to satisfy immediate and future needs, allowing for demand variability.	Facilitating deliveries at times and to places that suit the customer is important.
Cost	All freight markets are cost sensitive. Freight costs are ultimately captured in the retail price of goods.	Freight cost is crucial in customers' value perceptions and heavily influences goods selection.
Reliability and resilience	Reliable, resilient transport networks are critical to freight operations. Delays lead to issues connecting with other parts of the supply chain.	Reliability of delivery times is critical to customer satisfaction for businesses and individuals who order goods.
Transit time	Transit time has a considerable influence on the cost and overall efficiency of freight deliveries.	Pick-up and delivery times are critical to customer satisfaction.
Safety and security	Ensuring freight is moved safely and securely to maintain quality of goods in transit and support the health and safety of their workforce.	The security and safety of goods within the freight network is critical to consumers.
Sustainability	Freight operators increasingly appreciate the need to decrease their environmental footprint.	Customers are increasingly aware of the environmental impacts of freight.
Systems	Data sharing, data integration and connectivity are crucial to the efficiency of the supply chain.	Enabling real-time information on the status of their goods.

Chapter 2

Connecting our customers' whole lives

We will provide customers with more choice in how and when they travel.

People rely on transport to access health services, employment, education, social and leisure activities. To connect every aspect of our customers' lives, we must ensure transport is easily accessible, equitable and secure.

The **Future Transport Strategy** offers a ground-breaking vision to improve physical and digital connections in our cities and regions. Our 30 minute-city concept will provide more 24/7 travel choices and seamless connections between transport modes, including walking and cycling, in the Six Cities Region. Our three-tiered Regional Connected Network will improve connections in and to regional NSW with Fast Rail, coaches, and turn up and go services. We will also collaborate with government and industry to improve digital connectivity across NSW, enhance digital access, and integrate new ways of planning, booking and paying for transport.

We will give customers more choice in how they travel by better connecting the different travel modes, digitally and physically. Transport will support active transport options with improvements to our roads and pathways. Public transport will become an attractive first choice for all our customers as we improve transport interchanges with better technology, wayfinding, and timetabling to reduce connection times and integrate first and last mile options such as walking, cycling, point to point, and micromobility for seamless journeys. We will facilitate efficient freight and better integrate planning and booking, personalised information and assistance, and more convenient payment systems.

Everyone in NSW should be able to access the transport system. We will work to remove barriers to access for our aging population, parents with prams and people living with a disability. We will enhance our culturally and linguistically diverse services and implement fair pricing to reduce social and economic inequality. Improved transport connections will give Aboriginal communities better access to health services, jobs and education, which supports our commitment to Closing the Gap.

Safety will continue to be our priority on all modes. To achieve zero trauma, we will apply ambitious safety targets and the safe systems approach across our networks, including railways, waterways and roadways. We will work with councils and NSW Police to improve safe access to and from stations, stops and wharves.

Strategic directions

- **C1** Connectivity is improved across NSW
- **C2** Multimodal mobility supports end-to-end journeys
- **C3** Equitable, accessible and secure transport for all
- **C4** Our transport networks are safe

Why people travel

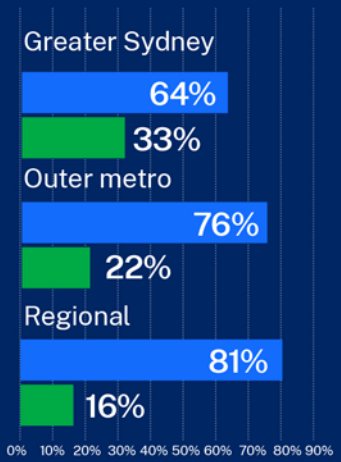
- Errands 40%
- Leisure 25%
- Work 25%
- Education 10%

- Car 69%
- Active transport 18%
- Public transport 13%

*TfNSW Household Travel Survey, year to March 2020, Greater Sydney

Short trips

Weekday mode share for short trips (less than 2km)



Source: D-spark data May 2021

C1 Connectivity is improved across NSW

NSW's population is expected to grow by 42 per cent to 11.5 million by 2061, increasing the demand for Statewide transport connectivity.

Our customers will need better alternatives to driving and a more sustainable transport system that fosters participation and inclusion. To do this, we will need to improve connections through stronger investment in public transport, and walking and cycling networks, supported with travel demand management and improved digital connectivity.

Making connections with people and places remains essential, whether it's to access jobs and services or visit family and friends. Connecting people and places is about providing the best ways for people to travel within their neighbourhoods, into cities or between towns and regions. Reliable, integrated travel options can help our customers across NSW reach their destinations conveniently and reduce reliance on driving. Fast Rail will support the Greater Cities Commission's Six Cities Region vision by connecting Newcastle, the Central Coast and Wollongong with the Western Parkland City, Central River City and Eastern Harbour City. It will also connect to the Southern Inland and Central West regions.

Responses

- C1.1 Enhance 30-minute metropolitan cities
- C1.2 Connect our regional cities, centres, towns and villages
- C1.3 Facilitate digital connectivity and smart city technologies
- C1.4 Improve digital connectivity along our transport corridors

C1.1 Enhance 30-minute metropolitan cities

Within the Six Cities Region, people currently have differing levels of access to employment opportunities, social infrastructure, health care, education and open spaces by public transport. Our lifestyles are changing and there is increasing demand for travel across the day, early in the morning, late at night, throughout weekends and on public holidays.

Research shows that if people travel more than 60 minutes a day, their quality of life and the liveability of their city declines. The 30-minute metropolitan city concept will address inequality and increasing off-peak travel demand. In our six cities – Eastern Harbour City, Central River City, Western Parkland City, Lower Hunter and Greater Newcastle City, Central Coast City, and Illawarra-Shoalhaven City – we will ensure most people can access key destinations by public transport in 30 minutes. The benefits include making our cities more sustainable, reducing traffic congestion, and growing a stronger economy by facilitating better access to education, employment, health services and leisure activities.

Figure 9
The key destinations that should be accessible by public transport within our 30-minute cities.

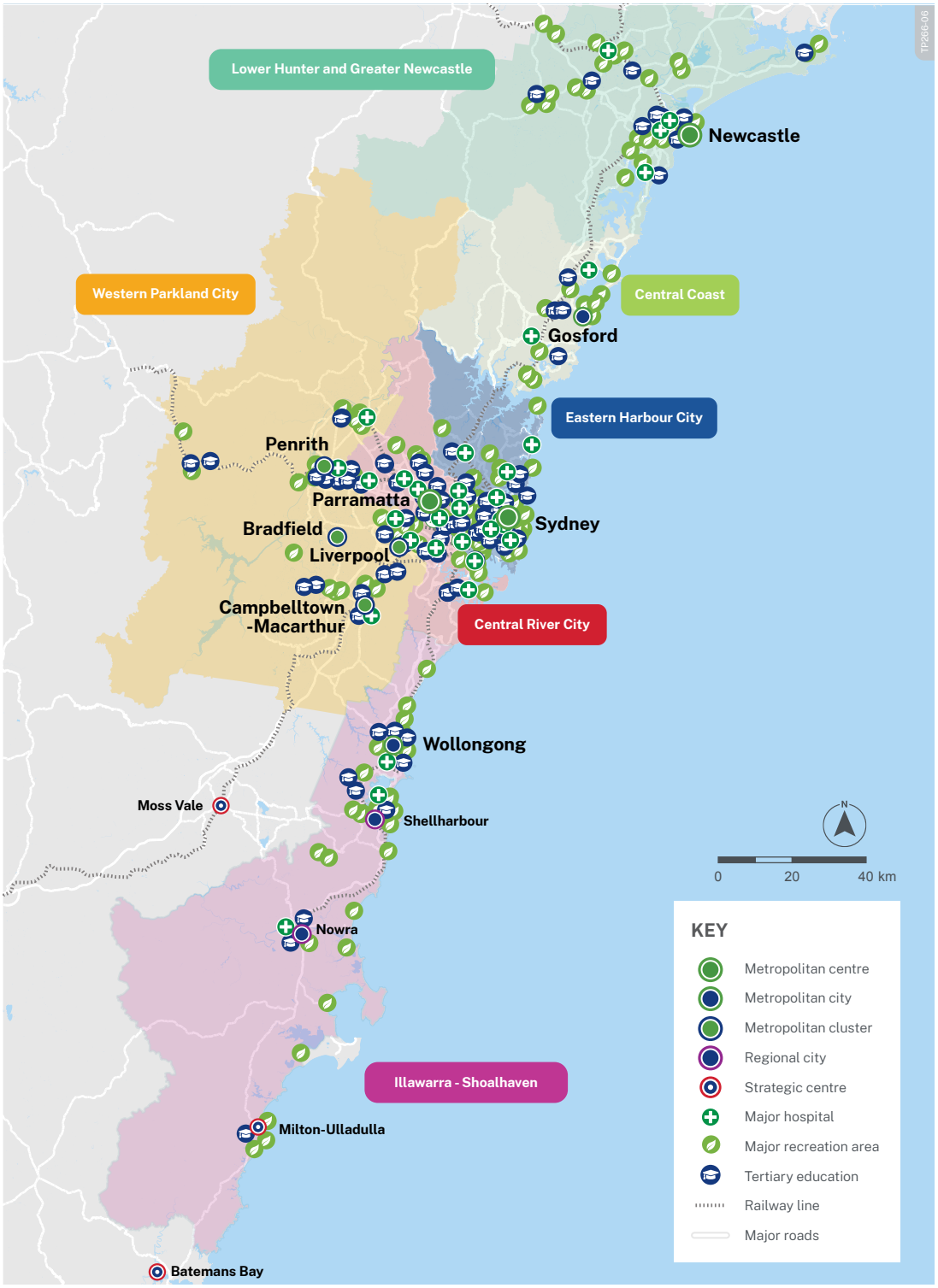


Figure 10
Key destinations within the Six Cities Region for the 30-minute metropolitan city concept.

The 30-minute city concept also aims to connect people living in metropolitan cities to as many strategic centres as possible in addition to their nearest centre. This gives people greater flexibility in where they choose to work, live and visit. All public transport modes contribute to delivering 30-minute cities, which will lead to reducing private vehicle mode share and increasing sustainable transport use.

We will also ensure that people can access our coasts, parks, cultural centres, stadiums, retail areas and nightlife precincts at the time they choose with more turn up and go and scheduled public transport services.

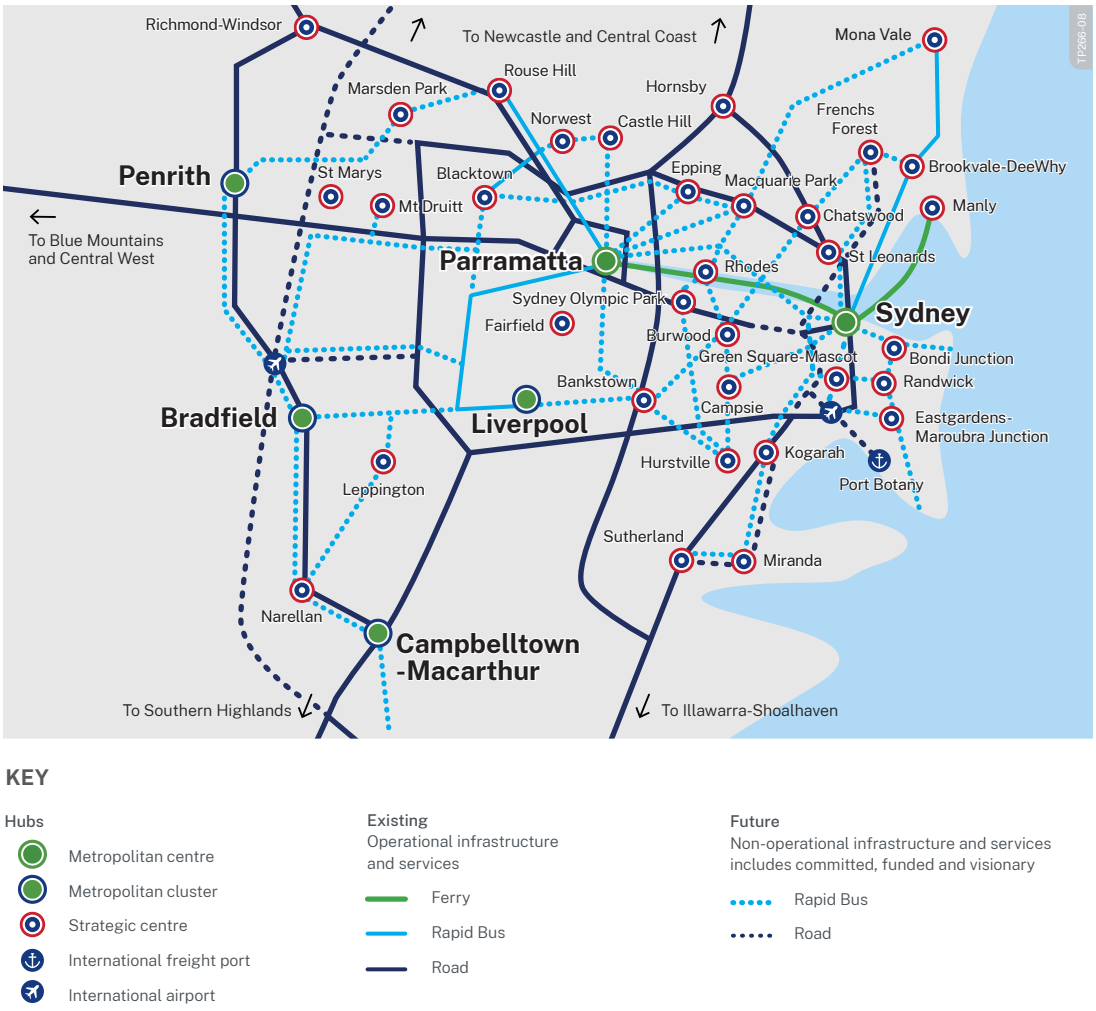
Figure 11
Existing and future Six Cities Region integrated transport network.

KEY

Hubs
- Metropolitan centre
- Metropolitan city
- Metropolitan cluster
- Regional city
- Strategic centre
- International freight port
- International airport

Existing
Operational infrastructure and services
- Ferry
- Light rail
- Rapid Bus
- Rail
- Rail freight (dedicated line)
- Road

Future
Non-operational infrastructure and services include committed, funded and visionary
- Future Fast Rail routes
- Light rail
- Rapid Bus
- Rail
- Rail freight
- Road



KEY

Hubs
- Metropolitan centre
- Metropolitan cluster
- Strategic centre
- International freight port
- International airport

Existing
Operational infrastructure and services
- Ferry
- Rapid Bus
- Road

Future
Non-operational infrastructure and services includes committed, funded and visionary
- Rapid Bus
- Road

Figure 12
Existing and future road, bus and ferry network in the Eastern Harbour City, Central River City and Western Parkland City.

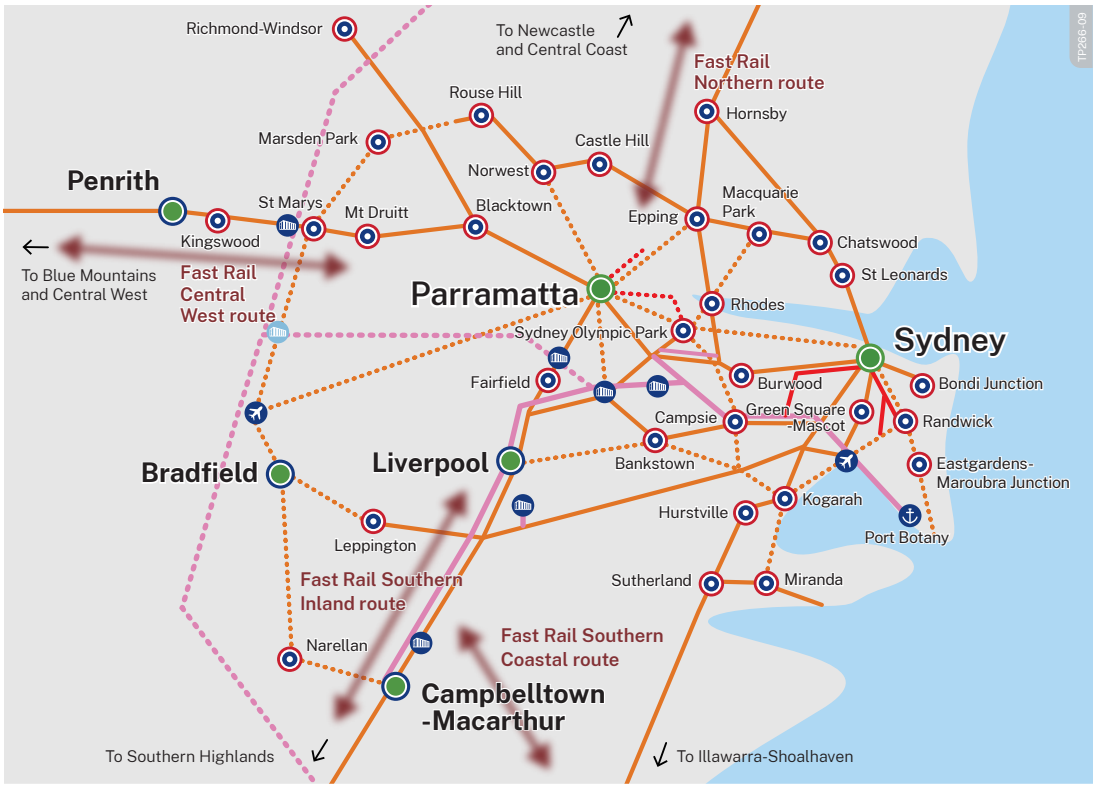
To create 30-minute cities, we need to place greater emphasis on seamless interchanges between public transport services. Integrated transport strategies will target 24/7 interconnectivity between public transport, on demand services, point to point services, walking and cycling. For our largest cities outside of the Eastern Harbour City, Central River City and Western Parkland City, 24/7 travel and required services should also be investigated. Through effective engagement and planning, Transport will identify key 24/7 transport corridors in and between our six cities. We will then improve services and infrastructure along these routes to extend late-night transport choices with a focus on safety.

Integrated transport and land use planning

Applying the 30-minute metropolitan city concept to new developments can improve land use planning, support more sustainable travel, reduce urban sprawl, and the requirements and costs associated with developing State and local road networks.

In established suburbs, Transport will support State agencies and councils' urban renewal and local infill developments around centres and public transport corridors by reviewing new infrastructure and services so they are aligned with growth and place-based objectives. Collaboration between agencies will improve access to key destinations, maximise existing infrastructure, ensure growth is responsibly managed, and support housing supply, choice, and affordability.

Figure 13
Existing and future passenger and freight rail network in the Eastern Harbour City, Central River City and Western Parkland City.



KEY

Hubs
- Metropolitan centre
- Metropolitan cluster
- Strategic centre
- International freight port
- International airport
- Existing intermodal freight terminal
- Proposed intermodal freight terminal

Existing
Operational infrastructure and services
- Light rail
- Rail
- Rail freight (dedicated line)

Future
Non-operational infrastructure and services include committed, funded and visionary
- Future Fast Rail routes
- Light rail
- Rail
- Rail freight (dedicated line)

C1.1 Actions		Timing
C1.1a	Enhance 30-minute travel catchments in the Six Cities Region and reduce reliance on private vehicles to access key destinations in our cities.	● ● ●
C1.1b	Continue developing an extensive public transport network for the Eastern Harbour City, Central River City and Western Parkland City.	● ● ●
C1.1c	Improve public transport access to centres, major health precincts, tertiary education precincts, and significant cultural or leisure destinations.	● ● ●
C1.1d	Increase public transport services to key destinations across the day and night, including weekends.	● ● ●
C1.1e	Optimise public transport timetables to provide quick and convenient interchanges.	● ● ●
C1.1f	Develop guidelines and policies for new State and local streets and roads to include bus priority.	○ ● ○
C1.1g	Establish governance to closely coordinate bus responsibilities across the NSW Government, councils and operators.	○ ● ○
C1.1h	Investigate the need for 24/7 services across the Six Cities Region.	○ ● ○

● Priority actions ● Progress planning ● Long-term need

Coach services play an important role in connecting regional cities and centres.

C1.2 Connect our regional cities, centres, towns and villages

Transport's Regional Connected Network approach will help regional communities to thrive by ensuring that people in regional areas have access to efficient, resilient public transport services. Connecting regions, towns, cities, centres and international gateways will boost regional mobility and economic development. Fast Rail will be a key component of the State's integrated transport network that delivers a world-class, door-to-door experience for regional customers. Significantly reducing travel times across NSW will encourage more people and businesses to choose regional NSW to call home, creating thriving communities.

Regional public transport networks will focus on connecting people within and between regions to balance the Greater Sydney-centric design of the transport system.

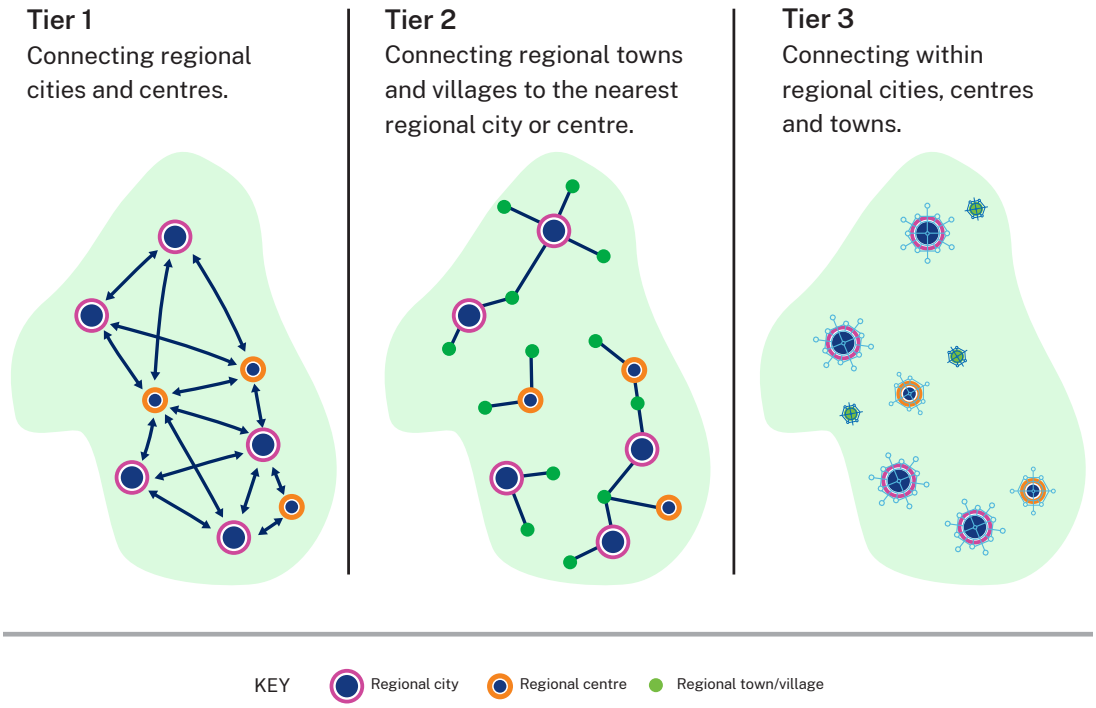
Transport will adopt a tiered approach to Regional Connected Networks, aimed at connecting cities and centres, connecting regional towns and villages, and connecting neighbourhoods. This responds to the centres hierarchy set out by the Department of Planning and Environment.[1]

Regional Connected Networks integrate transport modes, enabling more efficient and resilient connections. Transport will also streamline customer information and optimise investment and service delivery, making public transport an attractive option in the regions.

Regional communities will benefit from new passenger train and coach services offering same-day return or potentially commuter-style services, which would provide convenient and practical alternatives to car travel for work, health, education and leisure. More seamless inter-regional and interstate connectivity will support communities by making longer journeys faster and easier. This can be achieved through improved multimodal public transport integration across state borders and new passenger services on lines that currently only carry freight.

1 Department of Planning and Environment, Regional Plans, 2017–2021.

Figure 14
Regional Connected Networks will help meet the everyday needs of regional communities and businesses.



Tier 1: Connecting regional cities and centres

Transport will facilitate regional and inter-regional connections between regional cities, regional centres and international gateways with a mix of Fast Rail, regional rail and coach services.

Better integrating coach services and station amenities will improve the financial, safety and sustainability benefits of rail and coach services for customers. Connecting regional centres to other nearby regions will improve same day return access. We will also explore opportunities for passenger services on Inland Rail to further enhance the connectivity and coverage of regional rail for customers.

Tier 2: Connecting regional towns and villages to the nearest regional city or centre

Transport will facilitate the connection of people in smaller towns and villages to their nearest regional centre with a mix of scheduled and on demand services as well as emerging technologies such as connected and automated vehicles. These services may also link towns to multiple hubs.

Tier 3: Connecting within regional cities, centres and towns

Transport will improve local connections within regional cities, centres and towns with a mix of scheduled local bus services, on demand services and point to point transport as well as light rail and rapid buses in larger centres. Where relevant, these services will also connect surrounding towns to one another.

Ongoing improvements for local networks

Transport will focus local network improvements on enhanced legibility, multimodal integration, seamless interchanges between the three tiers of the Regional Connected Networks, and offering customers a reasonable and attractive public transport alternative to meet their local travel needs. Where feasible, higher order services such as rapid bus or light rail will be investigated.

Figure 15
Existing and future NSW road network and links to ports and airports.

KEY

Hubs

- Capital city
- Metropolitan centre
- Metropolitan city
- Regional city
- Strategic centre
- Local centre
- International freight port
- International airport
- Special Activation Precincts

Existing
Operational infrastructure and services

- State roads
- National Land Transport Network (Roads)

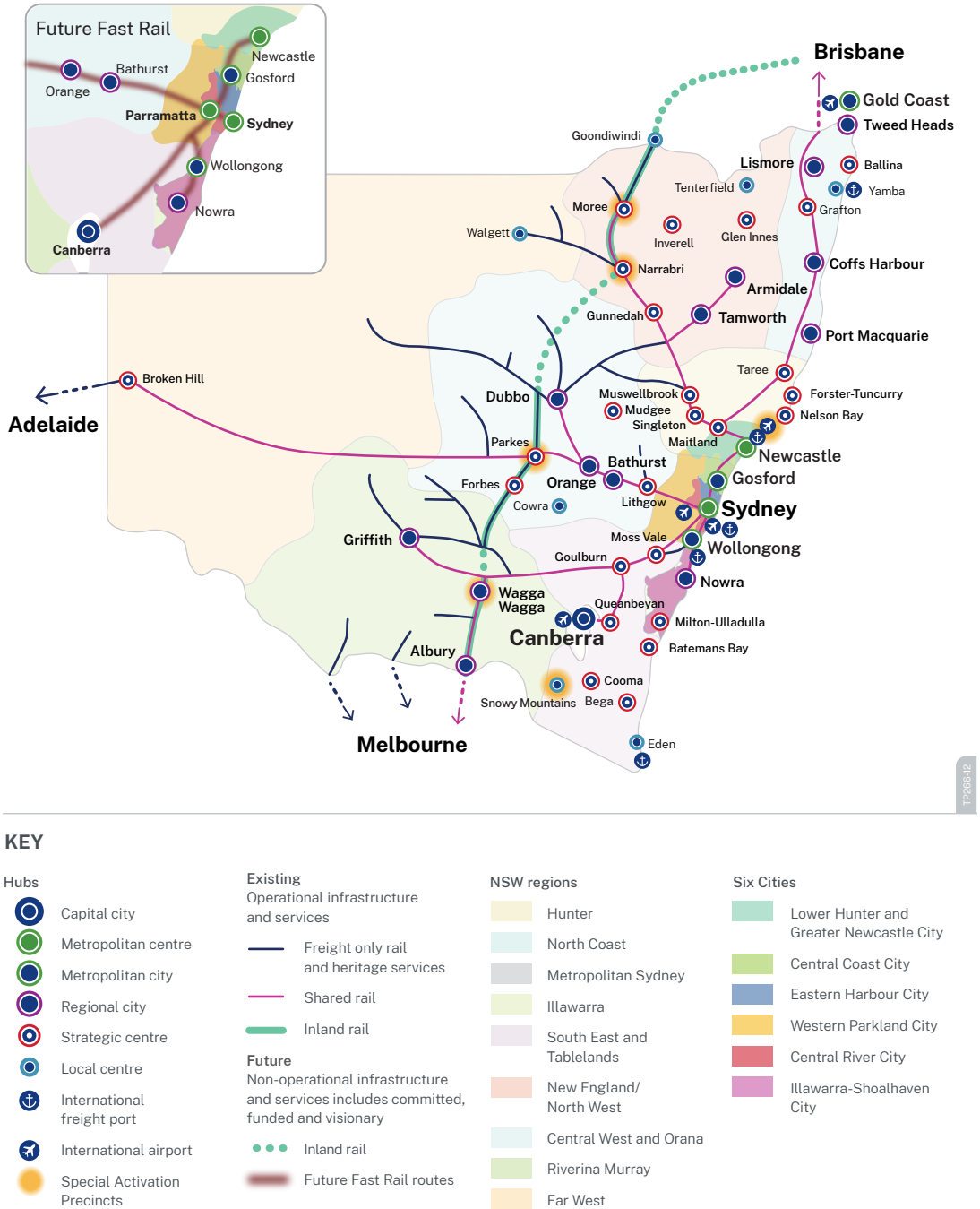
NSW regions

- Hunter
- North Coast
- Metropolitan Sydney
- Illawarra
- South East and Tablelands
- New England/ North West
- Central West and Orana
- Riverina Murray
- Far West

Six Cities

- Lower Hunter and Greater Newcastle City
- Central Coast City
- Eastern Harbour City
- Western Parkland City
- Central River City
- Illawarra-Shoalhaven City

Figure 16
Existing and future NSW rail network and links to ports and airports.



KEY

Hubs
- Capital city
- Metropolitan centre
- Metropolitan city
- Regional city
- Strategic centre
- Local centre
- International freight port
- International airport
- Special Activation Precincts

Existing
Operational infrastructure and services
- Freight only rail and heritage services
- Shared rail
- Inland rail

Future
Non-operational infrastructure and services includes committed, funded and visionary
- Inland rail
- Future Fast Rail routes

NSW regions
- Hunter
- North Coast
- Metropolitan Sydney
- Illawarra
- South East and Tablelands
- New England/ North West
- Central West and Orana
- Riverina Murray
- Far West

Six Cities
- Lower Hunter and Greater Newcastle City
- Central Coast City
- Eastern Harbour City
- Western Parkland City
- Central River City
- Illawarra-Shoalhaven City

Border communities

Border communities often have integrated health and education services. Many people rely on private vehicles and roads due to a lack of seamless integration between local public transport networks as well as policy, legislative, governance, administrative and operational barriers.

Regional Connected Networks will extend to accommodate existing connections, support more transport options and enhance social and economic integration so border communities flourish.

Aviation in our regions

Innovation in the regional aviation sector could result in more services. New technology such as electric aircraft, could make some routes more sustainable and affordable for passengers and operators.

Transport can facilitate the development of regional aviation by ensuring passenger services are integrated into the end-to-end journey. Our immediate focus is to integrate NSW airports and cross-border gateways such as Canberra and the Gold Coast into Regional Connected Networks. We will take a staged approach to connecting public transport with regional airports. In the short-term we will review services. In the long-term we will connect regional flights to integrated public transport timetabling, ticketing and travel packaging.

C1.2 Actions		Timing
C1.2a	Implement same-day return services between regional centres and increase the frequency of these services as needed.	○●○
C1.2b	Investigate opportunities for same-day return services to connect towns and villages to their nearest regional city or centre.	○●○
C1.2c	Harmonise cross-border public transport services, including service information, concessions, fares and ticketing.	●○○
C1.2d	Improve local bus and community transport in regional centres, cities and towns, focusing on increased availability, improved reliability and consistent timetabling.	●○○
C1.2e	Investigate a Regional and Outer Metropolitan Bus Service Improvement Program that builds on the 16 Cities Regional Service Improvements Program and considers on demand services and trials.	●○○
C1.2f	Support innovation in the aviation market to increase the frequency and affordability of connections between regional aviation hubs.	○○●

● Priority actions ● Progress planning ● Long-term need

Regional Connected Networks will extend to accommodate existing connections, support more transport options and enhance social and economic integration so border communities can flourish.

C1.3 Facilitate digital connectivity and smart city technologies

Improving digital connectivity will mean that some customers can work, learn and access services from home, where previously their only choice was to travel. Transport will collaborate with other NSW Government agencies to increase digital connectivity to give our customers more choice.

Digital connectivity and enabling technologies will become increasingly essential to the operation of the transport system and our cities. The Internet of Things, sensor networks and the application of smart city principles will improve safety, reliability, demand management and operational efficiencies. They will also ensure we are ready for connected and automated vehicles.

Planning for better digital connectivity, including digital wayfinding systems, parking sensors and congestion management will contribute to our ability to optimise our movement and place outcomes.

Transport will continue to collaborate with other NSW Government agencies, local government and place owners to implement the Smart Places strategy and improve digital connectivity across NSW.

C1.3 Actions		Timing
C1.3a	Support high quality digital connectivity and smart city technologies on major transport infrastructure and services.	○●○

● Priority actions ● Progress planning ● Long-term need

Figure 17
Smart city technologies in our streets will enhance digital connectivity for our customers.

Smart spaces and streets

A. Fibre and power to street furniture and multi-function poles

B. Mobile coverage, wi-fi and Internet of Things networks

C. EV charging (including for micromobility and e-bikes)

D. Light posts and street furniture to house sensors for movement, activated lights and to collect pedestrian and traffic data

E. GPS tracking transport for real-time transport information

F. Interactive pavement marking and signage to change and allocate priority in peak times

G. Live information boards on street furniture and multifunction poles, providing local transport information

H. Data and insights on activity for governments and businesses to keep places safe and provide services to customers

High-quality digital access will be provided for customers, such as on Sydney Metro North West.

C1.4 Improve digital connectivity along our transport corridors

Fast and reliable digital connectivity is important for Transport to be able to notify customers of incidents and to manage responses to natural disasters. It is also required for efficient operations and intelligent transport systems.

To improve the accessibility of Transport's digital services and platforms for all customers, Transport will support, where applicable, whole-of-Government approaches to increasing digital connectivity, access and literacy. We will also use digital connectivity to streamline our customers' journeys by offering a suite of 24/7 real-time information, planning, booking and payment technologies.

To make journeys more productive and improve transport equality, we will continue to support high-quality digital access on transport services, corridors and infrastructure.

C1.4 Actions		Timing
C1.4a	Continue to support high-quality digital access on transport services, corridors and infrastructure.	● ○ ○
C1.4b	Contribute to a government-wide approach to support digital literacy and accessibility, to help customers access Transport and wider government services.	● ○ ○

● Priority actions ● Progress planning ● Long-term need

C2

Multimodal mobility supports end-to-end journeys

In the past, people were reliant on cars to travel as they were not provided with more attractive or competitive options.

To enhance the liveability of our cities and regions, we are providing a wider range of travel options, offering customers the ability to choose the journey that best meets their needs. A well-connected transport system delivers more efficient end-to-end journeys and makes planning and booking travel easier. It enhances travel experiences, so customers have a greater choice of modes and sustainable travel options.

Diverse and accessible transport options help to build community, economic and social resilience. To achieve this, we need a multimodal ecosystem where different transport services are seamlessly integrated, supported by a backbone of walking and cycling networks, micromobility, point to point and public transport services.

Responses

- C2.1 Support car-free, active, sustainable transport options
- C2.2 Provide customer-centric design for public transport interchanges
- C2.3 Integrate emerging mobility choices
- C2.4 Facilitate efficient freight connectivity and access
- C2.5 Improve our technology-enabled customer services

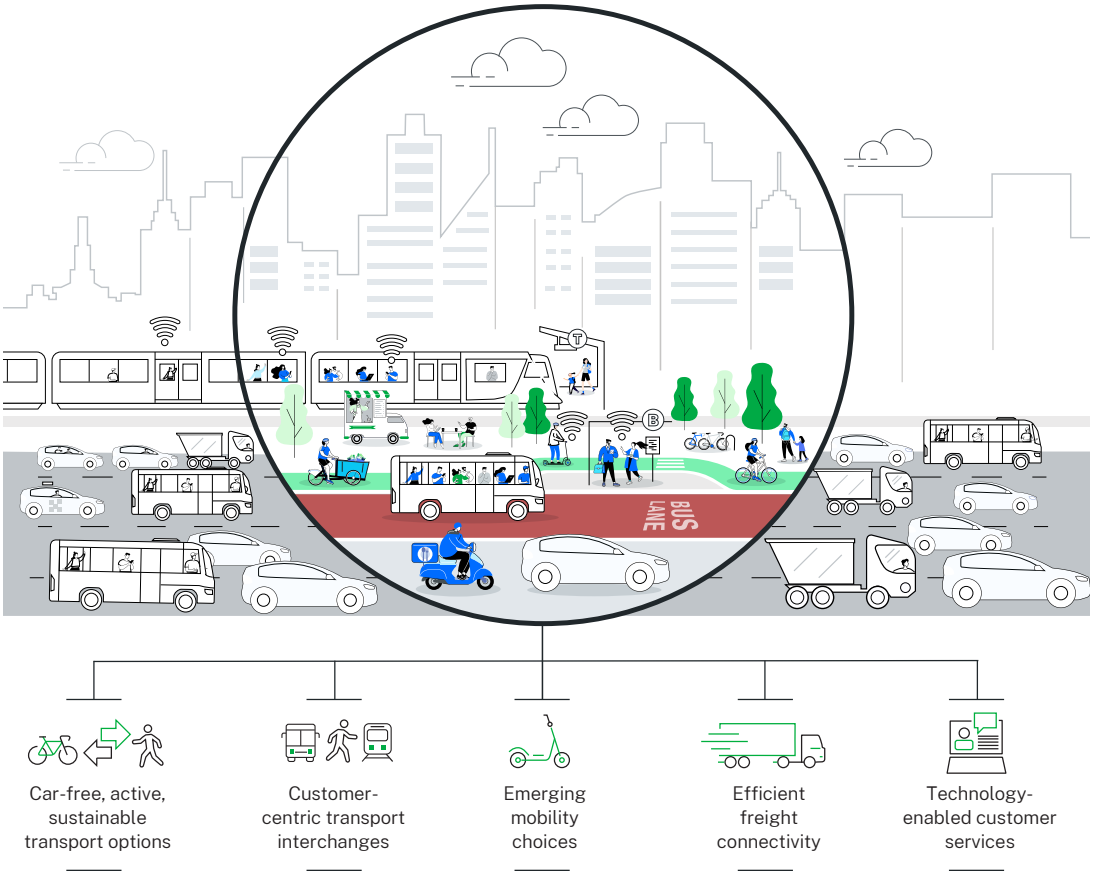


Figure 18
Transport will provide more travel choices for customers, supporting sustainable, seamless end-to-end journeys.

C2.1 Support car-free, active, sustainable transport options

Investment in walking, cycling and micromobility programs will give people more choice in how they move. The benefits of more people choosing these options include improved air quality and urban amenity, reduced car use and traffic congestion, and a general improvement in the health of communities.

Transport will focus on enabling continuous and connected walking and cycling networks which integrate with public transport and green infrastructure. First and last mile connections are critical to achieving Transport's vision of successful 30-minute cities and connected regional centres. The journey to the station must be safe and reliable for more people to choose to walk or ride.

Transport will develop an Active Transport Strategy to provide clear guidance to communities, councils and industry on planning and investment for walking and cycling infrastructure in NSW. The Strategy will illustrate the economic and social benefits of walking and cycling, and provide direction and initiatives to enable more people to walk and ride more regularly between centres, precincts and places. This includes around, to and from recreational activity hubs, such as major parklands and beaches, as well as in and across neighbourhoods.

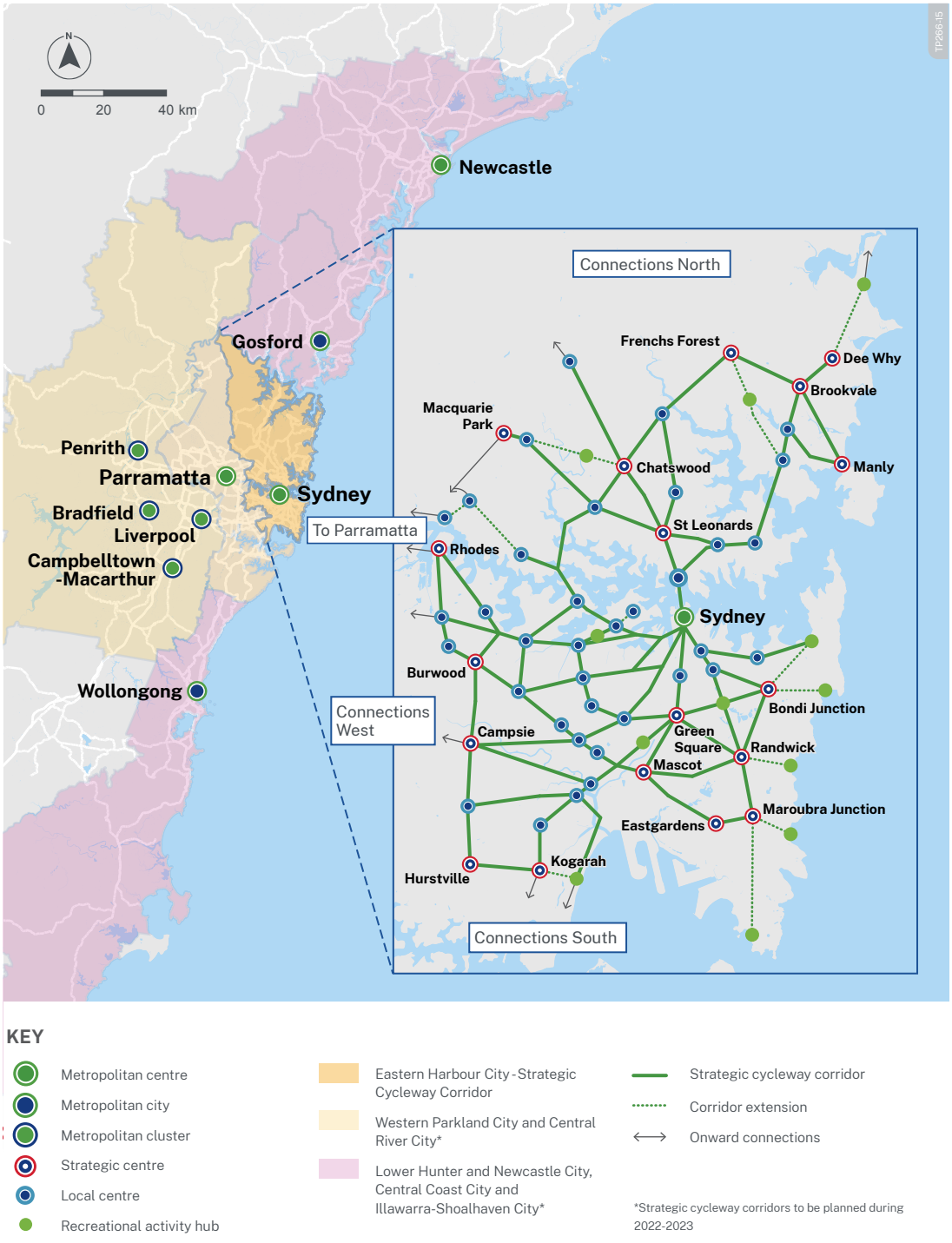
To encourage more people to choose walking and cycling, Transport will invest in infrastructure that is safe, attractive and can effectively connect and integrate into the wider network and urban environment. Design guidelines and policy changes will also consider the increasing use of e-bikes and other new micromobility devices, such as e-scooters.

To support end-to-end journeys, we will plan connected cycleway networks to serve places such as local centres and that are effectively integrated with public transport. Well-planned facilities should give customers a place to park bicycles safely and securely. With cycleways that link major cities and centres, we will provide cycling facilities that are fit for purpose based on the environment so that people walking and cycling can share the space comfortably.

A NSW Government-driven project pipeline will provide the foundation for establishing safe and convenient cross-city active transport connections between key centres, precincts and major points of interest. Strategic Cycleway Corridors for each city in the Six Cities Region will be developed along with regional networks. As an example, the Eastern Harbour City Strategic Cycleway Program identifies 30 strategic cycleway corridors making up approximately 250km of network. Similar programs are in development for the other five cities in 2022 and 2023.

To support end-to-end journeys, we will plan connected cycleway networks to serve places such as local centres and that are effectively integrated with public transport.

Figure 19
Future regional cycling network for the Eastern Harbour City and program for the rest of the Six Cities Region.



Under Transport's **Providing for Walking and Cycling in Transport Projects Policy**, every project we fund must include walking and cycling infrastructure. Pedestrians and bike riders should be recognised as critical in the delivery of effective and reliable transport networks and allocated dedicated space wherever possible. Walking and cycling facilities will adopt good practice and enable people of all ages and abilities to travel safely.

Under our **Road User Space Allocation Policy**, Transport will aim to repurpose roads to support the creation of better places and ensure our assets are fully utilised and optimised to encourage walking and cycling. Opportunities will also occur when space is planned or becomes available as new motorway or public transport projects divert or reduce surface traffic.

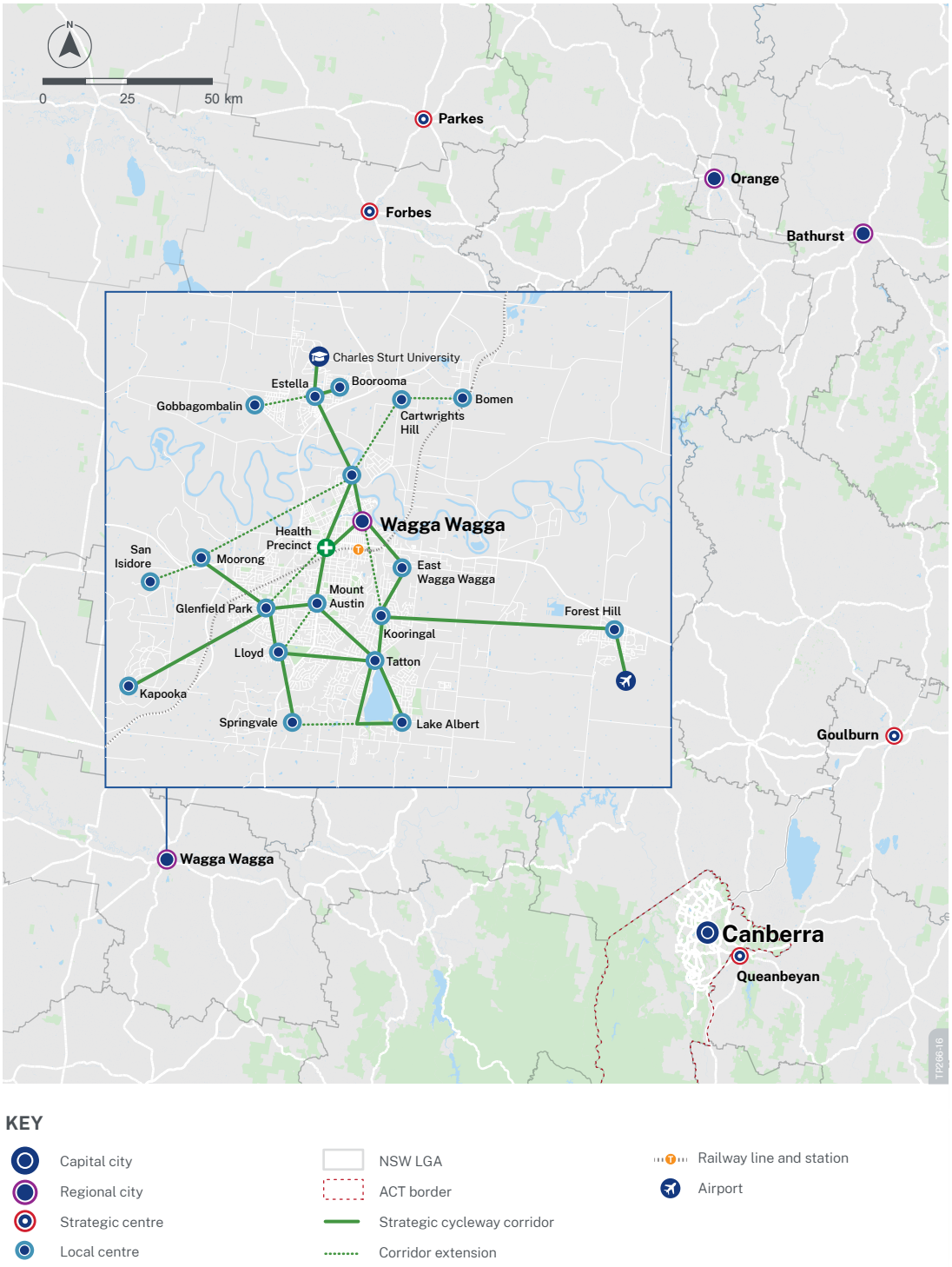


Figure 20
Existing and future regional cycling connections in and around Wagga Wagga.

Transport recognises the key role of councils in delivering consistent, functional and walkable neighbourhoods and centres. Councils also contribute towards the connected cycleway network through provision of a dense local cycleway network layer. These networks are effectively integrated with planned strategic corridors that extend beyond local government boundaries. Transport will lead and support co-design processes with councils and customer groups, using feedback to refine designs and manage any effects on other road users before solutions are promoted for wider use. The development and implementation of projects will be undertaken through partnering models that may involve new administrative processes, such as updating Local Traffic Committee procedures to help streamline approvals of projects that can enable safer environments and neighbourhood streets.

Transport is currently preparing a Regional and Outer Metropolitan Cycling and Micromobility Plan. Wagga Wagga is an example of a cycling network that has been developed for a regional town and is progressively being implemented. As part of this work, Transport will be emulating this process with other areas across regional NSW. Transport will continue to actively partner with local governments to plan and develop their cycling networks for regional towns across the state. These will be key references for place-based transport plans.

Noting the 100-plus centres across the regions, Transport is proceeding with the preparation of 12 case studies that reflect centres of different sizes/scales. The 12 centres selected include Albury, Queanbeyan, Lower Hunter and Greater Newcastle, Illawarra-Shoalhaven, the Central Coast and Dubbo as well as case studies of Strategic, Regional and Local Centres across the north, south and west regions. The intention of the case studies is to communicate how the cycleway networks are developed for the different scales/areas and in turn the implications for cost, benefit and delivery. This work is currently in progress.

We will work with NSW Government agencies on grant programs for walking and cycling so outcomes align and support the delivery of projects that serve end-to-end journeys, capturing those that cross council boundaries. We will also identify, review and amend regulations that disincentivise walking or cycling where appropriate.

C2.1 Actions		**Timing**
C2.1a	Develop an Active Transport Strategy to guide planning and investment of walking and cycling infrastructure in NSW.	● ○ ○
C2.1b	Develop Strategic Cycleway Corridors for each of the six cities to provide the foundation for safe, convenient and well-connected cycleways and support councils' local cycling networks.	● ● ○
C2.1c	Initiate and contribute to a review of the Australian Road Rules to ensure NSW regulation supports safe and connected active transport.	● ○ ○
C2.1d	Simplify rules for Local Traffic Committees to reduce administration for approval of minor projects for walking, cycling or micromobility connections.	● ● ●
C2.1e	Apply the Provision of **Walking and Cycling Infrastructure in Transport Policy** in the delivery of plans, service changes and new infrastructure projects to help enable continued improvements in walking, cycling and place outcomes.	● ● ●
C2.1f	Integrate safe and separate, first and last mile walking and cycling connections and trip facilities into plans and projects to promote active transport for all travel purposes for people of all ages and abilities.	● ● ●
C2.1g	Develop processes that can effectively review government assets to identify opportunities for optimising existing walking and cycling assets or the need for new assets.	○ ● ○
C2.1h	Work with local Aboriginal communities and Local Aboriginal Land Councils to develop appropriate visual acknowledgements of Country along walking and cycling routes.	○ ● ○
C2.1i	Identify, review and amend regulations that disincentivise walking or cycling where appropriate.	● ● ○

● Priority actions ● Progress planning ● Long-term need

C2.2 Provide customer-centric design for public transport interchanges

As the transport system expands, there may be an increasing need for some customers to use multiple transport modes and services to reach their destinations. Poorly designed interchanges can stop customers from using public transport. To deliver connected, reliable journeys, transferring at interchanges should be safe, quick and accessible for all customers. Transport will optimise interchange layouts to reduce distances during transfers, encourage the uptake of walking, cycling and public transport and add convenient pick-up and drop-off points for private vehicles and point to point services.

We will optimise public transport timetables to provide short and consistent transfer times across modes. Wayfinding, real-time information displays, network maps, local area maps, and safe, accessible and comfortable waiting areas at transport interchanges will help customers with seamless transfers. We will introduce amenities such as full mobile connectivity across the State's key transport networks to keep customers digitally connected when changing modes and services. We will do this in partnership with the NSW Telco Authority and industry where economically feasible. Transfers between modes will be designed to encourage walking, cycling and public transport with convenient drop-off points from point to point services.

Where there are no practical alternatives, commuter car parks can extend the reach of the public transport network, reduce congestion in centres and support improved amenity on local streets. Transport will consider developing commuter car parks at interchanges based on the needs of the surrounding communities and the availability of alternative transport options.

C2.2 Actions		Timing
C2.2a	Deliver improved customer experiences at interchanges and facilities including better wayfinding, real-time information, location information.	○●○
C2.2b	Review transport interchanges to minimise walking distances between services.	○●○
C2.2c	Investigate opportunities to partner with government agencies and private developers to integrate interchanges with new developments.	○●○
C2.2d	Improve digital connectivity and smart city technologies at our interchanges and hubs to keep customers connected and safe when changing modes and services.	●●●
C2.2e	Continue to invest in an improved fleet with in-vehicle amenities tailored for journey purposes and travel spans.	●●●
C2.2f	Develop guidance on the appropriateness, location, size and facilities of commuter car parks.	○●○

● Priority actions ● Progress planning ● Long-term need

To deliver connected, reliable journeys, transferring at interchanges should be safe, quick and accessible for all customers.

C2.3 Integrate emerging mobility choices

Transport will continue to research, trial and scale new and emerging mobility technologies and choices to achieve the best outcomes for customers and NSW communities.

Point to point transport

Point to point transport, which includes taxis, rideshare and hire cars, has been growing rapidly in the Eastern Harbour City, Central River City and Western Parkland City, and is becoming more common in outer metropolitan and regional cities. Increased use of point to point services can reduce demand for parking and potentially reduce total car ownership, but it can also increase congestion as many vehicles travel to and from a pick-up with just one driver and it can have a detrimental environmental impact.

To address this, Transport will prioritise multi-occupant vehicles, their access to parking and increase the electrification of shared vehicles to reduce costs and the environmental impact.

In our regional areas, point to point services have traditionally struggled to overcome the challenges of lower demand and greater travel distances. Transport will continue to investigate how to better support point to point services, which can complement traditional transport options, provide more equitable access to mobility and reduce private vehicle dependency.

Micromobility

E-bikes and fully electric or power-assisted bicycles, tricycles, cargo bikes, scooters and skateboards are examples of micromobility devices. These devices can reduce congestion and the amenity impacts of short journeys in neighbourhoods and centres. Transport will assess the safety of micromobility for users, pedestrians and others, and consider micromobility when updating infrastructure design guidelines

Aviation

Emerging technologies such as electric or hydrogen aircraft and electric vertical take-off and landing (eVTOL) aircraft are reshaping the aviation landscape. They represent the expansion of air travel and potentially form a new and more personalised mode of transport that combines the speed and comfort of air travel with the low cost typically associated with ground transport options. Transport will explore how to support and harness emerging aviation technologies such as electric or hydrogen aircraft and eVTOL aircraft, particularly to advance connections in regional areas.

Connected and automated vehicles

Vehicle connectivity and automation are game-changing technological innovations with the potential to transform the future mobility of people and goods, giving customers access to seamless, affordable, flexible and personalised journeys. Transport will accelerate the adoption of connected and automated vehicles and autonomous vessels to improve safety while considering the role of these vehicles within a multimodal transport system.

C2.3 Actions		Timing
C2.3a	Support the integration of emerging modes through trials (such as the e-scooter trials), partnerships, collaboration, and a fit-for-purpose regulatory framework.	●●●
C2.3b	Create a multimodal reciprocal data exchange and analysis program with industry to benefit transport customers.	○●○
C2.3c	Develop an aviation strategy that supports the growth of aviation services in NSW and considers policy implications of emerging aviation technologies.	○●○

● Priority actions ● Progress planning ● Long-term need

As cities and centres grow, there will be more demand for goods and more competition for kerbside space for deliveries.

C2.4 Facilitate efficient freight connectivity and access

As cities, centres and towns continue to grow, there will be more people, more demand for goods and more competition for street space. Increased demand on transport networks will require improved integration of freight requirements early in our planning process to secure the efficient movement of goods within, between and through urban and regional environments.

Our precincts will be served by micro hubs to reduce the number of large freight vehicles travelling into urban areas and the excessive distances travelled by small vehicles. With demand for last mile freight expected to grow threefold in the coming decades, we will use clean and efficient vehicles including e-bikes to discreetly deliver goods. Dynamic kerbside management will mean quiet and low-emission freight vehicles can access loading zones at times of lower network use or pedestrian activity.

We will seek to optimise freight productivity while reducing its impact on local roads by developing a network of intermodal terminals serviced by efficient transport connections.

In regional NSW, coal currently accounts for around 75 per cent of regional freight by volume, but this share is expected to decline in coming decades and other major commodities such as grain, beef, steel and cotton are expected to increase by more than 40 per cent by 2061. This shift in the structure of demand will result in changes to infrastructure requirements in regional areas.

C2.4 Actions		Timing
C2.4a	Integrate the freight task into all transport planning to help future connectivity and efficiency.	●●●
C2.4b	Reduce the vehicle kilometres travelled by last mile freight vehicles through collaboration, partnerships and incentives.	○●○
C2.4c	Consider the needs of last mile freight vehicles in the **Road User Space Allocation Policy**.	●●●
C2.4d	Support efficient heavy freight networks along key corridors in urban and regional areas.	○●○

● Priority actions ● Progress planning ● Long-term need

Transport is leading the way in convenient customer technologies, including contactless payments with smart devices.

C2.5 Improve our technology-enabled customer services

Technology is changing every aspect of how people travel. Transport will embrace and plan for these changes now to ensure the long-term future of our network.

We will continue to upgrade our travel planning and booking channels to help more customers easily plan and book services on a wider range of transport modes and across more locations through more personalised and real-time information.

Transport will invest in real-time information to give customers personalised experiences such as tailored and proactive trip planning, wayfinding, retrieving lost property, payment information and service alerts. Personalised notifications and communications could also include incentives and nudges towards travel choices that better meet customers' needs and help optimise network performance.

NSW is leading the world in convenient customer technologies for easier ways to plan, book and pay for all types of

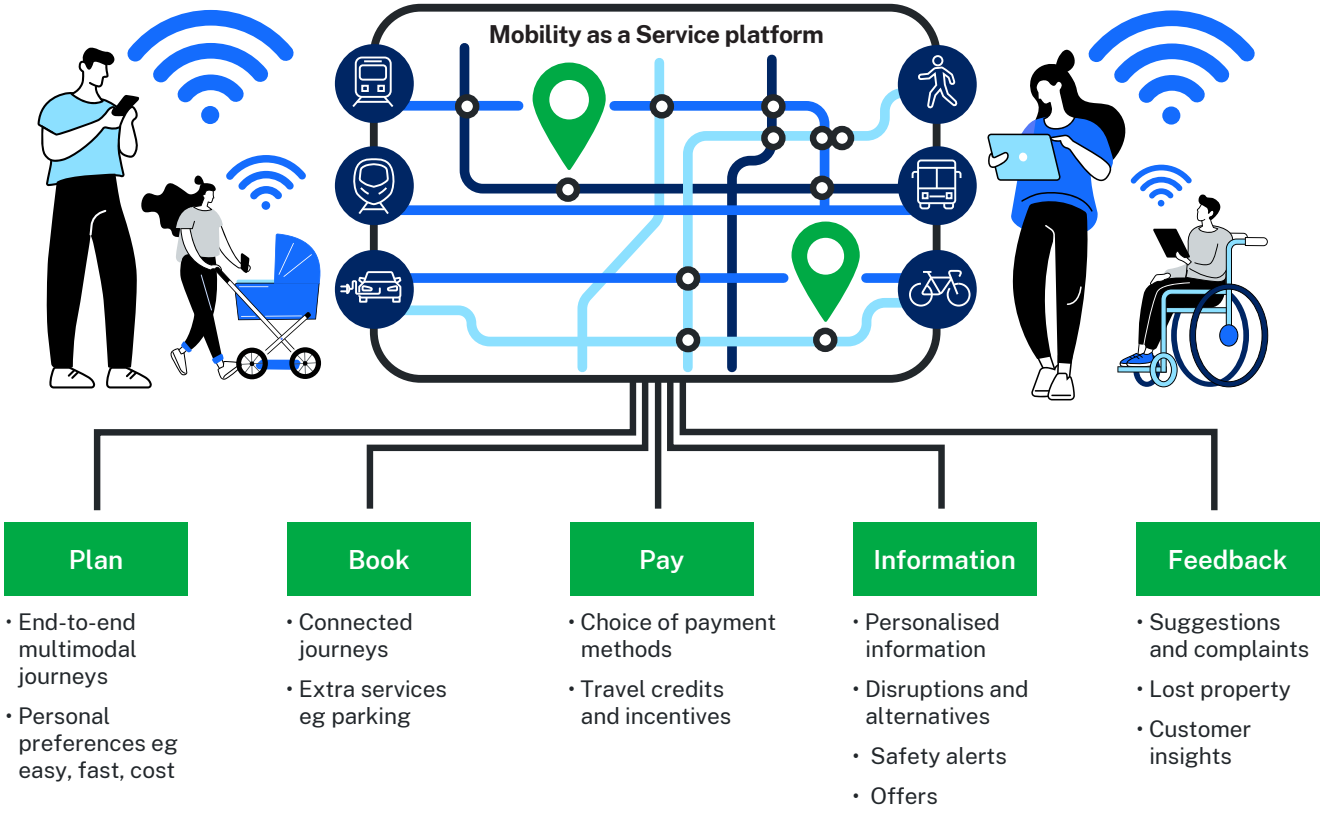


Figure 21
The technology-enabled convenience of Mobility as a Service supports customer journeys.

transport. Transport is building on the success of Opal with the Opal Next Gen integrated ticketing system.

We will continue the rollout of flexible payment models and investigate the use of subscriptions as part of our Mobility as a Service model. In addition, we will explore ways to bundle multimodal transport services into a subscription-style product that can be tailored to customers' needs, including options for other retail services to be included. Transport will continue to explore ways to meet the needs of customers who experience transport disadvantage, including people with access requirements and people from culturally linguistic backgrounds, so they can access a wider range of services, such as community transport.

C2.5 Actions		Timing
C2.5a	Launch our multimodal Mobility as a Service platform to bring together trip planning, booking and payment options for end-to-end journeys.	○●○
C2.5b	Further develop payment technology to enable customers across NSW to make seamless, multimodal journeys with a single fare.	○●○
C2.5c	Invest more in public transport technology for our regional customers.	●●●
C2.5d	Ensure the customers' voice is heard by collecting customer feedback and provide tailored resources to meet the needs of different groups of transport users.	●●●
C2.5e	Investigate data assets, exchanges and products that enable multimodal mobility and measure the performance of these journeys.	○●○
C2.5f	Continue to develop, invest in, and deploy operational technologies to improve customer journeys.	○●○

● Priority actions ● Progress planning ● Long-term need

C3

Equitable, accessible and secure transport for all

Barriers to transport can affect people's ability to participate in employment, education, social and leisure activities, and access health services.

To ensure everyone can access transport, regardless of age, ability, socio-economic or personal circumstances, we need to plan, deliver and operate with inclusivity built into our transport system.

Responses

- C3.1 Provide transport choices for people no matter where they live
- C3.2 Develop an inclusive transport system enabling access to services and places for all
- C3.3 Make customers feel secure travelling day and night

C3.1 Provide transport choices for people no matter where they live

Transport recognises that people living in regional and geographically disadvantaged communities may face barriers to accessing public transport due to a lack of availability.

People in these areas need quality transport for inclusion, participation, health and social wellbeing. We will use the Public Transport Accessibility Level to measure, understand and prioritise areas of customer need for suitable public transport services.

Transport is focussed on fostering greater inclusion, recognition and celebration of Aboriginal communities in how we work, and how we plan and deliver projects. Regional NSW is home to more than 60 per cent of the State's Aboriginal population (Australian Bureau of Statistics, 2016). Aboriginal people are overrepresented in fatalities and injuries on NSW roads and experience disadvantage at higher rates than other communities, not just from a lack of access to transport but also through poorer health, increased unemployment, higher incarceration rates and lower education levels.

We will facilitate transport options for Aboriginal communities that are accessible, affordable and safe, and engage with Aboriginal communities in decision making. We are assisting Aboriginal people in obtaining and retaining a driver licence to help improve their quality of life, economic participation and road safety. We will explore innovative ways to ensure that Aboriginal people are not disadvantaged when accessing various modes of transport.

C3.1 Actions		Timing
C3.1a	Collaborate with Aboriginal communities to design solutions to ensure that Aboriginal people are not disadvantaged when accessing transport (including by reducing traffic fines).	● ○ ○
C3.1b	Support disadvantaged communities by co-designing and providing transport services to increase inclusion, participation, health and social wellbeing.	● ○ ○
C3.1c	Support lead agencies to meet Closing the Gap targets.	○ ● ○

● Priority actions ● Progress planning ● Long-term need

Our inclusive transport system will cater for diverse needs to deliver better services for all customers.

C3.2 Develop an inclusive transport system enabling access to services and places for all

There are several customer groups with a variety of barriers that limit their access and navigation on our transport networks. Difficult experiences navigating transport services can cause people to feel excluded.

People from culturally and linguistically diverse backgrounds regularly face barriers to accessing information about our transport services. With almost one-third of people living in NSW being born overseas, it is important that Transport provides clear information about transport options and support improved access for these customers when travelling on our networks.

People living with a disability can face physical, visual, auditory and / or cognitive barriers. Similarly, people travelling with young children in prams, older people, or those with a temporary injury may need more assistance to access transport. Mobility and the cost of travel are major barriers for older people whose lifestyles frequently depend on our services to maintain their independence, social inclusion and overall wellbeing.

Transport has developed a range of plans in partnership with community groups to improve inclusivity and promote equitable access to services and places. We facilitate regular consultations with customers and community groups, including the Accessible Transport Advisory Committee, people with disability and Multicultural NSW to identify ways to deliver better services for all customers.

We will focus on integrated end-to-end journeys for all our customers' needs. The introduction of new accessible trains, buses, light rail and ferries is progressively improving the accessibility of all public transport, as is careful attention to access for pick-up and drop-off by private vehicles and point to point services. We also provide information on the accessible facilities available on our networks and infrastructure to keep our customers up to date when they are planning journeys.

Provide fair pricing across the transport system

Transport works with the Independent Pricing and Regulatory Tribunal to establish public transport fares so that the people of NSW have accessible and affordable transport services and can participate in their communities and the economy. We also manage various concession and subsidy schemes that support targeted customer groups, including people with a disability who rely on taxis; concessional public transport fares for children and young people, students, veterans and pensioners; and community transport across NSW. We also offer certain groups concessions on private vehicle registration, toll concessions and cashback schemes so people have more opportunities to participate in key activities.

We constantly investigate improvements around ticketing and transport options for customers. Our policies on concessions are reviewed regularly to determine if they are offering benefits to customers who experience transport disadvantage.

C3.3 Make customers feel secure travelling day and night

Customer satisfaction on public transport services is at an all-time high. However, we know that women, older people, and culturally and linguistically diverse and LGBTIQA+ communities do not always feel secure, particularly at night. Studies have shown that 30 per cent of women feel unsafe in Sydney during the day, increasing to 90 per cent of women at night[2]. We must consider the safety of our customers both on our network and on their journey to access transport because when people do not feel safe walking from the station to their front door, they look for alternative, less sustainable options.

On our transport assets, we will use environmental design principles, including precinct integration, improving layouts and materials, natural surveillance, access control, fencing and signage, and space management to prevent crime and to maximise passive surveillance. All transport projects must meet design standards for the safety and security of all users, regardless of age or ability.

To improve the security and safety of first and last mile travel, Transport will collaborate with NSW Police, councils, communities, landowners and developers on measures to identify and address security risks. This may include improving lighting, widening and improving the surface of footpaths, creating new pedestrian crossings, installing ramps and elevators, providing additional seating and vehicle pick-up and drop-off

C3.2 Actions		Timing
C3.2a	Embed the principles of inclusion in our processes and policies.	● ○ ○
C3.2b	Establish a standard for accessibility and inclusion that considers the needs of all customers across the end-to-end customer journey.	● ○ ○
C3.2c	Continue to invest in our transport facilities to meet a high standard for inclusion, beyond the minimum standards established in legislation.	● ● ●
C3.2d	Explore policies to manage pricing and concessions to facilitate fare parity across customer segments and regions in NSW.	● ● ●

● Priority actions ● Progress planning ● Long-term need

2 Plan International Australia, **Sexism in the city: Young women speak up about street harassment in Sydney**, NSW Government, 2018.

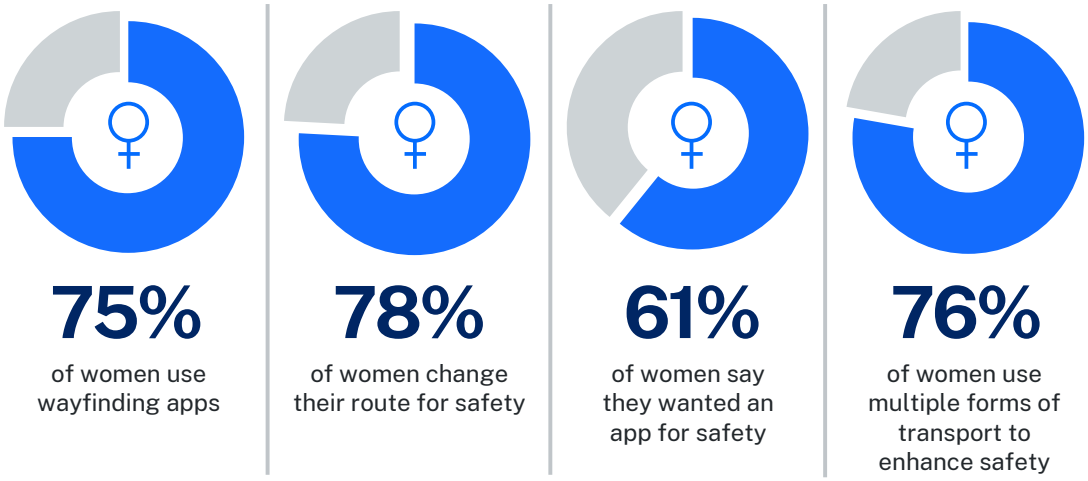


Figure 22
Women's views on travel safety.[4]

4 She's A Crowd and Transport for NSW, Concept Validation Report: Safety After Dark, 2020

zones. Following the **Smart Places Strategy** approach – which uses design, technology and data to solve problems for economic, social and cultural opportunities for people – transport aims to provide customers with safer places and an increased sense of security.[3]

We will use technology to prioritise wayfinding routes based on factors such as open businesses and available lighting to help our customers feel secure. When incidents do occur, new technologies such as smart CCTV will give us the ability to alert security more rapidly and identify where threatening behaviour occurs so we can develop robust security to address issues. Transport is developing new ways for victims and bystanders to report incidents with improved reporting apps so that more incidents are reported.

C3.3 Actions		Timing
C3.3a	Partner with industry to identify how technology can be used to provide a more secure network.	● ○ ○
C3.3b	Develop the Safer Cities program to improve security when walking to, through and within public spaces including our roads and streets, particularly for women and girls.	○ ● ○
C3.3c	Adopt smart CCTV technologies across our transport networks.	○ ● ○
C3.3d	Improve technology, making it easier for victims and bystanders to report incidents.	○ ● ○
C3.3e	Work with the community, councils, NSW Police and landowners on a range of measures to improve security to and from transport facilities.	● ● ●
C3.3f	Improve data and knowledge sharing across all levels of government and NSW Police to increase security on our transport networks.	● ● ●
C3.3g	Embrace crime prevention through environmental design (CPTED) principles to improve the design and layout of transport infrastructure.	● ● ●
C3.3h	Trial new interventions such as public art, and lighting enhancements around stops, stations and wharves.	○ ● ●

● Priority actions ● Progress planning ● Long-term need

3 Department of Planning and Environment, Smart Places Strategy, Sydney, 2021

C4 Our transport networks are safe

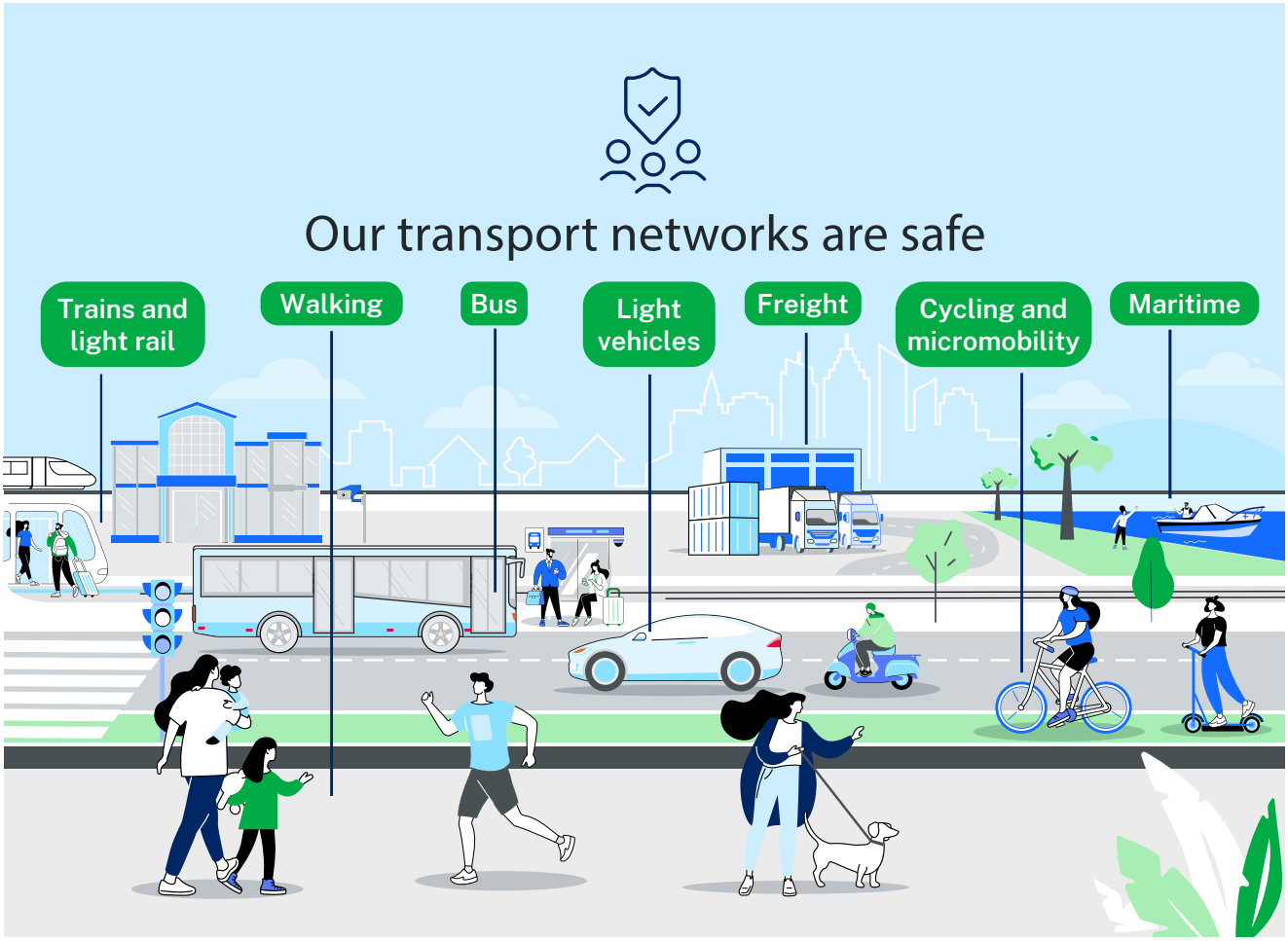
Transport's commitment to safety remains paramount. We are committed to Vision Zero and a significant reduction in trauma across our transport networks.

Keeping our networks safe requires a mix of targeted and proven initiatives that consider how people, vehicles, infrastructure and technology work together to create a safe system.

Responses

- C4.1 Deliver strategies to achieve ambitious safety targets
- C4.2 Promote safe behaviours
- C4.3 Expand technology and innovation to improve safety
- C4.4 Integrate a Safe Systems approach
- C4.5 Improve the safety of people walking and cycling
- C4.6 Deliver safer speed settings and infrastructure safety treatments on regional roads
- C4.7 Improve resilience to human threats and disruption
- C4.8 Create safer waterway access and infrastructure

Figure 23
Our approach to safety addresses all modes and interactions with transport networks.



C4.1 Deliver strategies to achieve ambitious safety targets

Transport has set ambitious safety targets to progressively work towards zero trauma on road networks by 2050 and zero trauma on waterways by 2056.

The NSW Government's **2026 Road Safety Action Plan** includes a 50 per cent reduction in fatalities and 30 per cent reduction in serious injuries in NSW by 2030 from a 2018–2020 average.

To achieve this, Transport will deliver a range of road safety initiatives with a focus on education, engagement and local programs, transforming the safety of the road network and accelerating safety features in vehicles while continuing to reduce unsafe behaviour. Initiatives include lower speed limits in more centres, separating major freight traffic flows from local traffic, retrofitting safety infrastructure features on regional roads, and reducing traffic in centres with high pedestrian activity.

Transport's Level Crossing Strategy Council Strategic Plan 2021–2030 sets objectives to eliminate collisions, reduce near misses and minimise the impact of any incidents at level crossings.

On our waterways, we will seek to reduce fatalities and serious injuries by 30 per cent by 2025–26 (based on 2019–21 average levels). This is reflected in the following targets:

- Fewer than 13 fatalities in 2025–26.
- Fewer than 218 serious injuries in 2025–26.

To achieve this, we will work towards simplifying and expanding lifejacket rules for recreational boaters to reduce drownings and improve other safety outcomes.

Public safety performance measures, which track the level of risk in our system, provide a consistent, transparent indication of our progress in delivering safer networks. Improvement in these measures shows the system is more survivable. Transport will set targets for each indicator to assess the safety performance of the system and regularly monitor progress against each indicator to drive continuous improvement.

Working with Aboriginal communities is central to our approach and key to the successful implementation of our programs. Our continued participation in Aboriginal community events will extend the reach our of key safety messages.

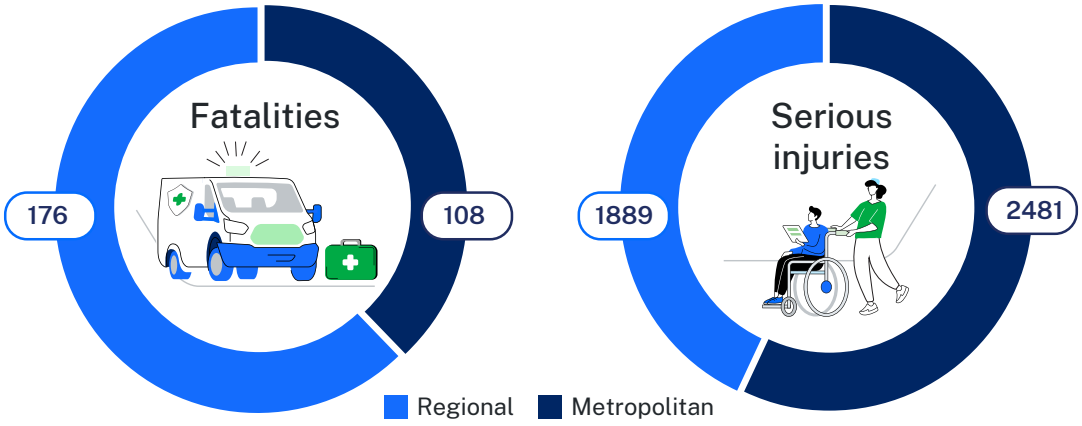


Figure 24
Road trauma on NSW roads in 2020.

C4.1 Actions		Timing
C4.1a	Deliver zero trauma on our road network by 2050 and our waterways by 2056.	●●●
C4.1b	Deliver initiatives within the 2026 Road Safety Action Plan.	●●●
C4.1c	Deliver key safety policies that increase safety on our waterways.	●●●
C4.1d	Set targets for key performance measures across transport modes and regularly monitor progress.	●○○
C4.1e	Collaborate with Aboriginal communities to implement safety measures on roads and waterways and monitor our progress.	●○○

● Priority actions ● Progress planning ● Long-term need

C4.2 Promote safe behaviours

Transport can play a role in changing behaviours that lead to injuries and deaths. Speeding remains the primary behavioural factor increasing crash risk on our roads, accounting for around 40 per cent of fatalities. Other factors include taking drugs and driving, driving while tired, drink driving and not wearing a seatbelt.

Transport will investigate the use of advanced camera technology – both on the road and in vehicles – as a promising tool to manage unsafe behaviours and will use education and compliance campaigns to encourage road users to act safely. The **NSW Automated Enforcement Strategy for Road Safety** will further influence behaviour via camera technology by focusing on opportunities for flexible enforcement to respond to road trauma risks.

Failure to wear a lifejacket is the biggest contributor to maritime fatalities. To drive safe behaviours, we will use a combination of education and regulation, working alongside the boating community and our safety partners.

We can help to reduce fatalities on our regional roads by continuing to improve the network of rest stops. Digital and connected recordkeeping, such as advanced Electronic Work Diaries, can help commercial drivers with fatigue management requirements.

C4.3 Expand technology and innovation to improve safety

Transport will expand the use of technologies to improve safety across the entire transport system.

New technologies such as 'lane keep assist' and autonomous emergency breaking have significantly reduced vehicle crashes in NSW. Modelling estimates that if a selection of critical vehicle safety features were implemented in Australia from 2023, up to an additional 90 lives would be saved by 2030. NSW is working with the Australian Government to fast-track the adoption of innovative technologies into vehicle standards.

Safety improvements will be particularly significant for trucks.[5] In heavy vehicles, lane departure warnings and automatic emergency braking can each reduce fatal crashes by 25 per cent, and electronic stability control can reduce fatal crashes by 4 per cent.

More advanced technologies may further improve road safety. Cooperative Intelligent Transport Systems (C-ITS) allow vehicles to communicate with each other and with infrastructure, such as signals.

Figure 25
Behavioural factors in NSW fatalities.[6]

C4.2 Actions		Timing
C4.2a	Develop improved education and engagement campaigns and programs for a range of user groups to improve safety on our roads and waterways.	● ○ ○
C4.2b	Develop a Statewide heavy vehicle rest stop implementation plan.	○ ● ○
C4.2c	Work with NSW Police to optimise enforcement activities and operations to deter unsafe behaviours across the road and waterway networks.	● ○ ○
C4.2d	Deliver new and enhanced NSW camera programs through a new **NSW Automated Enforcement Strategy for Road Safety**.	● ● ●
C4.2e	Simplify and expand requirement for the wearing of lifejackets so that the law is easier to understand and more lives can be saved.	● ○ ○

● Priority actions ● Progress planning ● Long-term need

6 Transport for NSW, 2026 Road Safety Action Plan, 2022.

5 Transport for NSW, Safety features and technologies for heavy vehicles, NSW Government, May 2020.

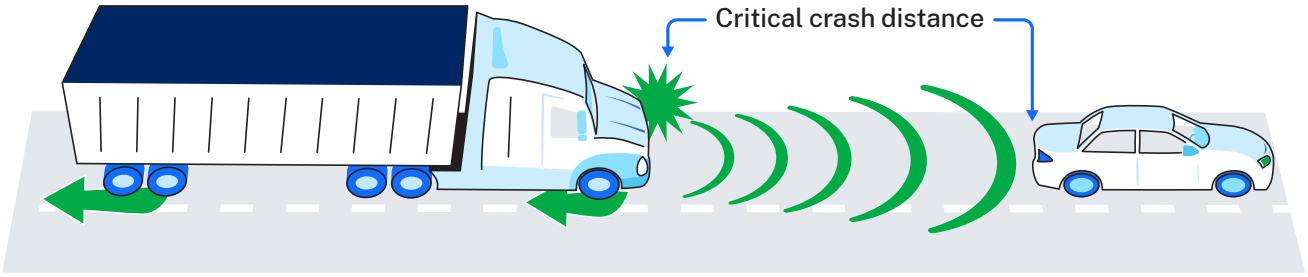


Figure 26
Autonomous emergency braking for heavy vehicles can reduce fatal crashes.

This can reduce crash risk and severity. Transport's Future Mobility Testing and Research Centre will test the integration of these technologies and guide further trials and standards development. There are also opportunities to apply C-ITS to improve safety at level crossings.

Maritime technology

Technology can help boaters make safer decisions and manage risks. Apps such as Boatable and Deckee provide important marine safety updates, real-time weather and navigation information. Marine safety locator beacons already assist with search and rescue, and new technologies are improving their detection and accuracy. Aerial and marine drones can expand search and rescue capabilities and potentially assist with rule compliance and enforcement. Improved maritime data and analytics can better inform planning and operations.

Transport can improve safety for boaters by ensuring the policy and regulatory framework can facilitate the introduction of technologies that will support safer boating.

Rail technology

Future technologies can assist in developing a safer and more secure rail network and can make rail travel a preferred option for passengers. Transport is investing in rail technology including:

- Digital Systems Program across the heavy rail network, which will replace trackside signalling infrastructure with the latest (rail) traffic management and train control technology, to help drivers safely provide more reliable journey times and allow the network to recover more quickly from disruptions.
- Improved level crossing safety by trialling new technologies to potentially lower the cost of level crossing upgrades, improve safety equipment and reduce the time taken to deliver safer crossings.
- Trialling rubber gap filler technology that seeks to prevent passengers from falling in the gap between train and platform to ensure passengers can enter and exit safely.
- Platform screen doors, which prevent people from falling onto the tracks or getting too close to moving trains, have been deployed across our existing metro network and will soon be retrofitted to some existing stations in the Eastern Harbour City, Central River City and Western Parkland City.

C4.3 Actions		**Timing**
C4.3a	Expand intelligent transport systems technologies for safety on our networks.	●○○
C4.3b	Improve maritime customers' experience by supporting the development of boating apps and promoting the use of safety beacon technologies.	○●○
C4.3c	Make NSW a leading adopter of safety improvements from connected and automated vehicles.	●○○
C4.3d	Improve safety technology across the rail network, including at level crossings.	●●●

● Priority actions ● Progress planning ● Long-term need

C4.4 Integrate a Safe Systems approach

Transport is proactively investigating ways to reduce and ultimately eliminate risk and trauma and will adopt the Safe Systems approach, which protects passengers and the workers who operate and maintain services, and minimises disruptions caused by incidents.

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.

The Safe Systems approach is also applied to policies for managing networks, such as the **Movement and Place Framework**, **Road User Space Allocation Policy**, **Transport for NSW: Asset Management Framework** and **NSW Speed Zoning Guidelines**. The approach can be applied to smart systems and technologies embedded in new infrastructure and vehicles, which is supported by the NSW Government's **Smart Infrastructure Policy**.

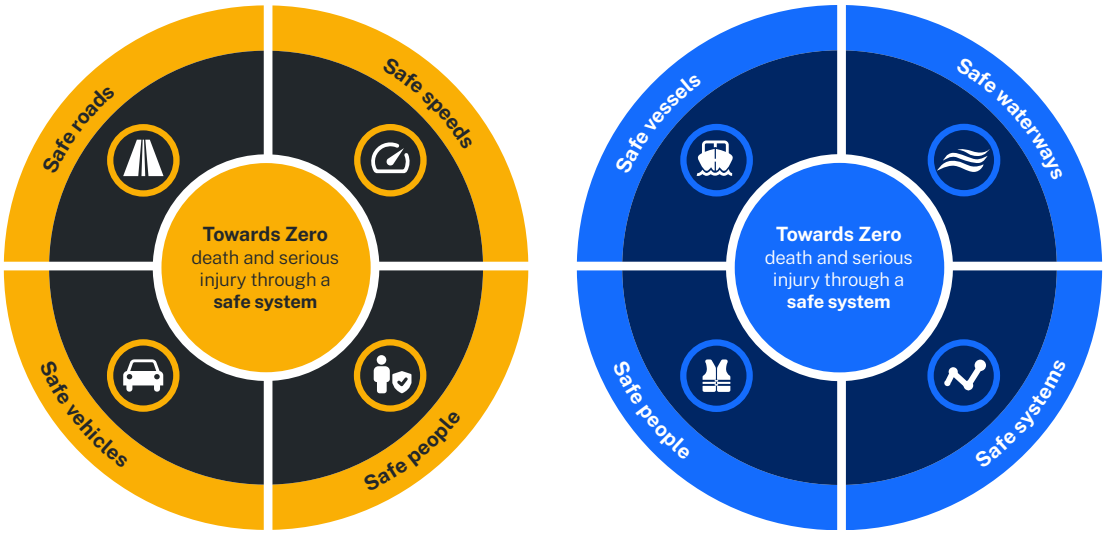


Figure 27
Safe systems on our roads and waterways.

C4.4 Actions		Timing
C4.4a	Integrate Safe Systems assessment checks at feasibility, functional design and detailed design stages of projects.	● ● ●
C4.4b	Embed Safe Systems infrastructure and design principles as default safety requirements in the planning and design stages of all transport projects.	● ○ ○
C4.4c	Integrate Safe Systems guidance into the **Movement and Place Framework and Practitioners Guide**, **Road User Space Allocation Policy** and updated **NSW Speed Zoning Guidelines**.	● ○ ○

● Priority actions ● Progress planning ● Long-term need

Pedestrian crossings, separated cycleways and the right speed settings can make busy local centres and neighbourhoods safer. Photo Destination NSW

C4.5 Improve the safety of people walking and cycling

The right speed settings can create better and safer places. An evaluation of 40 kilometres per hour speed limits in high pedestrian areas found they reduced serious injuries and deaths by one-third between 2005 and 2015.

Busy local centres and neighbourhoods can be made safer with traffic calming measures to reduce speed as well as new pedestrian crossings, pedestrian refuges, raised footpaths and intersections. Separated cycleways significantly reduce risk for bike riders. Digital technologies and signs can make motorists aware that speed limits have been lowered. These can contribute to better safety and amenity outcomes, especially in our 15-minute neighbourhoods.

C4.5 Actions		Timing
C4.5a	Deliver reduced speeds and speed limits in urban places and local streets.	●●○
C4.5b	Deliver infrastructure safety treatments, including through the Towards Zero Safer Roads Program.	●●●
C4.5c	Continue investing in pedestrian crossings, refuge islands and traffic-calming measures.	●●●
C4.5d	Support local communities and councils who wish to implement lower speed limits in their local areas.	●●●
C4.5e	Ensure micromobility devices are embedded safely within networks.	○●○

● Priority actions ● Progress planning ● Long-term need

C4.6 Deliver safer speed settings and infrastructure safety treatments on regional roads

Around 40 per cent of the population lives in regional and outer metropolitan NSW, but this area accounts for 66 per cent of road fatalities.

Taking a proactive approach to assess and reduce risk across the road network will help us plan future road improvements and deliver the goal of zero road trauma for communities.

Speed limits across our rural networks should be assessed and adjusted to best suit road conditions. More than 80 per cent of the rural road network has a default 100 kilometres per hour speed limit regardless of safety treatments. This includes lower quality roads with narrow lanes and limited protection from roadside hazards.

Transport will also invest in physical safety treatments, such as flexible barriers, that separate oncoming traffic and protect vehicles from roadside hazards. Studies have shown these barriers can reduce some types of crashes on country roads by up to 85 per cent. Audio-tactile line marking and wide centre lines can also reduce incidents by up to 35 per cent.

C4.6 Actions		Timing
C4.6a	Deliver a broad range of safety treatments on country roads, including safety infrastructure and reduced speed settings.	
C4.6b	Reduce the speed limit on approaches to actively controlled level crossings to a maximum of 80 kilometres per hour.	

Priority actions Progress planning Long-term need

C4.7 Improve resilience to human threats and disruption

Transport networks are exposed to human actions such as vandalism, trespass, terrorism, cybercrime and impact of geopolitical events.

We have extensively invested in barriers and controls to minimise trespass and vandalism and reduce the risk of terrorism in crowded places. Transport will continue to incorporate good security measures in new projects and infrastructure upgrades. We will continually review our preparedness for major security incidents, including coordinating requirements under State-level emergency management and crisis management arrangements.

The potential consequences of cyber-attacks have grown as our systems become interconnected, with more reliance on data for decisions and connected technologies for everyday operations, and more third parties supplying services. Transport is implementing the **NSW Cyber Security Policy** and working closely with national authorities to continually improve our capability and defences.

Geopolitical and supply chain (e.g. fuel) risks are managed at a national level, but the transport sector has an important role to play. Take-up of zero emissions buses and light vehicles powered by locally generated energy - as supported by the **NSW Electric Vehicles Strategy** - will reduce reliance on fuel imports and may eventually offer mobile back-up power during grid outages and natural disasters.

C4.7 Actions		Timing
C4.7a	Review our preparedness and response capabilities for major security incidents.	
C4.7b	Improve systems to avoid and manage cyber-attacks.	
C4.7c	Support the uptake of zero emission vehicles to reduce the reliance on fuel imports.	

Priority actions Progress planning Long-term need

Transport will continue to activate maritime and foreshore precincts to attract more visitors and private investment.
Photo: Destination NSW

C4.8 Create safer waterway access and infrastructure

The NSW Government is committed to improving access for all boaters on the State's waterways. We have already made significant investments to improve boating access, infrastructure and amenities, dredge navigable waterways and install navigation aids.

We will continue to deliver in these areas through programs such as the Maritime Infrastructure Stimulus and Boating Now programs. We will also activate maritime and foreshore precincts to attract more visitors and private investment.

The NSW Government also has a role in balancing the increasing demand for on-water storage, with the impacts of moorings on the environment. We must also ensure people have safe and responsible access to the water.

C4.8 Actions		Timing
C4.8a	Explore low-cost sensor and other technologies to monitor boating infrastructure assets and improve data on the condition of infrastructure.	○●○
C4.8b	Establish a long-term, sustainable dredging program to support boater access to key waterways.	○●○

● Priority actions ● Progress planning ● Long-term need

Chapter 3

Successful places for communities

Our aim is to make every journey people and planet positive.

Transport is committed to improving liveability, protecting biodiversity, and achieving net zero emissions. Transport can connect communities, bring vibrancy to places, and deliver economic rewards to businesses and people. As we plan the future of transport in NSW, we must take factors such as the role transport, climate change, population and economic shifts, shocks and stresses into account. In doing so, we will create successful places and make our transport network and communities resilient.

Transport will plan for growth through smarter, integrated planning and policies to support better places. Fast rail connections will give people more choice in where they live, deliver economic benefits to regional NSW, and boost network resilience. We will plan for public transport from day one of new developments and work with councils to improve connections in older suburbs. Building density around public transport will enable more convenient and seamless access to education, employment and health services.

Transport infrastructure should make a tangible improvement to places, not just networks. The 15-minute neighbourhood concept will revitalise local centres and promote sustainability and independent mobility for children. We will assess and manage street spaces and state roads with a focus on walking, cycling and other public uses, and incorporate green and blue infrastructure into well-planned designs to improve the liveability and ecology of places for decades.

To reduce the impact of climate change and improve the liveability of communities, we will transition to net zero emissions and seek to minimise the environmental impact of transport with actions for decarbonisation and sustainable infrastructure design.

We will also build resilience into our network, planning for mitigation, adaptation and recovery to reduce the impact of climate change, global instability and economic shocks.

Strategic directions

P1 Supporting growth through smarter planning

P2 Transport infrastructure makes a tangible improvement to places

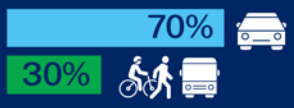
P3 Transition to net zero greenhouse gas emissions

P4 Transport minimises environmental impacts

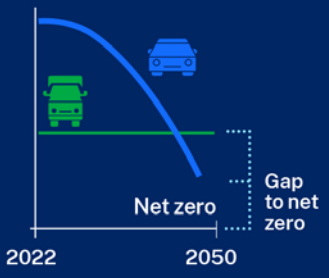
P5 Transport is resilient and adaptable to shocks and stresses

30 minutes
of walking a day lowers the risk of heart disease, stroke and diabetes by 30-40%

Cars account for around 70% of trips shorter than
2 kilometres



Transport sector needs to do more to reach
net zero
by 2050



More serious and frequent
weather events are expected in the coming decades

P1 Supporting growth through smarter planning

Transport has a responsibility to deliver a positive impact to communities. We want to offer people more choice in where they live and work and socialise, and to ensure those places are vibrant, sustainable, and safe.

To do this, Transport will deliver smarter integrated transport and land use planning, with a focus on making places more liveable and sustainable, and creating new connections between communities.

Responses

- P1.1 Transform rail between metropolitan cities
- P1.2 Support growth around public transport
- P1.3 Ensure public transport is available on day one
- P1.4 Improve parking provision and management

P1.1 Transform rail between metropolitan cities

Transport will enhance and transform train services between NSW's largest cities, with a fast rail network. Fast Rail will be a key component of the State's integrated transport network that links the Six Cities and the regions beyond to connect more people to more places.

Fast Rail will spread the economic benefits and jobs beyond the Eastern Harbour City, Central River City and Western Parkland City to the other cities and into the regions, creating thriving and resilient communities, and giving customers more choice in where they live, work and socialise. With Fast Rail, Transport can partially separate freight and passenger services, providing greater levels of reliability for both. Fast Rail hubs in key cities and centres could become vibrant centres for business and leisure, and provide affordable housing in fast-growing communities.

Transport has identified four key corridors that will benefit from Fast Rail connections They are the:

- Northern route including the Central Coast and Newcastle
- Southern Coastal route, including Wollongong and Nowra/Bomaderry
- Central West route, including Lithgow, Bathurst, Orange and Parkes
- Southern Inland route, including Goulburn and Canberra.

Fast Rail will cut travel times by about 50%, for example:

- Sydney to Newcastle will reduce to about one hour
- Sydney to Gosford will reduce to about 25 minutes
- Sydney to Wollongong will reduce to about 45 minutes.

Key interchanges at Epping and Campbelltown-Macarthur between the new Fast Rail lines and the Greater Sydney transport network will provide improved links between Sydney and regional NSW.

Given the scale of the task, Transport will take an incremental approach, developing Fast Rail in sections over two to three decades.

The Fast Rail line between the Central Coast and Greater Sydney will be the first major project for construction. This will improve connectivity and capacity along the fastest growing corridor in NSW and provide greater housing choice and better access to jobs, education, health, and medical services. Complementary place making, economic development and industry-attraction activities will provide an opportunity to strengthen the role of Gosford.

A Fast Rail hub in the Central River City will further accelerate growth opportunities while providing easy access to employment centres and world-class health and education precincts.

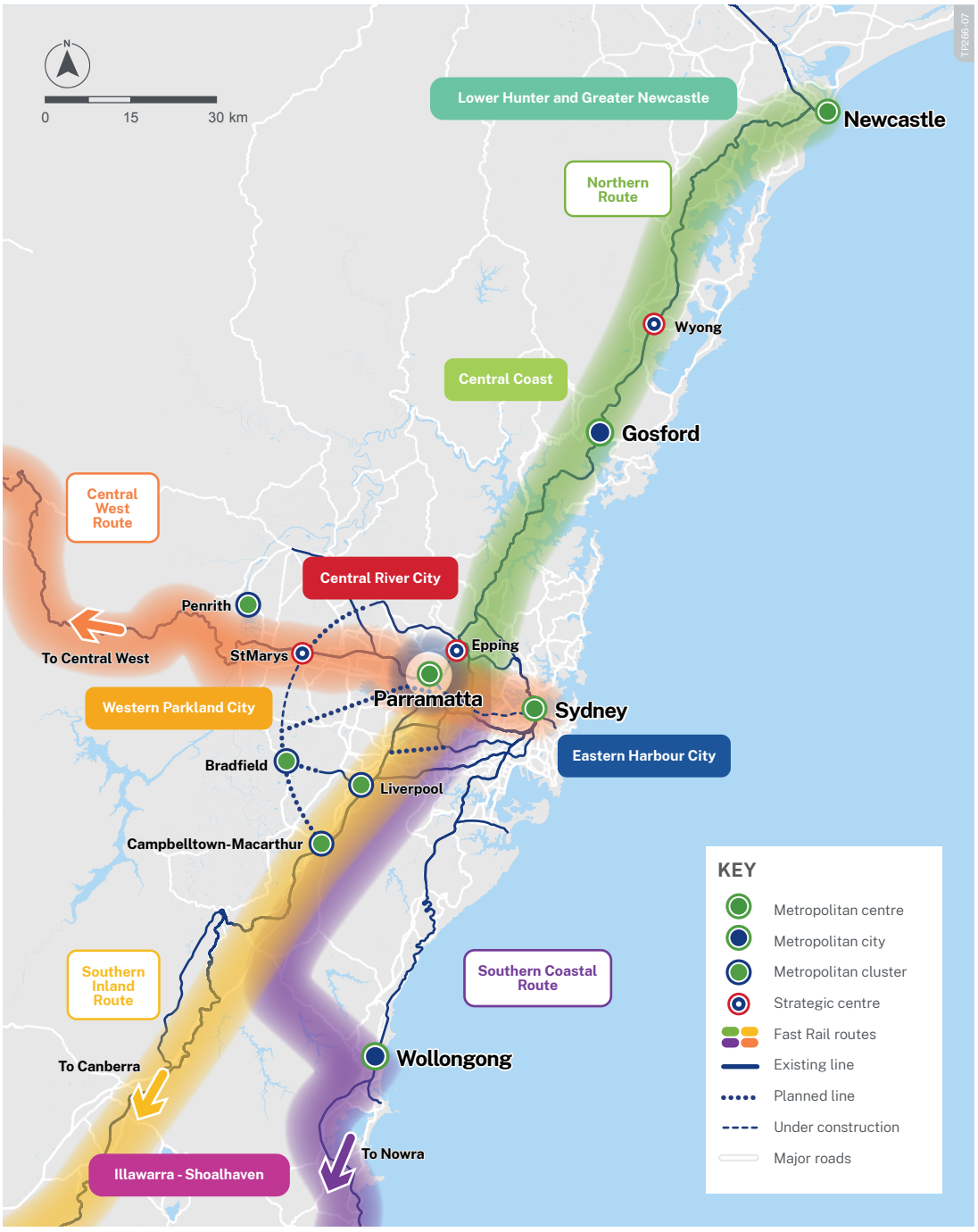


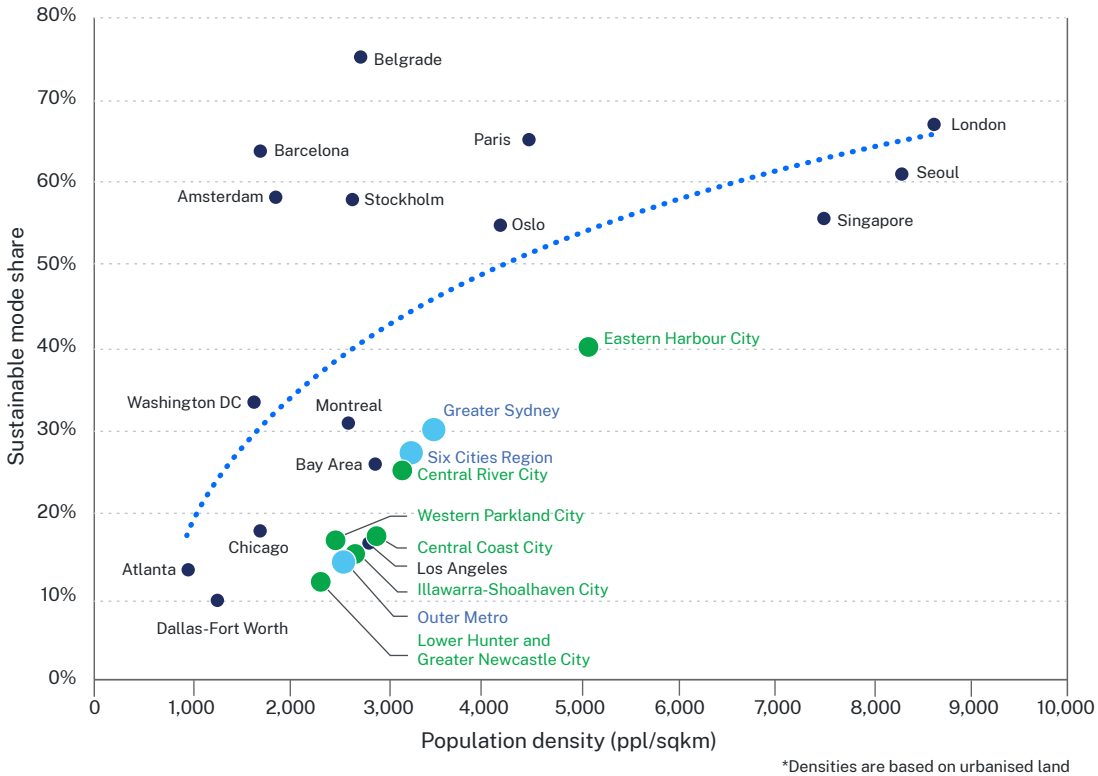
Figure 28
Proposed NSW Fast Rail links.

P1.1 Actions		Timing
P1.1a	Develop design and delivery strategies for the staged delivery of the Fast Rail network.	○●○
P1.1b	Consult with communities and councils along the Fast Rail routes to understand their views and identify ways to maximise the benefits and opportunities of Fast Rail.	○●○
P1.1c	Undertake industry engagement so that from the outset, Australian and global industry expertise is harnessed to deliver a Fast Rail network.	○●○
P1.1d	Investigate place making around Fast Rail hubs to create vibrant urban centres.	○●○
P1.1e	Develop a common gateway in the Central River City to provide a seamless interchange with metropolitan train services.	○○●

● Priority actions ● Progress planning ● Long-term need

P1.2 Support growth around public transport

Growth around frequent public transport could accommodate some of NSW's growing need for jobs, education and housing, and simultaneously increase the viability of major public investments, particularly in metro, rail and light rail. Any subsequent increase in revenue would enable Transport to increase the number and frequency of services, extend operating hours and develop new routes.



*Densities are based on urbanised land

Figure 29
Comparison of sustainable (active and public transport) mode share by city density.

Supporting growth around public transport can reduce peak congestion on our roads and offer more diversity and affordability in housing and other uses.

Cities with high population densities generally have higher rates of public and active transport use. Clustering new development (including housing, employment and services) around public transport nodes such as stations, wharves and rapid bus hubs can encourage public transport use, achieving substantial shifts in favour of more sustainable modes. Smarter high-density development can bring network-wide efficiencies, improve agglomeration economics, and deliver place making benefits, including more walkable neighbourhoods, and improved accessibility and liveability for residents.

Transport agencies have extensive land holdings adjacent to rail corridors, in some cases, adjoining stations, or high-frequency bus routes. New public transport links can spur renewal in locations with potential for high-quality housing, local jobs and community infrastructure. With careful design, the renewal of these sites could also support other uses such as education or childcare, giving people easier access to jobs, education and recreation. By planning for multiple uses, infrastructure can adapt to the changing and maturing of neighbourhoods.

P1.2 Actions		Timing
P1.2a	Review opportunities for the development of Transport-owned land adjacent to public transport and major centres.	● ○ ○
P1.2b	Ensure strategic opportunities are assessed prior to lease or sale of Transport land.	● ○ ○
P1.2c	Adopt guidelines for temporary structures on Transport land.	● ○ ○
P1.2d	Maximise accessibility to population centres to improve public transport patronage.	● ○ ○

● Priority actions ● Progress planning ● Long-term need

Providing public and active transport connections for new developments can lead to an increase in sustainable travel behaviours; Sydney Metro North West.

P1.3 Ensure public transport is available on day one

Urban development can bring opportunities to make new public transport and active transport connections and embed public transport, walking and cycling as key travel choices.

When planning and developing new neighbourhoods, regular public transport should be available as soon as the area is occupied by residents, schools and workers. This will form travel patterns from day one, enhance the liveability and vibrancy of new centres, and ensure everyone has access to transport. Carefully designed streets should unlock convenient and direct routes that prioritise bus, walking and cycling connections.

Transport is working closely across government on guidelines to facilitate better network planning and masterplanning. Other NSW Government projects will improve design quality and promote active and public transport in new neighbourhoods.

P1.3 Actions		Timing
P1.3a	Explore reforms to policies leading to public transport networks being in place at the time of settlement of new areas of housing and/or jobs.	○●○
P1.3b	Prepare best practice guidelines for network planning for new areas.	●○○
P1.3c	Prioritise regular, timetabled bus services in preference to site-specific shuttle bus services.	●○○

● Priority actions ● Progress planning ● Long-term need

P1.4 Improve parking provision and management

Careful parking management in metropolitan centres can encourage more people to use public transport, thereby reducing congestion, improving productivity on the roads, and making public transport services faster and more reliable. Provision of too much parking infrastructure can discourage people from choosing sustainable and active modes while exacerbating congestion.

Parking requirements imposed on the approval of new buildings can affect the affordability of homes and lock in car dependency, even in areas well served by public transport. Smarter location-based rules can reduce housing costs, increase diversity, give buyers and renters more options to buy only the parking they need, and reduce traffic as NSW grows.

Addressing outdated minimum parking requirements will require close collaboration with councils to improve the management of kerbside parking, thereby ensuring that parking demand is not simply moved to local streets. New technologies and policy approaches can complement land use controls, encourage sustainable travel and car sharing, and provide drivers with real-time information about parking cost and availability.

Pay parking can help manage demand and create a valuable funding source for local improvements. Kerbside parking management will be increasingly important as parcel deliveries continue to grow and electric vehicles generate new demand for on-street charging.

P1.4 Actions		Timing
P1.4a	Develop a parking demand management policy for metropolitan centres on the rail network.	○ ○ ●
P1.4b	Deliver an update to the Guide to Traffic Generating Developments including updated guidance on parking provision and management for new developments, considering public and active transport accessibility, not just parking demand of vehicles.	● ○ ○
P1.4c	Reduce recommended parking rates, improve guidance, and amend regulations to accelerate the uptake of car sharing and e-bikes.	● ○ ○
P1.4d	Update guidelines relating to kerbside parking, including guidance on loading and on-street electric vehicle charging.	● ○ ○
P1.4e	Identify trial locations for innovative partnerships to reinvest money from pay parking.	○ ● ○
P1.4f	Ensure assessment of parking associated with developments is integrated with local street parking arrangements.	○ ● ○

● Priority actions ● Progress planning ● Long-term need

Careful parking management can create connected communities and encourage public transport use.

P2 Transport infrastructure makes a tangible improvement to places

How Transport designs and builds assets directly affects the amenity of the places where people live, work and visit.

Transport's support for successful places needs to start with good design – for roads, bridges, stations, interchanges, rail corridors, ferry wharves, depots and substations. A commitment to high-quality design should underpin each stage in delivering transport assets, from reserving land through to construction.

Responses

- P2.1 Support thriving and healthy 15-minute neighbourhoods
- P2.2 Manage street space as public space
- P2.3 Incorporate green, blue and OCHRE infrastructure
- P2.4 Build well-designed transport infrastructure that makes places more liveable and successful
- P2.5 Improve the amenity of places along State Roads

P2.1 Support thriving and healthy 15-minute neighbourhoods

Communities in all parts of NSW – whether in a city, regional town, or rural location – value good transport in and around local neighbourhoods. They want their communities to be strong, vibrant and active.

During the COVID-19 pandemic, people interacted more within their neighbourhoods, shopping and socialising locally. Increased localisation of day-to-day life led to the revitalisation of some centres, altering the demand for passenger transport and generating new freight activities to service changed patterns of shopping. This trend resulted in stronger local economies that residents and businesses want to maintain.

Thriving 15-minute neighourhoods have tree canopy cover and shade, quality of public spaces, well-designed roads and pathways with safe speeds, and a concentration of activities that bring people onto streets. A neighbourhood is both a place within a town or a city, and its people. Villages can also be neighbourhoods. Neighbourhoods contain homes, schools, shops, cafes, businesses, community services and green infrastructure as well as public transport stops and stations.

Neighbourhoods are part of Country, so we acknowledge diverse perspectives, stories and relationships to Country. Within neighbourhoods, Transport will find common ground with communities by collaborating on improvements to local transport and transport infrastructure.

Transport's 15-minute neighbourhood concept aims to support local communities and healthy lifestyles by prioritising place making, walking, cycling, micromobility and last mile freight, to support 15-minute access to connected, local transport networks, precincts and local destinations.

At an average walking speed, a 15-minute trip covers about a kilometre. For people riding a bike, e-bike, or other form of micromobility, that distance can increase to 5 kilometres or more, which is enough to access most local shops and facilities within neighbourhoods.

Making these trips easier and more appealing will increase foot traffic and support local economies. It will also reduce vehicle emissions and noise, which will boost amenity and create a feeling of a more connected neighbourhood and community. People who walk, cycle and use micromobility devices have better health and wellbeing, save money, and do not contribute to travel emissions. They also feel more connected to others in the neighbourhood and their community.

Independent mobility for children

For young bike riders, a bicycle brings independence, enlarging horizons within and beyond their local neighbourhoods, and improving self-confidence. Similar benefits occur when children are allowed, from an appropriate age, to walk to a station or stop and navigate the public transport system on their own or with friends. Children in secondary schools in the Six Cities Region should have good access to reliable, accessible public transport to their local high school to enable sustainable transport choices when travelling to school. Children in regional areas should also have good access to public transport where possible. Children who have positive experiences of walking, cycling and using public transport tend to be best equipped to make sustainable travel choices as adults.

About 50 per cent of parents and carers in NSW are uncomfortable letting their children walk or ride a bike to school or to meet their friends. This results in children travelling as car passengers, which increases congestion on local streets and adds to the safety risks near busy school gates due to manoeuvring vehicles.

Turning this situation around will require collaborative, multi-agency, and community action that Transport can lead on several fronts. Cross-agency data sharing and qualitative research into the mobility of children and families will be important in informing and evaluating initiatives. Transport will also work with the Department of Education on future transport plans to support sustainable travel for children and young people of all abilities to and from schools.

Figure 30
Within 15-minute neighbourhoods, people can walk or cycle to access local services such as shopping, local health services, education and recreation.

Neighbourhood deals

To achieve 15-minute neighbourhoods, Transport will need different approaches in different geographic settings. In existing and growing neighbourhoods, partnerships - or neighbourhood deals - between councils, state governments and landowners can deliver numerous small-scale investments to improve neighbourhood liveability and reduce road congestion alongside new housing. These investments could include new and upgraded links to parklands and sporting facilities, new walking connections to schools, shops and stations, safety improvements to local streets, safe infrastructure for people riding bikes, and new tree plantings in streets and public spaces.

Rural, regional, and remote NSW

In regional rural and remote parts of NSW, many people rely on a car to meet their everyday needs due to the climate, long distances, limited travel choices and lack of infrastructure. In this case, parking the car once before walking to shops, health services, schools, recreational events or visit friends may be possible if connected and shady footpaths link their destinations.

Regional transport initiatives for 15-minute neighbourhoods include:

- improving amenity in towns where possible by moving visitor car parking away from main streets
- ensuring there are footpaths on both sides of all streets within 400 metres of a local destination or main street and within 800 metres of a strategic or city centre
- providing heavy vehicle bypasses of main streets and strategic or city centres
- providing and upgrading safe cycle routes that establish or complete local networks
- providing low-speed traffic environments to make walking and cycling safer.

Metropolitan and urban NSW

In metropolitan and other urban areas, actions to support thriving and healthy 15-minute neighbourhoods will give priority to walking, cycling and micromobility, place making and last mile freight access. This is complemented by the 30-minute metropolitan city concept that primarily focuses on public transport.

Transport initiatives that will benefit 15-minute neighbourhoods include:

- rolling out low-speed zones supported by physical changes to the road environment
- upgrading existing paths and streets for better walking and cycling experiences
- planting trees along streets and paths to provide amenity and shade to reduce urban heat
- reallocating vehicle lanes to other types of accessible public spaces
- prioritising pedestrian movements in and around key destinations, including at traffic signals
- using low-cost and/or temporary infrastructure to trial or test local initiatives
- streamlining the process to implement local walking, cycling and place making initiatives
- investing in technology that enables improved place making and movement efficiencies.

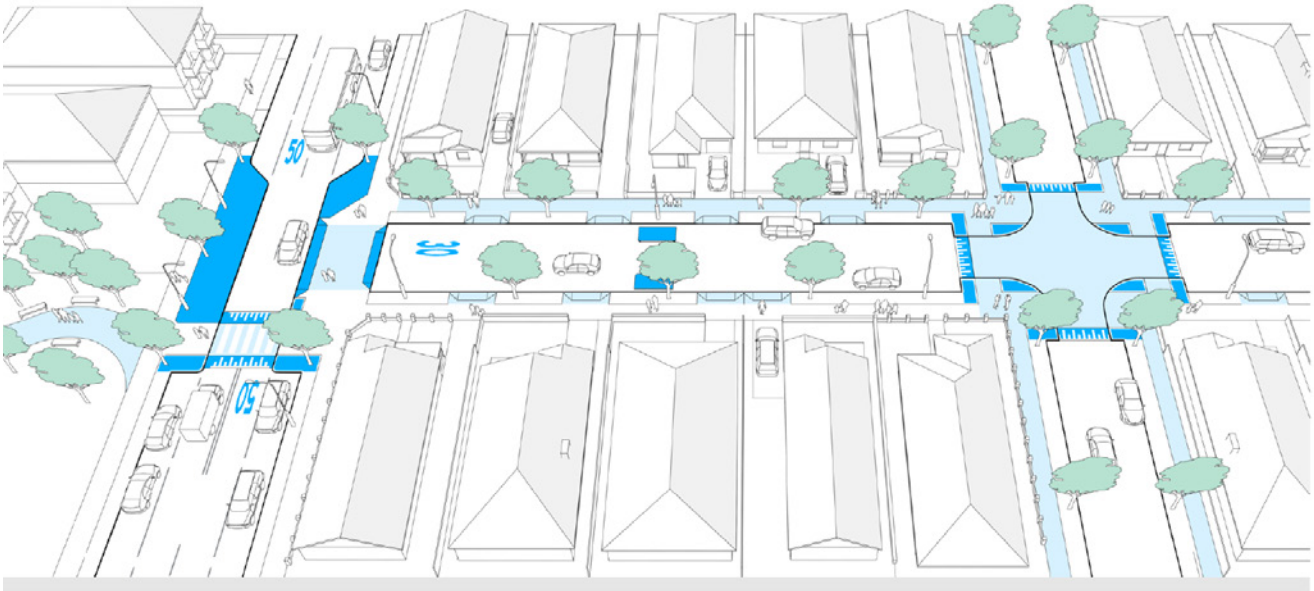


Figure 31
Small changes such as new crossings, wider footpaths and lower vehicle speeds can dramatically improve walking conditions.

New developments

As new neighbourhoods are planned to cope with increasing housing demand, we must ensure they also support the 15-minute neighbourhood concept.

In developing areas, Transport will partner with NSW Government planning and infrastructure agencies, the urban development industry, and councils to ensure people have quality access to their local and neighbouring communities. The aim of these partnerships is to initiate investigations into improving precinct master planning, improve the timing and allocation of responsibility for infrastructure delivery, and consider the early introduction of new bus routes and 15-minute walking, cycling and micromobility networks at the time residents move in.

Transport has also developed new guidance on transport network planning in precincts. This will emphasise the delivery of complete networks that are integrated with built form and green infrastructure, support a desired neighbourhood character, and prioritise walking, cycling, micromobility and first and last mile freight.

Investing early in sustainable transport access in and around new local centres will support the emergence of sustainable travel culture, including walking, cycling and micromobility for short trips and public transport for longer distance travel. If the centre is the location for a new train station, or light rail or rapid bus stop, putting a surrounding mesh of local links in place before the new service is introduced means people will be less likely to rely on driving to the station because alternative first and last mile choices are already available.

P2.1 Actions		Timing
P2.1a	Partner with councils, Local Aboriginal Land Councils and other NSW Government agencies to support 15-minute neighbourhoods.	●●●
P2.1b	Explore reforms to planning policies and developer contribution regimes to ensure connected walking, cycling and bus networks in new release areas.	●●○
P2.1c	Ensure 15-minute walking, cycling and micromobility networks are planned or under development within the catchment prior to new train stations, major bus stops and interchanges and ferry wharves opening.	●●●
P2.1d	Investigate options to support council-led walking, cycling and place making initiatives, to make it easier to activate local streets and centres.	●○○
P2.1e	Establish neighbourhood deals to invest in making our streets and public places safer, greener and more liveable.	●○○
P2.1f	Delegate more decisions to councils and Local Aboriginal Land Councils to allow for local decisions in local street environments.	○●○
P2.1g	Partner with the Department of Education and key stakeholders to improve safe walking, cycling and public transport access to schools.	●○○
P2.1h	Improve priority for walking trips in centres, towns and villages, such as reallocating road space to wider footpaths and providing more frequent and longer duration pedestrian crossing phases at traffic signals.	●○○
P2.1i	Plan and design at all scales early in projects to understand impacts and opportunities.	●○○

● Priority actions ● Progress planning ● Long-term need

As new neighbourhoods are planned to cope with increasing housing demand, we must ensure they also support the 15-minute neighbourhood concept.

The routes our trains, buses, ferries and roads use every day follow the songlines created to guide the journeys of this country's Aboriginal people. The mural at Broadmeadow Station identifies local Aboriginal Country, communicating its history and story through art.

P2.2 Manage street space as public space

Great public places for walking, cycling, catching public transport, outdoor dining, socialising and business are critical to the health and vibrancy of urban areas.

Transport will partner with councils and other local stakeholders to implement innovative and creative approaches for managing streets as public spaces.

We will consider investing in initiatives that deliver quick wins while establishing longer term support for permanent improvements to walking and cycling networks. We will also provide a road planning, design and management toolbox used by councils to support trials of innovative and low-cost treatments to reallocate space for alternative public uses.

P2.3 Incorporate green, blue and OCHRE infrastructure

Transport can improve the liveability and ecology of our towns and cities by retaining and integrating green and blue infrastructure in our networks and projects.

As climate change increases average temperatures, green and blue infrastructure can help mitigate the heat island effect typically found in urban areas, especially at night. It can improve air quality and amenity through dispersion and absorption of pollutants, and help separate pollution sources from people, including along roads and transport corridors.

Green infrastructure is managed or constructed vegetated space as well as existing natural ecosystems. It includes tree plantings, green roofs and walls on structures, and parks and

P2.2 Actions		Timing
P2.2a	Support trials of innovative and low-cost treatments to reallocate space for alternative public uses.	●●●
P2.2b	Reduce the cost and complexity of reallocating road space for alternative public uses.	●○○
P2.2c	Explore programs to revitalise streets as public spaces.	●●○

● Priority actions ● Progress planning ● Long-term need

open spaces. Blue infrastructure such as swales, rain gardens and artificial wetlands, can reduce runoff, improve stormwater quality, reduce the need for maintenance and artificial watering, promote soil health, and provide habitat for plants and animals. The Government Architect NSW's Greener Places Design Guide and Transport's engineering and planning guidance can deliver greener communities while ensuring solutions are tailored to local conditions.

Planning and development of transport infrastructure should be aligned with the Government Architect NSW's Planning for Country and Designing with Country frameworks. Transport works with Aboriginal communities to understand, protect, incorporate, and promote Aboriginal places and knowledge (OCHRE infrastructure) in projects.

Transport can also use OCHRE (Opportunity, Choice, Healing, Responsibility and Empowerment) principles to engage with, and respond to, cultural practices led by community groups and their recognised Aboriginal knowledge holders with spiritual links to Country. We will support strong Aboriginal communities where Aboriginal people actively influence and fully participate in social, economic and cultural life.

P2.4 Build well-designed transport infrastructure that makes places more liveable and successful

Through our infrastructure, Transport plays a significant role in shaping the built environment that interacts with our communities. When Transport delivers well-designed infrastructure, it helps to provide successful mobility, liveability and environmental outcomes for people over the many decades of an asset's life.

To maximise these benefits, Transport is committed to championing design excellence across our infrastructure projects and programs. We will develop and adopt a Transport-wide Designing with Place policy to embed high-quality design and place outcomes across all projects. We will continue to evolve and apply the **Movement and Place Framework** to all aspects of streets and roads in our operations. We will also prioritise successful place outcomes through our partnerships across government, and with councils and industry.

All project design should start with Country. This involves acknowledging and celebrating Country while working actively to address the disadvantages faced by Aboriginal people.

P2.3 Actions		Timing
P2.3a	Incorporate green infrastructure into urban projects and assets.	● ○ ○
P2.3b	Work collaboratively to achieve a 40 per cent urban tree canopy target.	● ○ ○
P2.3c	Investigate innovative material selection to reduce urban heat.	● ○ ○
P2.3d	Incorporate the need for trees into urban street design and speed zoning guidance.	● ○ ○
P2.3e	Quantify the benefits of green and blue infrastructure investment in business cases.	● ○ ○
P2.3f	Apply industry-leading, water sensitive urban design principles to projects.	● ○ ○
P2.3g	Develop and embed policy and processes that enable Aboriginal people to actively influence and participate in the planning, design and project phases of transport projects.	● ○ ○
P2.3h	Investigate how to embed Designing with Country into design processes and built outcomes.	● ○ ○
P2.3i	Incorporate into planning, design and project phases statements on how our work will contribute to improving social, economic and cultural life of Aboriginal people and communities.	● ○ ○

● Priority actions ● Progress planning ● Long-term need

Transport will develop an Aboriginal Outcomes Framework to help create successful places, with the right mix of infrastructure and services, so communities achieve desired social, cultural and economic outcomes. Transport will work with local Aboriginal communities and Local Aboriginal Land Councils to find ways to acknowledge and visually celebrate Country in all projects.

Good infrastructure design requires careful attention to the local scale during early planning and design. Working at multiple scales helps Transport respond positively to the issues and opportunities of new or changed infrastructure, and avoids leaving place-specific problems or opportunities to late stages when change may be difficult.

P2.5 Improve the amenity of places along State Roads

State Roads make a critical contribution to the productivity of NSW. They carry large volumes of freight and cater to both local and long-distance trips. Where they pass through locally important places and centres, State Roads also function as main streets. These areas can have as many people crossing the road on foot as those travelling by car or bus. Without careful design, they can become a barrier to the community they serve.

To deliver better places for communities, Transport will manage State Roads to enable successful places and prioritise evidence-based improvements to sections that function as main streets. Assessing place metrics

P2.4 Actions		Timing
P2.4a	Work collaboratively with Aboriginal and Torres Strait Islander peoples via programs to build connections and understanding, and promote cultural capability so collaboration can happen during the planning, design and delivery of projects.	● ○ ○
P2.4b	Develop an Aboriginal Outcomes Framework to provide strategic intent for Transport engagement with Aboriginal communities.	● ○ ○
P2.4c	Develop and adopt a Transport-wide 'Designing with Place' policy to embed high-quality design and place outcomes across all projects.	● ○ ○
P2.4d	Ensure architecture and urban design are given a high priority within infrastructure projects.	○ ● ○
P2.4e	Increase the use of Transport's Design Review Panel to provide assurance of high-quality design outcomes.	○ ● ○
P2.4f	Develop a 'place satisfaction' metric to assess place outcomes, including specific indicators and measures of performance.	● ○ ○
P2.4g	Work across government to embed place indicators and measures within transport business cases, to better define the economic costs and benefits of place outcomes.	● ○ ○
P2.4h	Support other transport asset owners to improve place outcomes from their infrastructure investments, including councils responsible for bus stops.	○ ○ ●
P2.4i	Apply the Movement and Place Framework to all aspects of street and roads in our operations.	○ ● ○

● Priority actions ● Progress planning ● Long-term need

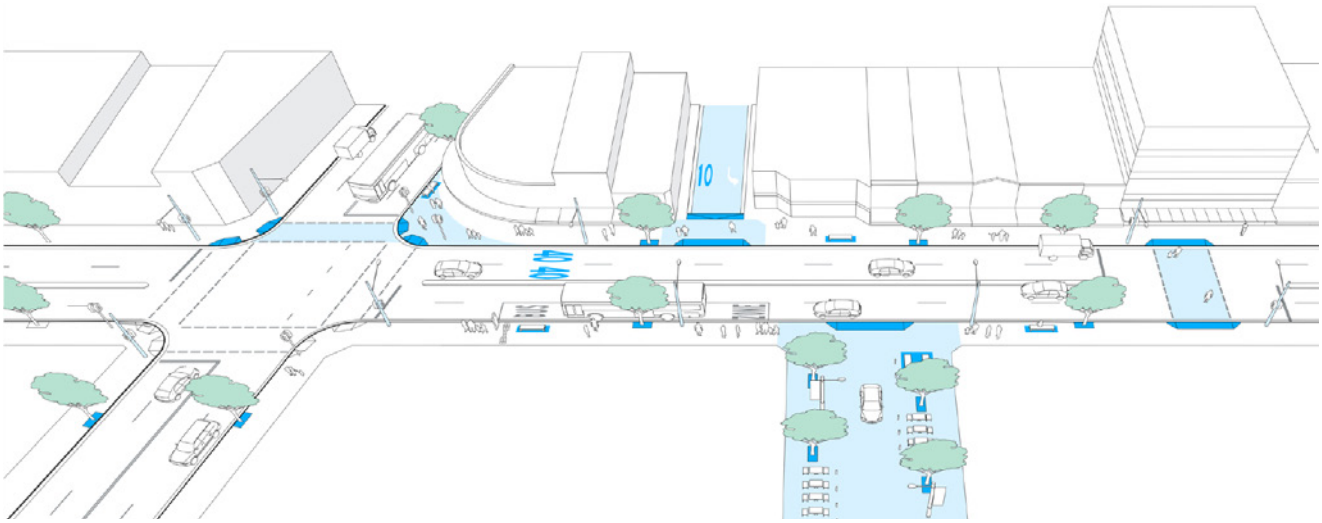


Figure 32
Lower speed limits, more pedestrian crossing points and the removal of pedestrian fencing can improve places on State Roads.

and indicators such as tree canopy, relative areas of footpaths, cycleways and traffic lanes, vehicle speeds, bus stops and the spacing and type of pedestrian crossings will help prioritise locations for capital and operational improvements.

In rural and remote parts of NSW, the State Road through a town may provide its only connection to a larger centre. The road serves both as a critical supply chain, carrying a high share of heavy vehicles, and as the main street within the town, providing frontage access to businesses, schools and homes. Improved safety and heavy vehicle access can be achieved with localised road treatments that reduce vehicle speeds.

In new urban development areas, preserving land for State Roads and other arterial road corridors wide enough to accommodate forecast growth can affect communities by reducing tree cover, extending street crossing times, and creating large areas of concrete and asphalt that may lead to urban heat. These impacts can be reduced by staging the reservation and development of new State Road corridors. Retaining existing vegetation within reserved corridor boundaries as well as in wide central median strips after the first traffic lanes are built would provide shade for walking and cycling pathways.

P2.5 Actions		Timing
P2.5a	Develop and adopt principles for the management of State Roads that have a significant place function.	● ○ ○
P2.5b	Devise main street place indicators for State Roads in urban centres, ensuring consistency with the NSW Movement and Place Framework.	● ○ ○
P2.5c	Prioritise a program that delivers successful place outcomes in and around main street sections of State Roads in urban, regional and rural settings.	○ ● ○
P2.5d	Use real-time smart traffic systems to enhance the amenity of State Roads, such as speed limit reductions and increased priority for pedestrians.	○ ● ○
P2.5e	Review the approach to preservation and staged development of State Road corridors to support sustainable transport and community outcomes.	○ ● ○
P2.5f	Prioritise the retention or replanting of vegetation along State Roads in new urban areas to provide shade and broader cooling benefits.	○ ● ○

● Priority actions ● Progress planning ● Long-term need

P3 Transition to net zero greenhouse gas emissionss

Transport is committed to supporting the NSW Government's target of 50 per cent emissions reduction by 2030 (over 2005 levels) and net zero emissions by 2050 with a long-term goal and clear short-term targets to decarbonise the sector.

By 2030, the Transport sector is projected to be the largest single source of emissions due to increasing emissions from general traffic, heavy vehicles, aviation and shipping. Transport's operations account for approximately 3 per cent of all transport emissions.

Transport is leading by example with commitments to minimise energy demand, improve efficiency, source green electricity, and transition to net zero emissions public transport. We will deliver policies, incentives, regulations and support for industries to accelerate the transition to private electric light vehicles and trucks. The confidence of our communities and stakeholders will be maintained with regular and transparent reporting on our progress to net zero emissions transport.

Responses

- P3.1 Achieve net zero emissions from our operations and fleet by 2035
- P3.2 Help the transport sector achieve net zero emissions by 2050

P3.1 Achieve net zero emissions from our operations and fleet by 2035

Building on the NSW Government's net zero targets, Transport has developed a subsidiary target with a commitment to net zero Transport operations by 2035, consistent with the NSW Climate Change Policy Framework and the 2016 Paris Agreement goal of limiting global heating to preferably 1.5°C by 2100. Transport will achieve this by pursuing all feasible actions to decarbonise our operations, including:

- procuring 100% renewable energy for all electricity
- electrifying our buses, ferries, corporate vehicles and non-passenger vehicle fleets
- implementing innovations that will improve energy efficiency and/or reduce energy demand
- progressively identifying opportunities for strategic rail electrification
- supporting the optimal use of green hydrogen.

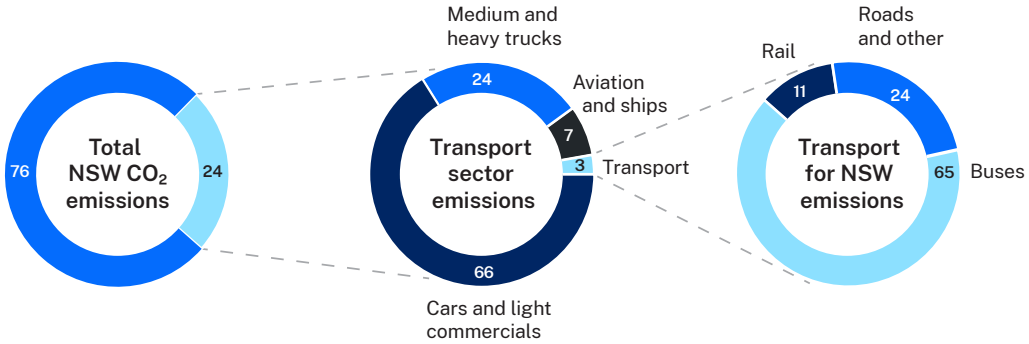


Figure 33
Transition of public transport and incentives for private vehicles will help NSW meet net zero emissions.

Zero emission buses are a key part of transitioning to net zero emissions from our fleet.

Transport will limit the use of accredited carbon offsets to offset emissions that cannot feasibly be eliminated.

Sydney Metro, Sydney Trains and urban NSW TrainLink services are already powered by 100 per cent green electricity, and we are assessing zero emissions options for our ferries and regional trains.

Bus operations account for most of Transport's direct emissions. We have already begun to transition the State's bus fleet of more than 8,000 diesel and gas buses to zero emissions technology. As more experience is gained, electric buses will be introduced to regional bus fleets and hydrogen fuel cell technology will be trialled for regional coaches.

Transport will transition all its operations to renewable energy, using its considerable buying power to support the wider development of new renewable generation and hydrogen supply chains.

For our diesel and passenger train fleet that can be powered by diesel or overhead wires, we will investigate zero emissions technologies. We will undertake a study of hydrogen passenger trains and consider battery-powered passenger trains and overhead electrification.

P3.1 Actions		Timing
P3.1a	Set a 50 per cent electric vehicle procurement target for Transport's own passenger fleet by 2026 and 100 per cent by 2030.	○●○
P3.1b	Assess the feasibility of trialling a hydrogen train on the NSW train network.	○○●
P3.1c	Prioritise electric ferries in new ferry procurement and refit of the existing fleet.	○●○

● Priority actions ● Progress planning ● Long-term need

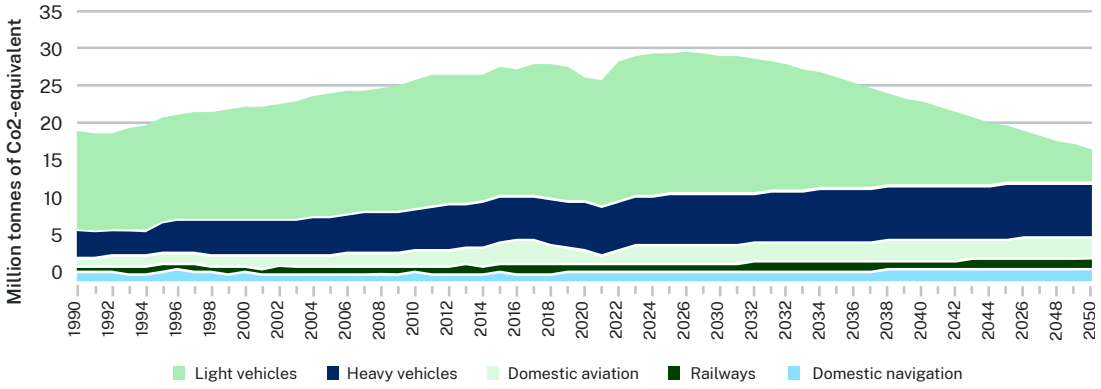


Figure 34
Forecast NSW transport emissions under current policy, demonstrating the need for further efforts to address emissions from heavy vehicles and aviation[7].

7 Department of Planning and Environment, **Emission Projections Modelling**, NSW Government, November 2021.

P3.2 Help the transport sector achieve net zero emissions by 2050

On current projections, emissions from cars will continue to rise this decade before falling substantially as the fleet is electrified. However, persistent growth in emissions is projected from heavy vehicles and little improvement is forecast in emissions from rail freight, aviation and shipping.

Without additional effort, the transport sector could impede the State's goal of achieving net zero emissions by 2050. The NSW Government will continue to work with the Commonwealth Government and other states and territories in transitioning the transport sector towards a net zero emissions future.

Transport will support the **NSW Electric Vehicle Strategy**, accelerating adoption of electric vehicles by private owners, fleet owners and public authorities, and the roll out of charging stations right across NSW. By 2050, this will contribute to reducing emissions from light vehicles by 12.6 million tonnes per annum. We will also drive behaviour changes to help reduce greenhouse gas emissions, for example, through our support for active and sustainable transport options.

Decarbonising freight is critical to achieving net zero as deliveries by heavy and light commercial vehicles are increasing, both in urban areas and in regional NSW. The majority of the freight and commercial delivery fleet are light commercial vehicles, operating predominantly in urban environments. They are well suited to electrification with batteries as are rigid trucks typically used for supermarket distribution, waste collection and construction. Heavier vehicles are identified by the **NSW Hydrogen Strategy** as a key early market for the green hydrogen industry. The roll out of 100 hydrogen refuelling stations under the hydrogen strategy will support investment in new hydrogen-based regional industrial clusters focused on clean energy, hydrogen production, logistics and primary industry.

While NSW has limited oversight of some long-distance shipping, rail and aviation, there is strong industry interest in developing ammonia as a replacement fuel for shipping and promoting the electrification of recreational vessels and ferries. There is also potential to decarbonise freight locomotives with hydrogen, batteries, or electrification, and introduce electric aircraft to decarbonise regional air travel.

The NSW Government will continue to work with the Commonwealth Government and other states and territories in transitioning the transport sector towards a net zero emissions future.

Transition to electric vehicles will significantly reduce emissions from the transport sector.

P3.2 Actions		Timing
P3.2a	Support the road freight sector to decarbonise by accelerating the uptake of zero and low-emission vehicles.	● ○ ○
P3.2b	Investigate options for decarbonising rail freight and accelerating the retirement of the most polluting locomotives.	○ ● ○
P3.2c	Investigate government-owned land on our networks suitable for electric vehicle charging and hydrogen refuelling stations.	○ ● ○

● Priority actions ● Progress planning ● Long-term need

P4 Transport minimises environmental impacts

Transport infrastructure in NSW has a large physical footprint, including 185,000 kilometres of public roads and 9,400 kilometres of rail infrastructure. Some of this includes vegetated sections of road, rail, drainage lines and waterways that contain important native flora and fauna and their habitats.

Most of the projected growth in the NSW population over the coming decades will occur in the Eastern Harbour City, Central River City and Western Parkland City. Here, the liveability of urban areas is intrinsically linked to our economic growth. To boost the liveability and sustainability of communities and the environment, Transport must ensure we minimise the impact of transport projects on biodiversity, air and noise quality, and the natural water cycle.

Responses

- P4.1 Ensure a net increase in urban trees and no net loss in biodiversity
- P4.2 Improve air quality and reduce noise
- P4.3 Use space and assets more sustainably
- P4.4 Use more sustainable materials
- P4.5 Design out waste and keep materials in use

P4.1 Ensure a net increase in urban trees and no net loss in biodiversity

Linear transport infrastructure corridors including roads and rail lines present a risk to biodiversity through wildlife collision and habitat fragmentation. But our infrastructure reserves can also be important places of refuge and sometimes the last remaining source of habitat connectivity in the landscape. Transport has an opportunity to protect and enhance biodiversity by carefully managing our assets.

Transport will aim for a net increase in native and amenity trees where trees are permanently removed. This will provide greater urban amenity and cleaner air, and reduce urban heat.

Transport will aim for no net loss in biodiversity in all our activities. This includes the protection of all living species.

We will also improve opportunities for local Aboriginal people to care for and connect to Country through conservation programs that are required for project approvals.

P4.1 Actions		Timing
P4.1a	Develop a no net loss biodiversity policy that includes a net increase in urban trees.	● ○ ○
P4.1b	Track Transport's performance towards biodiversity.	○ ● ○
P4.1c	Work with local Aboriginal communities to incorporate traditional knowledge that supports habitat connectivity.	● ○ ○
P4.1d	Revise and consolidate Transport's **Biodiversity Guidelines**.	● ○ ○
P4.1e	Develop a program to monitor and reduce the biodiversity impacts of existing assets.	○ ● ●
P4.1f	Investigate emerging technologies that could improve driver awareness of potential vehicle-strike wildlife hotspots.	○ ● ●

● Priority actions ● Progress planning ● Long-term need

P4.2 Improve air quality and reduce noise

Air quality and noise affects our health, the liveability of our cities and towns, and our environment.

Battery and fuel cell vehicles will reduce engine noise and traffic-related air pollution, but they will not eliminate tyre noise, or particle emissions from friction braking, and tyre and road wear.

By incorporating air quality goals early into decision making, new infrastructure can be sited and designed to minimise population exposure to air and noise pollution. Mapping of existing air and noise pollution can inform initiatives to reduce population exposure, such as lowering speed limits to address noise, or rerouting heavy vehicles to more efficient corridors away from dense populations.

P4.2 Actions		Timing
P4.2a	Integrate air quality into strategic decision making, including at the assessment, strategic plan and design stages of projects.	● ○ ○
P4.2b	Partner across Government to develop a transport network emissions model to identify high exposure areas and track changes.	● ○ ○
P4.2c	Work with the Australian Government to introduce cleaner vehicle emissions and fuel quality standards.	○ ○ ●
P4.2d	Improve noise standards for monitoring and measuring.	○ ● ○

● Priority actions ● Progress planning ● Long-term need

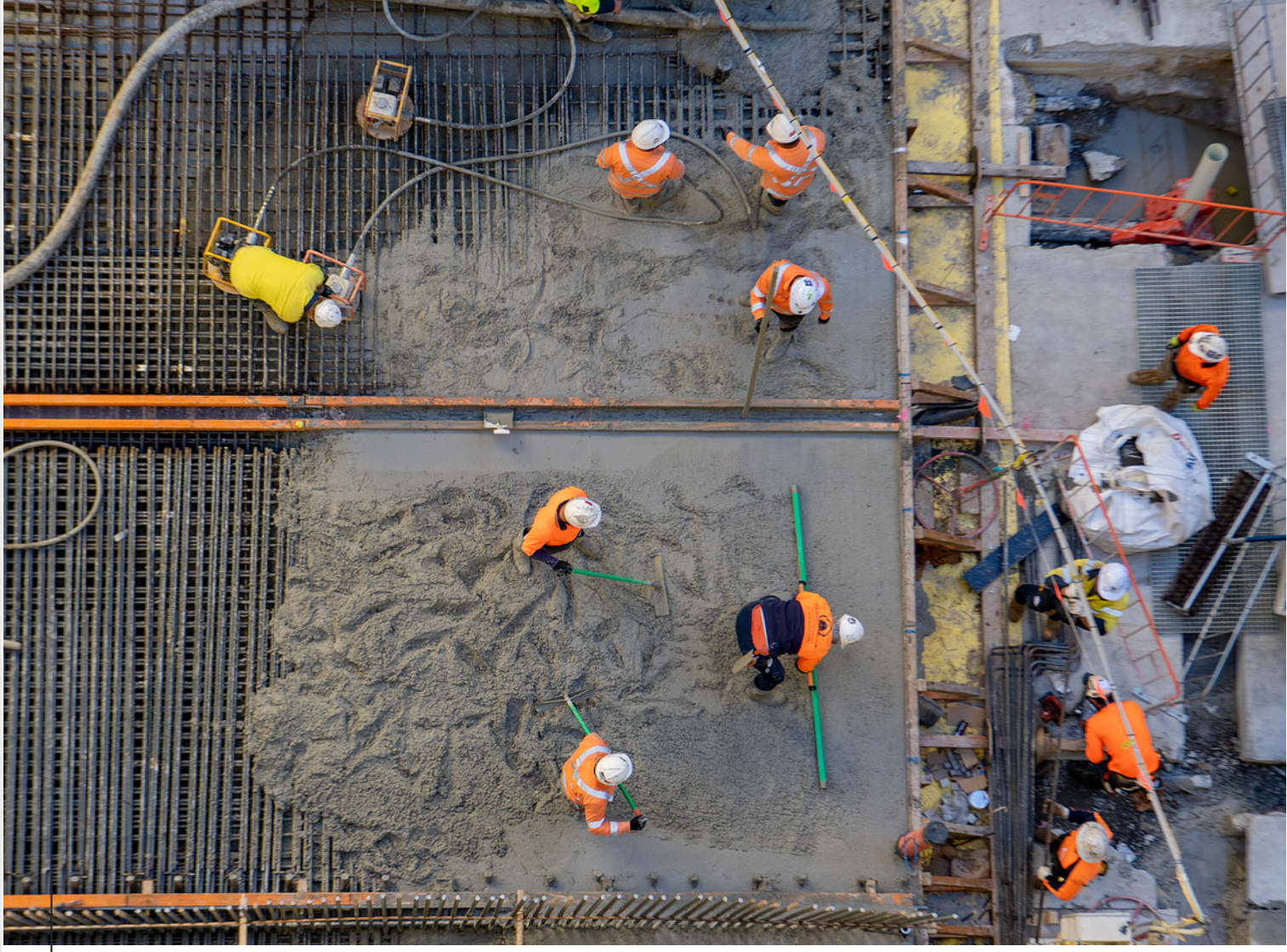
P4.3 Use space and assets more sustainably

Planning of future networks should carefully consider sustainability and the land taken for infrastructure, both in terms of direct impacts on the environment and secondary impacts on local neighbourhoods.

Resource use can be minimised by prioritising the compactness of transport infrastructure, increasing the share of public transport, walking and cycling, encouraging higher average vehicle occupancy, and increasing access to shared cars or mobility services that provide an alternative to car ownership. Reallocating existing road space to public transport can also increase transport network capacity and avoid the need for continual expansion.

P4.3 Actions		Timing
P4.3a	Prioritise the reallocation of road space to more efficient and sustainable transport modes.	● ○ ○
P4.3b	Investigate ways to reduce land required for transport in cities.	○ ● ○
P4.3c	Consider measures and regulatory reforms to promote carpooling, car sharing and increased vehicle occupancy in point to point mobility.	○ ● ○

● Priority actions ● Progress planning ● Long-term need



Concrete being poured at Sydney Metro's Crows Nest Station, using a mix that substitutes 70 per cent of Portland cement with ground granulated blast furnace slag resulting in reduced fuel consumption, CO2 and production cost.

P4.4 Use more sustainable materials

Transport uses considerable amounts of materials to build, operate and maintain infrastructure. Careful design, planning and procurement decisions can minimise unnecessary material use, drive sustainable innovation, and help scale up supply chains in the circular economy.

For unavoidable materials, Transport can specify less emissions-intensive steel for bridges, recycled content for road surfaces, or hydrogen fuel for heavy fleet and construction plants. Our purchases can support the commercialisation of new industrial processes, such as low-carbon steel or low-carbon cement production. Careful sourcing of major construction inputs, such as timber, aggregates and sand, can reduce the effects on forestry, quarrying and sand mining.

By collaborating in developing standards and accreditation for new low-impact materials, Transport can provide sustainability benefits that are rigorously quantified and can be adopted more broadly across the construction industry and other parts of the public sector.

P4.4 Actions		Timing
P4.4a	Review construction and materials standards and specifications to use circular economy practices in Transport's projects and operations.	● ○ ○
P4.4b	Complete analysis of Transport's carbon footprint and update procurement policies to find alternatives for the most carbon-intensive materials.	● ○ ○
P4.4c	Investigate targets for the carbon intensity of construction materials.	● ○ ○
P4.4d	Address impacts of the urban heat island effect, including minimising the use of heat-absorbent materials	● ● ○

● Priority actions ● Progress planning ● Long-term need

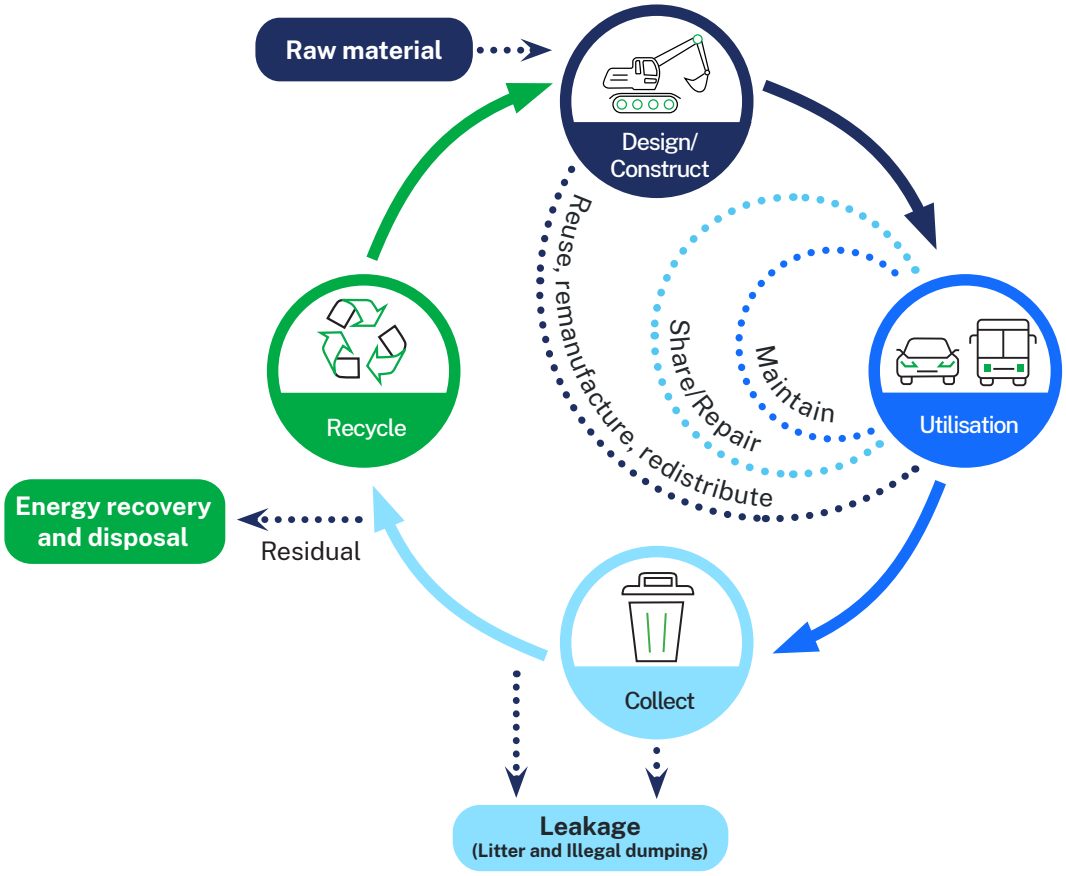


Figure 35
The circular economy can maximise resource efficiency and reduce the embodied energy of materials.

P4.5 Design out waste and keep materials in use

To develop a circular economy and reduce waste in the transport sector, we need to look at the entire value chain of production, use and end of life.

Transport will develop circular economy values for resources by keeping products and materials in use. As we maximise our resource efficiency, we can avoid unnecessary material consumption, reduce the embodied energy and carbon in our materials, and design out waste. Doing so will greatly enhance the amenity of the communities we serve.

The construction and maintenance of road, rail and related infrastructure drive substantial demand for asphalt, aggregates, concrete, steel and soil. Procurement and design that minimises the use of virgin materials can help establish a thriving circular economy. However, some recycled products are new to the market and will require education and updated guidance for use at scale.

Transport can minimise waste significantly by finding suitable uses for the by-products from our projects and by using by-products from other industrial processes to construct infrastructure.

P4.5 Actions		Timing
P4.5a	Integrate sustainability baseline targets and sustainable management plans into Transport's construction, maintenance and operations.	● ○ ○
P4.5b	Partner with research bodies and across government to investigate innovative solutions to recycling materials and undertake technical investigations, trials and pilots in construction and infrastructure projects.	● ○ ○
P4.5c	Investigate the potential for a material database that will enable Transport assets to act as material banks for future projects.	● ○ ○
P4.5d	Investigate opportunities to update our business case and economic evaluation guidelines for projects to embed circular economy practices.	● ○ ○
P4.5e	Mandate resource efficiency in design standards for infrastructure.	● ○ ○

● Priority actions ● Progress planning ● Long-term need

P5 Transport is resilient and adaptable to shocks and stresses

Any disruption of the transport system affects our customers, our communities and the economy. Global trends show risk is increasing with climate change, geopolitical uncertainty and increasing natural disasters.

To improve the resilience of our network we must anticipate and plan for short- and long-term risks, with strategies for mitigation, adaptation and recovery.

Responses

- P5.1 Provide customer journey resilience
- P5.2 Plan and monitor for shocks and stresses
- P5.3 Build and upgrade for shocks and stresses
- P5.4 Consider climate change impacts in all our decisions

P5.1 Provide customer journey resilience

In the future, events such as heat waves, storms, bushfires and flooding will become more frequent and intense. As these events unfold, we must keep people safe, informed and moving. To achieve this goal, we must identify the risks now and plan ways to mitigate them. Ensuring customer journey resilience will require targeted capital investments to maintain and improve assets with a focus on 'building back better'.

This shift from 'resilient infrastructure' to 'infrastructure for resilience' requires us to focus on the unique characteristics of places, including their vulnerability to different types of extreme weather and natural hazards, the level of redundancy in their road and rail networks, the capacity of evacuation routes, and the capability of local resources to restore and repair networks after major events. To do this, we will need to collaborate with multiple levels of government and work with diverse stakeholders, from logistics companies to transport operators.

We will use technology to improve risk forecasting, planning and monitoring, and to rapidly communicate with our customers during emergency responses. Transport will actively work with local communities and councils in planning and building early warning systems, clear evacuation routes, resilient transport infrastructure and well-resourced emergency management transport response teams. Getting this right will allow customers to make safe and informed decisions about their journeys as events unfold. We will continue to provide information across multiple platforms, from the Live Traffic app to social media and live feeds to third-party mapping and travel applications. This is particularly important in regional areas prone to natural hazards.

P5.1 Actions		Timing
P5.1a	Improve strategic oversight and coordination of resilient operations, including capacity for coordination and response activities, across State and local networks and across state jurisdictions.	● ● ●
P5.1b	Improve customer information and alerts providing real-time information and monitoring of emerging conditions and threats.	● ○ ○
P5.1c	Improve responses to disruptions and provide alternative journey options.	● ○ ○

● Priority actions ● Progress planning ● Long-term need

Staff remotely monitoring traffic impacted by road and bridge maintenance.

P5.2 Plan and monitor for shocks and stresses

We know that local and global trends will shape our state and transport system in future. And we will plan with those trends in mind because a transport network that is planned for protection against sudden shocks and long-term stresses is more resilient and adaptable to the changing needs of customers.

Transport resilience planning will continue to focus on proactive approaches to meet increasing risks. In collaboration with government, industry and community partners, we will incorporate climate resilience mitigation measures into the planning and design of all transport assets and services.

Improved data and information sharing will enable us to have an evidence-based approach in decision making for all our projects, and clearly define roles and responsibilities for climate change adaptation planning. Information and insights from monitoring the network will be crucial to assessing risk, prioritising preventative and predictive maintenance, and ensuring resilient journeys.

P5.2 Actions		Timing
P5.2a	Work with other agencies on State-level emergency risk assessments, mitigation, prevention, preparedness, response and recovery activities.	●○○
P5.2b	Improve strategic oversight and coordination of resilience outcomes across State and local networks and across State jurisdictions.	○○○
P5.2c	Strengthen and embed resilience into network and place-based transport plans. For example, identifying constraints on evacuation routes in vulnerable parts of the network and planning and delivering appropriate mitigation measures.	●○●
P5.2d	Identify infrastructure and service sector interdependencies and monitor and evaluate resilience outcomes across all sectors to inform a coordinated approach to future asset management, operational delivery and emergency response.	●○●

● Priority actions ● Progress planning ● Long-term need

A newly repaired section of road built back to a more resilient standard following a landslide.

P5.3 Build and upgrade for shocks and stresses

Transport infrastructure is vitally important for local communities during the response stage of an emergency to provide safe evacuation, passage and relocation of disaster-affected communities. The recovery of transport services and infrastructure is equally important to ensure critical supplies are provided to isolated communities, emergency services organisations have access to disaster areas, and the impact to businesses, schools and the economy is minimised.

The impacts from climate change, including damaging weather events, will continue to pose a significant risk to our infrastructure assets and the communities we serve. When these events occur, we need to reduce the risk and impact on communities and build back to a more resilient standard. Affected assets being renewed or replaced need to be designed to withstand the pressure they may be exposed to over their life and the changing role they may play in making the system more resilient. 'Building back better' can deliver significant whole-of-life cost savings for infrastructure and strengthen the resilience of communities.

P5.3 Actions		Timing
P5.3a	Identify and prioritise key sections of the road and rail networks for resilience improvements (regardless of who manages them).	● ● ●
P5.3b	Establish a clear pipeline of maintenance projects to improve resilience with a focus on adaptability and 'building back better' after a disruption.	● ● ●

● Priority actions ● Progress planning ● Long-term need

Mapping transport networks for vulnerability to climate change can inform our design and planning of new infrastructure and services.

P5.4 Consider climate change impacts in all our decisions

NSW is already feeling the effects of climate change. We must act now to ensure our transport system remains resilient. Mapping transport networks for vulnerability to climate change can inform our design and planning of new infrastructure and services. It will also help reduce the impacts associated with climate-related disruptions over the longer term.

Business cases for long-life infrastructure projects must address resilience risks at 20, 50 and 100 years, and consider climate-induced trends in population distribution, the make-up of industry, and the flow of commodities.

Embedding climate risk and resilience in our work provides leadership to the transport industry and strengthens our organisational capability and skills, so the NSW transport system and networks are sufficiently robust. This includes working with Aboriginal communities to incorporate traditional knowledge to assist in climate adaptation.

P5.4 Actions		Timing
P5.4a	Map networks for vulnerability to climate change and understand the interdependencies and potential impacts on the communities they serve.	● ○ ○
P5.4b	Update our business case and economic evaluation guidelines to embed consideration of climate change, including project alternatives and mitigation measures.	● ● ●
P5.4c	Consider climate change impacts (including on Country, culture and heritage) and incorporate climate resilience measures in the planning and design of all transport assets and services.	● ● ●
P5.4d	Incorporate climate adaptation measures in the design and construction of new and replacement assets.	● ● ●
P5.4e	Work collaboratively with Aboriginal people to address climate change impacts through traditional methods.	● ○ ○

● Priority actions ● Progress planning ● Long-term need

Chapter 4

Enabling economic activity

Our 24/7 transport system is the bedrock of a thriving community and a significant contributor to the success of our economy as NSW grows to become Australia's first trillion-dollar State.

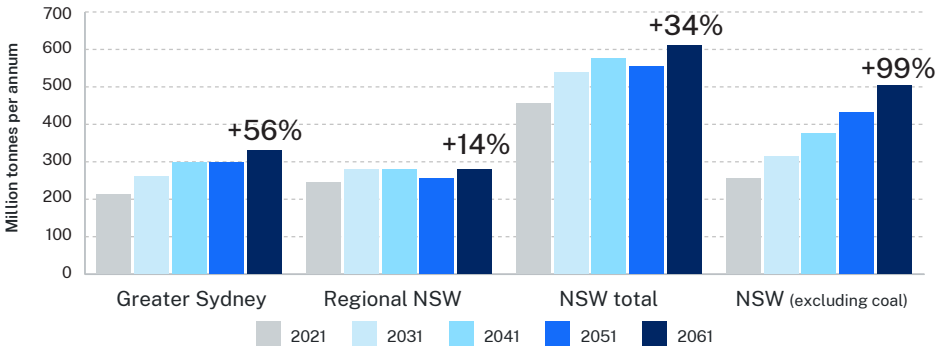


Figure 36 Demand for freight in all parts of NSW is projected to increase.

Transport creates jobs and connects people and goods with opportunities and with global markets; however, accommodating population growth and the predicted growth in passenger trips and freight volumes will be a challenge.

Managing growing freight demand will require efficient road and rail networks integrated with ports, airports, intermodal terminals, and key freight precincts and centres.

We will optimise the use and efficiency of our existing infrastructure by managing demand and performance before providing more infrastructure or capacity. We will improve the efficiency of roads by prioritising the most productive passenger and freight vehicles.

Transport will support the visitor economy by providing safe, legible and reliable end-to-end journeys that will benefit visitors and local communities.

We will ensure the transport system is financially sustainable. Financial sustainability allows us to continue to maintain and upgrade assets, operations and technologies to satisfy our customers' changing needs, and accommodate for growth in passenger numbers and freight volumes. We will optimise revenue streams and reduce cost pressures by enhancing spending efficiency.

We will leverage our procurement power to improve social, economic and environmental outcomes.

Strategic directions

- **E1** Freight networks and supply chains are efficient and reliable
- **E2** Existing infrastructure is optimised
- **E3** Transport supports the visitor economy
- **E4** The transport system is financially sustainable
- **E5** Leverage our procurement power for better outcomes

The economy will be 2.3 times larger by 2061

Total expenditure on road and rail infrastructure

$71.5 billion (to June 2025)

Transport's share of total NSW recurrent spending by 2061 (from 13% in 2018-2019)

Total visitor expenditure by 2030

$65 billion

from $46 billion in 2019

E1 Freight networks and supply chains are efficient and reliable

Population growth, rising per capita income, global demand for commodities and our State's high output will continue to drive increasing demand for freight.

To manage demand, NSW will need efficient road and rail networks integrated with ports, airports, intermodal terminals, key freight precincts and centres. To boost productivity, these components must operate cohesively for the seamless end-to-end movement of goods. Getting this right could reduce the cost of goods and services, spur economic growth and make NSW more globally competitive.

Responses

- E1.1 Improve freight efficiency, access and reliability on roads
- E1.2 Increase rail freight capacity and reliability
- E1.3 Optimise the capacity and performance of ports and airports
- E1.4 Manage and protect employment lands, key freight and logistics lands and corridors
- E1.5 Improve the efficiency of freight in centres and neighbourhoods
- E1.6 Enhance the freight network interoperability and data capabilities

E1.1 Improve freight efficiency, access and reliability on roads

Heavy vehicles on our roads will continue to play a significant role in delivering the growing freight task. Increasing the efficiency and productivity of these vehicles will deliver economic benefits.

One way to improve efficiency is to increase the volume of freight carried per trip per vehicle. The **NSW Heavy Vehicle Access Policy Framework** outlines a strategic approach to heavy vehicle access on State and local roads. A key factor in the development of networks for high productivity vehicles is the suitability of infrastructure, such as bridges, to accommodate them. Other areas for improvement in efficiency, access and reliability include:

- **First and last mile access** – Access for high productivity vehicles to intermodals and logistics hubs will improve potential freight volumes transitioning between road and rail. Implementing freight-only lanes along major arterial roads into intermodal terminals and ports can optimise freight operations.
- **East-west connections** – NSW's largest population growth is along the coast, but primary industry is growing fastest in the inland regions. In future, we will need more efficient freight connections joining the two geographies, which are constrained in part by the Great Dividing Range.
- **Port access** – About 80 per cent of container imports arriving at Port Botany travel less than 60 kilometres from the port and 85 per cent of all containers are moved by road. The increasing level of road congestion for longer periods of the day impedes freight operations and adds to costs. Protecting and further developing road and rail freight efficiency and capacity along major corridors and into our major ports will be critical to future freight efficiency.

E1.1 Actions		Timing
E1.1a	Upgrade road infrastructure on key freight corridors.	● ● ●
E1.1b	Improve the efficiency of road freight through road access prioritisation.	○ ● ○
E1.1c	Investigate improvements to east-west connections.	● ● ●
E1.1d	Progress a national access framework for heavy vehicles	● ○ ○

● Priority actions ● Progress planning ● Long-term need

Every 1,200-metre freight train removes an estimated 100 trucks from our roads.

E1.2 Increase rail freight capacity and reliability

The share of goods moved by rail needs to increase to accommodate the growing freight task and reduce congestion on roads. Every 1,200-metre freight train removes an estimated 100 trucks from our roads. Moving more goods by rail also has economic, environmental and social benefits.

To do this, we will need to enhance rail infrastructure, fast-track operational improvements and improve access to both the rail freight network and shared passenger and rail freight network. This will be particularly important in the Six Cities Region, where competition for freight rail access is most intense, and efficiency and reliability along key corridors especially critical. Opportunities include:

- **Separation** – Infrastructure investment that separates freight and passenger rail services will lead to a more efficient rail network and larger economic benefits. Transport intends to protect current capacity and develop new freight capacity along key freight corridors between intermodals and ports. This will improve capacity, reliability and flexibility for freight and passenger services.
- **Improved rail connections and reliability** – Programs being undertaken or investigated to minimise interaction between freight and passenger trains include amplification and separation, better aligning freight trains with available times at ports, and improving timetables. The implementation of advanced train control systems will lead to better use of rail capacity and improved scheduling for passengers and freight.
- **Improved North-South connections** – Inland Rail will create a strong north-south freight link between Melbourne and Brisbane through regional NSW. Several investment opportunities in regional NSW are expected from Inland Rail, with Special Activation Precincts being planned for Parkes, Narrabri, Moree, and Wagga Wagga so they can maximise the potential benefits. The NSW Government is working with the Australian Government to investigate the infrastructure required to boost the benefits from Inland Rail to regional NSW.
- **Advances in technology and automation** – Transport will encourage and incentivise investment in new, more efficient trains and braking systems. Cleaner, quieter, safer and more powerful freight trains will have the potential to improve efficiency, integrate with passenger services, and facilitate greater access for rail freight operators.
- **An autonomous rail freight network** – Driverless locomotives have the potential to deliver considerable efficiency benefits, including improved journey times and network capacity.

E1.2 Actions		Timing
E1.2a	Develop a rail freight productivity strategy.	● ○ ○
E1.2b	Undertake planning to optimise the benefits from Inland Rail in NSW.	● ○ ○
E1.2c	Improve separation of rail freight and passenger services.	● ● ●
E1.2d	Encourage industry to invest in zero and low emissions trains that are more efficient.	○ ● ○
E1.2e	Investigate preparedness for rail freight automation.	○ ● ○

● Priority actions ● Progress planning ● Long-term need

E1.3 Optimise the capacity and performance of ports and airports

NSW ports and airports play a critical role in the economy as the main gateways for international trade. The ability of NSW producers to move agricultural and industrial products and natural resources to domestic and export markets quickly and efficiently directly affects productivity and is a major factor driving economic growth in regional NSW. Investment in rail and road infrastructure and technologies around our ports and airports will help integrate them into the wider transport system and connect our major ports and airports across the State.

We must ensure our ports have the capacity and reliable connectivity to accommodate forecast freight growth. NSW Government freight forecasts indicate Port Botany will reach capacity around 2050. Gaining a better understanding of how rail could accommodate growth at Port Botany could allow NSW to optimise the efficiency of the port. Port Kembla has been identified for the development of a future container terminal to support Port Botany when required.

There are also plans at the Port of Newcastle to diversify and expand its trade base to suit changing global markets. In regional NSW, coal currently accounts for around 75 per cent of regional freight by volume, but this share is expected to decline as major coal customers have indicated they intend to decrease their coal imports.

In NSW, other major commodities, including steel, beef, forestry, grain and other agricultural produce are expected to increase. A range of emerging industries will increasingly rely on the freight network. These include advanced manufacturing, critical minerals, renewable energy, and recycling and waste management. Transport will continue to undertake detailed demand data analysis and industry engagement to ensure the infrastructure for a changing demand structure and port diversification is available.

Air freight carries the highest value product and most time-critical loads. Agricultural produce such as beef, seafood, dairy and fruit are the major products transported by air freight carriers. Demand for these is increasing. The construction of the Western Sydney International Airport and upgrades to Newcastle and Canberra airports will facilitate the increasing air transport of perishable and time-sensitive products from regional NSW to global markets.

The opening of Western Sydney International Airport in 2026 will significantly expand capacity in the air freight sector. The airport will operate 24/7 and will be an important freight hub for NSW. It will allow for dedicated overnight freight movements, improving access for cargo destined for Western Sydney logistics centres.

Emerging aviation technologies could transform the freight and aviation landscapes, allowing for the efficient and cost-effective movement of high value, time-sensitive goods from the regions to international gateways. Global courier companies have already placed orders for electric cargo aircraft to service their small- to medium-sized markets and there is potential for electric aircraft to strengthen air freight services for the Six Cities Region and regional areas.

E1.3 Actions		Timing
E1.3a	Develop a ports efficiency freight strategy.	● ○ ○
E1.3b	Plan for connecting infrastructure to support future diversification of the Port of Newcastle and Port Kembla.	○ ● ●
E1.3c	Deliver the transport network required for Western Sydney International Airport.	● ● ●
E1.3d	Support the growth in regional freight aviation.	○ ● ○
E1.3e	Investigate preparedness for the adoption of emerging technologies.	○ ● ○
E1.3f	Support working harbour functions and opportunities for future growth.	○ ● ○

● Priority actions ● Progress planning ● Long-term need

E1.4 Manage and protect employment lands, key freight and logistics lands and corridors

The lack of adequate infrastructure, facilities and land around ports, airports and intermodals can impact the efficiency of supply chains, cause delays for freight operators, and limit capacity. Encroachment of residential land use on industrial and freight lands is limiting the land available for logistics and placing pressure on the freight routes that connect ports, airports, intermodals and employment lands. The Greater Cities Commission (GCC) undertook a review of the 'Retain and Manage' Policy for managing industrial lands in Greater Sydney in response to a recommendation of the NSW Productivity Commission's 2021 White Paper. The GCC will consider how the review findings and the existing policies apply to industrial land across the Six Cities Region, including the importance of safeguarding industrial lands for the future, as part of the Six Cities Region Plan process. Transport will support the GCC as they refine the Industrial Lands 'Retain and Manage' Policy, which will support the operational efficiency of industrial and urban services land key to delivering the growing freight task.

Transport is planning for the long-term transport needs of the State by identifying and protecting corridors for future transport infrastructure. Strong population growth, rapid urbanisation and industrial activity in Western Sydney are key factors underpinning freight demand in NSW. In Western Sydney, freight volumes are expected to grow much faster than in other parts of NSW – 247 million tonnes per annum by 2061, a 91 per cent increase when compared with 129 million tonnes in 2021. The planned Western Sydney Freight Line and intermodal terminal will help facilitate the movement of containers across the Eastern Harbour City, Central River City and Western Parkland City, and support Port Botany to reach its operating capacity.

Developing freight and logistics hubs on the outskirts of regional centres on, or near, freight corridors and regional airports can support regional growth by improving the efficiency of freight operations for producers and operators without impacting amenity. Changing land use policies will help to secure the future freight task. Adopting a framework for freight and logistics land that recognises the function and importance of key sites, and establishing measures that focus on the performance and productivity of port and logistics land, would allow the impact of decisions on individual parcels of land to be assessed holistically.

E1.5 Improve the efficiency of freight in centres and neighbourhoods

Demand for goods and services is rising rapidly, particularly in urban centres. As the population in NSW grows and land becomes more intensively developed, the freight task will become more condensed in centres across the Six Cities Region and regional cities.

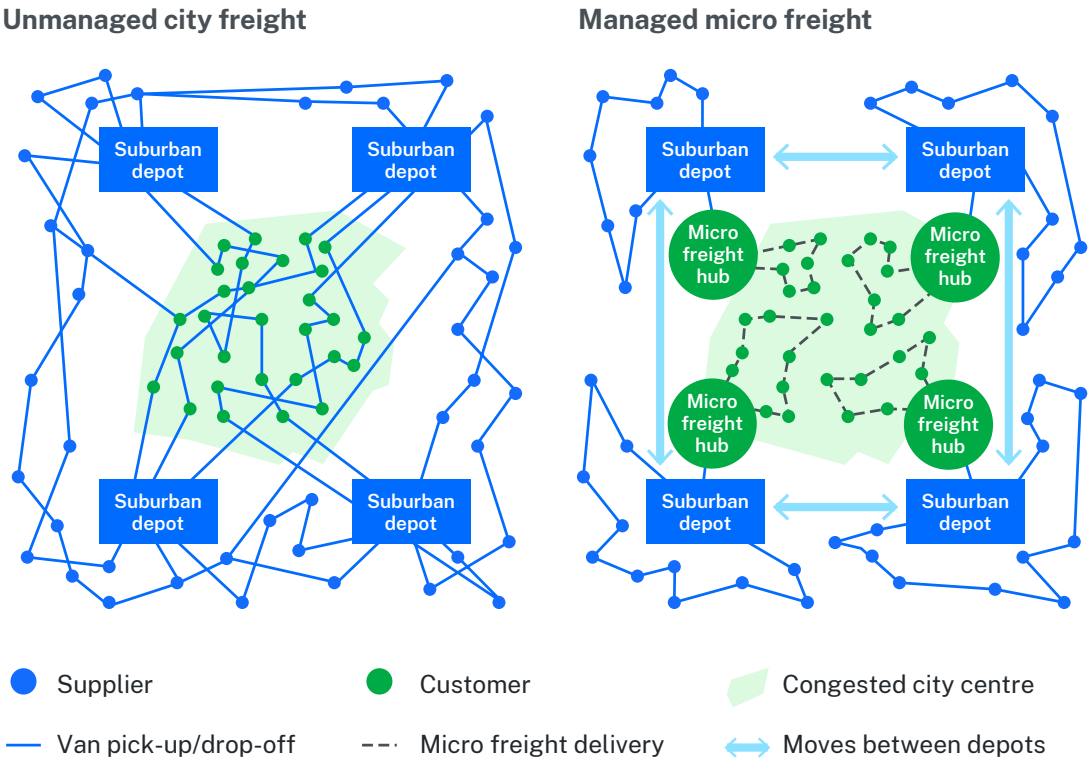
Retailers and logistics operators are decentralising their last mile freight operations for more efficient and rapid distribution to meet customers' changing expectations. Logistics operators are establishing local freight micro hubs for the bundling and sorting of goods closer to their final delivery point. Dark stores and retail stores converted into distribution centres are blurring the line between traditional retail and industrial land uses.

Light parcel delivery is a rapidly growing trend driven by the online shopping boom. Last mile deliveries from micro hubs to customers can be serviced by smaller, clean and quiet vehicles to suit local area operations. E-cargo bikes and similar micro freight vehicles can replace larger vans and offer fast delivery, particularly in highly urbanised or congested environments, without adding to congestion.

E1.4 Actions		Timing
E1.4a	Support identifying and protecting key freight corridors and places.	● ○ ○
E1.4b	Work with the GCC to improve frameworks and analytical tools to protect employment lands.	○ ● ○
E1.4c	Identify and protect corridors for future transport infrastructure.	● ○ ○

● Priority actions ● Progress planning ● Long-term need

Figure 37
Better managed freight deliveries can reduce congestion and improve productivity.



Once this freight ecosystem is in place, large freight vehicles will be able to avoid travelling into urban centres, reducing the total kilometres travelled by freight vehicles, relieving the pressure on kerbside delivery, and reducing vehicle emissions. Provision of suitable infrastructure and access for cargo bikes, e-cargo bikes and other forms of micromobility will be required to ensure efficient, safe access in urbanised environments.

In the coming decades, connected, automated and electric vehicles are expected to transform freight. Smaller, cleaner and quieter vehicles will be more suited to servicing mixed-use urban environments and 24/7 commercial operations. Connected and automated vehicles can support hub-and-spoke models of freight deliveries, aided by centralised micro hubs, improving productivity, particularly in urban centres.

Trials and scaling of connected and automated vehicles are exploring how they can transform freight in coming years, with opportunities for safer travel, lower costs, increased choice, reliable delivery times and reduced congestion.

E1.5 Actions		Timing
E1.5a	Support the development of micro freight hubs.	● ● ●
E1.5b	Facilitate freight industry adoption of e-bikes and other clean technologies.	● ● ●
E1.5c	Enable the uptake of new technologies, such as CAVs.	● ● ●
E1.5d	Enable policies that require freight access to be included in large mixed-use and precinct development applications.	● ○ ○
E1.5e	Continue to develop capabilities to capture local freight movement data to develop an evidence base for future planning.	○ ● ○

● Priority actions ● Progress planning ● Long-term need

A small, clean and quiet service vehicle operating in the service area of a large mixed-use precinct development.

E1.6 Enhance the freight network interoperability and data capabilities

Transport is committed to developing data capabilities across all transport networks so data can be generated and shared. This shared data will be used to forecast and accommodate the freight task, and better manage the interoperability of multimodal freight.

A Freight Community System would enable freight supply chain businesses to rapidly and securely exchange information with other businesses, facilitating commercial interactions. A business-to-business freight data community within NSW will help optimise, automate and manage logistics processes by ensuring the visibility of data across freight supply chains.

Standardising the format of data makes it easier to create, share, integrate and ensure the data is represented and interpreted correctly. The NSW Government is working closely with the freight industry and the Australian Government to create a data standardisation program to enable the adoption of commercial freight data standards. This will introduce the capability to interoperate and uniformly share relevant data, enabling transparency across the freight supply chain.

E1.6 Actions		Timing
E1.6a	Develop a NSW Freight Community System.	●●●
E1.6b	Work with industry and the Australian Government to create a data standardisation program.	●○○

● Priority actions ● Progress planning ● Long-term need

E2 Existing infrastructure is optimised

As NSW's population grows, congestion on our networks will continue to be a challenge, affecting productivity and the wellbeing of customers and communities.

Building our way out of congestion is not sustainable; we must get more from our existing assets.

Transport will focus on optimising the system through managing demand and performance before providing additional supply or capacity.

Responses

- E2.1 Promote travel behaviour change to manage networks
- E2.2 Stabilise Greater Sydney's traffic
- E2.3 Improve the use and efficiency of our roads through road space allocation
- E2.4 Optimise the use of our motorways and strategic road network
- E2.5 Continue to develop, invest in, and deploy operational technologies to improve the transport system
- E2.6 Improve network use and efficiency through fairer pricing
- E2.7 Optimise maintenance

E2.1 Promote travel behaviour change to manage networks

Traditional travel behaviour has resulted in uneven travel demand throughout the day, placing pressure on transport networks and services.

Changing our travel behaviour, rather than building additional capacity, has the potential to help reduce emissions, stabilise vehicle kilometres travelled, and free road space for the efficient and reliable movement of goods.

Travel demand management is the application of targeted, people-oriented and data-led strategies to influence demand on transport networks. They include influencing our customers to change modes, travel time, routes, or to remove a journey where a task can be done remotely, such as working from home. It can improve the efficiency of transport networks and land uses and reduce or defer capital spending on infrastructure upgrades. Focusing travel demand management on specific sites or precincts can improve customer journeys and experiences.

E2.1 Actions		Timing
E2.1a	Require demand management to be considered in project business cases and investment decisions.	●●●
E2.1b	Deliver five-year customer behaviour strategies across targeted precincts.	●●●
E2.1c	Support research in travel behaviour to broaden our evidence-base and inform our approach to network management.	●●●
E2.1d	Trial behavioural interventions that encourage sustainable mode switches and peak spreading.	●●●

● Priority actions ● Progress planning ● Long-term need

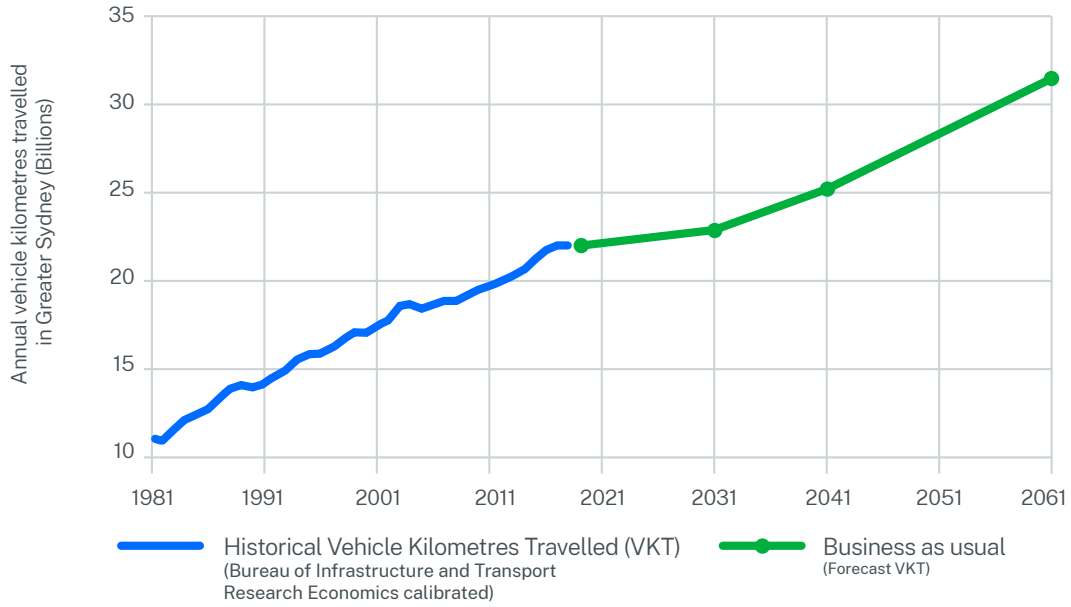


Figure 38
Historical and forecast traffic (VKT) levels in Greater Sydney. If we don't take a balanced approach to managing our transport network traffic will continue to increase.

E2.2 Stabilise Greater Sydney's traffic

As Greater Sydney's population grows, traffic will continue to increase. Increased traffic will slow our networks, undermine productivity, dominate our streets and public spaces, and reduce our quality of life. By planning and investing to stabilise traffic levels, we can accommodate population growth, and support sustainability goals without sacrificing quality of life.

Stabilising Greater Sydney's traffic can be achieved by offering attractive, efficient public transport alternatives, encouraging greater take up of walking and cycling, and working with land-use agencies to plan for better connectivity, liveability and productivity outcomes.

This shift will free road space for essential uses that contribute to productivity, such as urban freight and servicing. Private vehicle drivers who have no viable alternatives due to family, work, or health circumstances, will also benefit from the reduction in background traffic levels.

Transport will take a balanced, place-based approach to managing our transport networks and land use planning. We will set targets for traffic levels and mode share that reflects the unique circumstances of different parts of Greater Sydney. Targets will be more ambitious in areas with good public transport access. In greenfield growth areas, total vehicle traffic will inevitably increase although good planning can ensure that public transport, walking and cycling are as convenient as possible and reduce the length of unavoidable car trips.

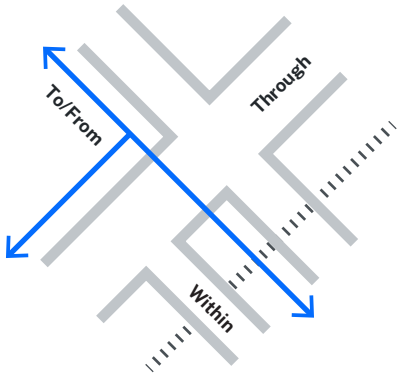
In the medium term, stabilising traffic can inform infrastructure prioritisation so that we focus on projects that encourage more productive modes of transport such as public transport, walking and cycling. Road projects will focus on freight and essential travel. Projects that cater predominantly to single occupant private vehicles within established urban areas may not be prioritised.

E2.2 Actions		Timing
E2.2a	Develop evidenced-based, modal and traffic targets for the Eastern Harbour, Central River, and Western Parkland Cities.	○●○
E2.2b	Measure and report on traffic stabilisation.	○●○
E2.2c	Prioritise street space to walking, cycling and public transport where new projects provide alternative connections or bypasses for through traffic.	●○○
E2.2d	Use passenger vehicle kilometres travelled impacts as an assessment criterion in business cases.	●○○

● Priority actions ● Progress planning ● Long-term need

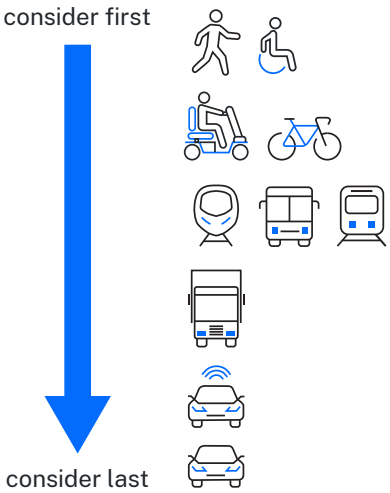
Figure 39
The order for allocating road user space – balancing road functions and road users may prioritise walking and cycling.

1 Establishing primary road function



Balance between place and the movement of people and goods based on strategies and plans

2 Order of road user space considerations



E2.3 Improve the use and efficiency of our roads through road space allocation

Road space is a scarce public resource which historically has been allocated mostly for general traffic and private vehicle parking.

NSW's **Movement and Place Framework** balances the movement of people and goods with the amenity and quality of streets as places for people. The framework is supported by the **Road User Space Allocation Policy**, which outlines principles on how to safely and equitably allocate road space.

Space for walking and cycling

Walking and cycling are spatially efficient ways to move large numbers of people and help manage congestion. They can also activate places and provide an attractive, sustainable, cost-effective and healthy journey for people.

To encourage more people to walk, we must provide sufficient space for comfortable walking environments. Transport's **Walking Space Guide** provides standards and tools for walking spaces on streets. As infrastructure is upgraded or new connections are built, the amount of space provided will be determined according to the intensity of pedestrian use envisioned. Considering the limited road user space available in many built-up areas, this may involve the physical reallocation of road space to provide enough space for pedestrians.

To achieve the network vision for movement and support cycling, road user space may need to be reallocated. To ensure strategic cycling routes safely connect key destinations, road space may be reallocated to provide physically separated cycling facilities meeting the requirements of Transport's **Cycleway Design Toolbox**, particularly where traffic speeds are greater than 30km/h.

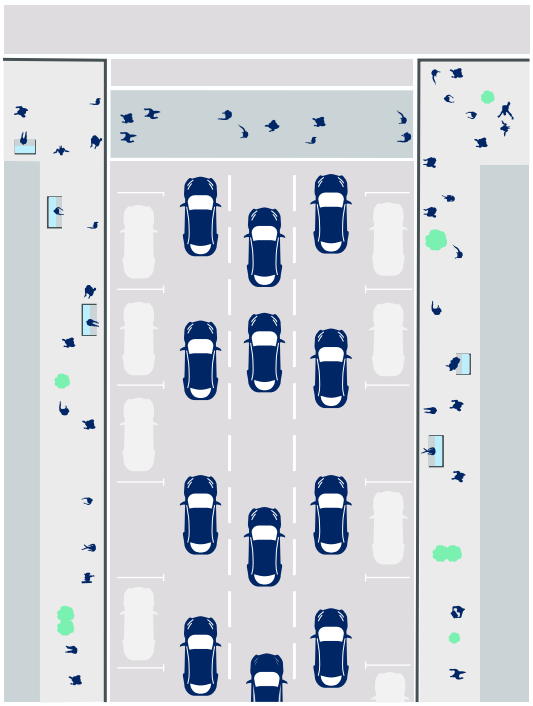
Priority for public transport

Prioritising road space for more efficient vehicles gets the most from our existing assets. It can reduce the number of private vehicle trips and improve the liveability and vibrancy of our communities.

The following figure compares the total number of people moved per hour in the same amount of space on a car-oriented street and a multimodal street.

A standard bus requires the same road space as three cars but can carry more than 60 people. Dedicating more road space and signal prioritisation for buses and light rail vehicles improves journey times, efficiency, and the reliability of public transport.

Car-oriented street

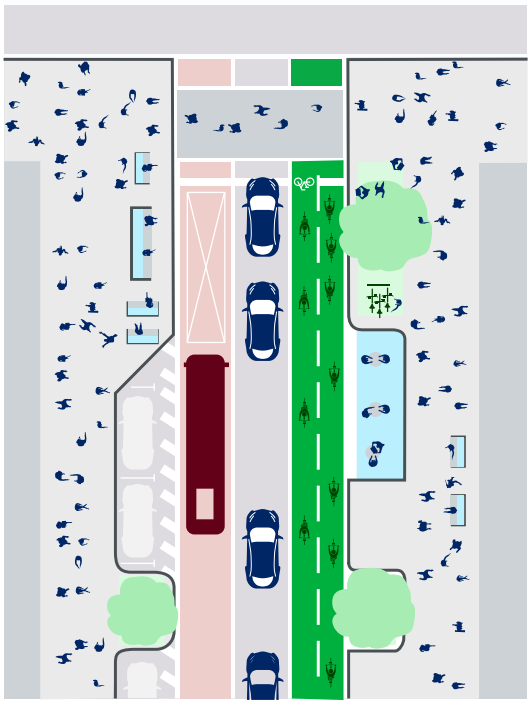


Hourly capacity of a car-oriented street

4500	x	2 = 9000 people
1100	x	3 = 3300 people
0	x	2 = 0 people

Total people capacity per hour 12,300

Multimodal street



Hourly capacity of multimodal street

8000	x	2 = 16,000 people
1100	x	1 = 1100 people
0	x	1 = 0 people
1000	x	1 = 1000 people
6000	x	1 = 6000 people

Total people capacity per hour 24,100

Figure 40
Prioritising road space for more efficient vehicles gets the most from our existing assets. It can reduce the number of private vehicle trips and improve the liveability and vibrancy of our communities.

NSW's Movement and Place Framework balances the movement of people and goods with the amenity and quality of streets as places for people.

Bus lanes and signal priority at intersections provide bus customers with quicker and more reliable journey times, greater customer satisfaction and increased public transport patronage. Transit ways and short bus-only links can provide more direct routes compared with general traffic, reducing journey times, and increasing public transport appeal and patronage.

Prioritising more road space for public transport, pedestrians, cycling and micromobility can make cities more efficient and significantly boost economic activity.

Consider freight needs over private vehicles

As urban centres and precincts grow, there will be more people, more demand for goods and more competition for street space. In our centres and neighbourhoods, we need sufficient space for clean, quiet and efficient freight vehicles to deliver goods and service vehicles.

Smart kerbside management of space can provide parcel delivery drivers with easier and more certain access, improving the efficiency and reliability of urban freight operations. Along key freight routes, such as into ports, intermodal terminals and airports, freight-only lanes and freight signal priority are other initiatives that will be investigated.

E2.3 Actions		Timing
E2.3a	Apply road user space allocation principles in partnership with relevant stakeholders.	●●●
E2.3b	Prioritise road space and traffic signals for public transport.	●●●
E2.3c	Facilitate development of dynamic kerbside management for access by public transport, micromobility services and urban freight deliveries.	○●○
E2.3d	Prioritise road space and traffic signals for freight vehicles on key freight corridors.	○●●

● Priority actions ● Progress planning ● Long-term need

E2.4 Optimise the use of our motorways and strategic road network

New roads initially reduce travel time, but they simultaneously increase travel opportunities, inducing additional demand, with congestion quickly reappearing. Significant construction costs also draw focus and funding away from other solutions that deliver more cost-effective and sustained congestion relief.

An alternative to building new infrastructure is to use our existing capacity more effectively by identifying which customer groups our strategic movement corridors are designed for – such as freight operators, public transport, walking, cycling – and providing those customer groups with better access and priority.

Shifting the planning and operating of our motorway and strategic road network away from primarily serving private vehicle commuters will optimise the capacity for those customers who have no alternative to driving. Private vehicles will continue to be an important part of the transport landscape, but we cannot afford to continue expanding our networks to meet unlimited growth. We must look at all opportunities to use the strategic road network more efficiently and effectively.

E2.4 Actions		Timing
E2.4a	Develop principles for planning and optimising the motorway and strategic road network.	○●○

● Priority actions ● Progress planning ● Long-term need

E2.5 Continue to develop, invest in, and deploy operational technologies to improve the transport system

Intelligent sensors and smart systems that analyse real-time data with artificial intelligence and advanced computing are transforming the efficiency of networks through dynamic optimisation. Compared to building additional capacity, technological solutions may provide a better return on investment in network capacity.

Digital technologies will enable real-time monitoring of network conditions, delivering information automatically to decision-support systems and allowing for safer, more efficient and dynamic network management and optimisation.

The modernised SCATS platform will enable dynamic prioritisation of public transport, active transport, freight, and emergency vehicles. The technology is adaptable to each city's unique place making and movement objectives. SCATS integrates and leverages a wealth of real-time data, providing valuable insights for customer information, network operations, scenario testing and planning future network improvements.

Further investments in rail digital systems will replace trackside signalling with the latest train control technology as well as a traffic management system to help train services to recover quickly from disruptions. Automatic Train Operation will help drivers provide shorter and more reliable journey times.

Intelligent sensors and smart systems will be critical for the future operation of connected and automated vehicles. These vehicles have the potential to improve mobility and network efficiency, freight productivity and safety, and reduce congestion.

These smart technologies increase network capacity to meet future demand, provide faster and more reliable journeys, and improve real-time journey information for customers.

Transport will use advanced computing, including exploring quantum technology, artificial intelligence and machine learning to process large volumes of data quickly and reliably to manage and optimise networks. This will make networks safer and more efficient and improve Transport's response to congestion and incident management.

The benefits of digital technology and data are optimised when considered at the planning stages of government services and infrastructure. This will require upfront investment to embed digital capabilities in infrastructure and services.

E2.5 Actions		Timing
E2.5a	Embed intelligent sensors and digital systems across our network and fleet.	●●●
E2.5b	Implement smart motorways technology on major corridors.	○●○
E2.5c	Integrate existing and future smart systems to enable more efficient and resilient networks.	●●●
E2.5d	Enhance the real-time management of our networks.	●○○
E2.5e	Require strategic and final business cases to include digital technologies as an alternative to new physical infrastructure capacity.	●●●
E2.5f	Ensure appropriate cost allocation in business cases for the delivery of smart infrastructure in all physical infrastructure projects.	●●●

● Priority actions ● Progress planning ● Long-term need

E2.6 Improve network use and efficiency through fairer pricing

Our customers' needs and travel behaviours are changing. These changes include an increasing number of electric vehicles, uptake of shared mobility solutions, and an urgent focus on environmental sustainability. In addition to electric vehicles and shared mobility solutions, the advent of CAVs and new mobility services may require us to investigate how we equitably fund the network in the future.

Current levies, fees and charges for road use include the fuel excise, stamp duty, licence and vehicle registration fees, and in Greater Sydney, a network of tolled routes. There is an opportunity to reduce congestion and improve travel choices by exploring charges that are clearer, fairer, more efficient and more sustainable.

The development of a roadmap for long-term reform of user contributions across the road and public transport networks provides an opportunity to explore how we can influence travel behaviour to tailor demand to the capacity of our existing networks. Any long-term reform must consider the interdependencies with all modes, the relationship with parking, and equity considerations for customers who have limited travel options.

NSW is leading reform in road user charging to support the transition to electric vehicles. This will help provide a sustainable and efficient source of road funding into the future without acting as a brake on electric vehicle uptake. In addition to electric vehicles, CAVs and new mobility services will transform how customers use the road network and may require changes to pricing and funding in the future.

E2.6 Actions		Timing
E2.6a	Investigate more holistic network pricing.	○●○

● Priority actions ● Progress planning ● Long-term need

CAVs and new mobility services will transform how customers use the road network and may require changes to pricing and funding in the future.

Transport is utilising emerging technologies and practices to carry out essential maintenance.

E2.7 Optimise maintenance

Prioritisation of asset maintenance and upgrades is a critical element of network optimisation. Optimising our networks and ensuring service reliability will require a renewed focus on asset maintenance programs. Our focus on efficient use of existing assets through proactive and preventive maintenance will help to ensure the network is optimised.

Investments in the maintenance of infrastructure is set to increase and performing preventive maintenance to ensure the network is optimised and resilient will continue to be a priority. Emerging technology and practices can help us address a growing backlog of essential maintenance as well as the vulnerabilities arising from increasing natural hazards and adverse weather events. Advanced surveying and object recognition, for example, using satellite imagery, drones or smart sensors on our public transport fleet, can provide us with up-to-date information about the network. The ability to collect data and process it using Artificial Intelligence will improve our capacity for both real-time dynamic network optimisation and predictive maintenance.

E2.7 Actions		Timing
E2.7a	Prioritise the application and use of data and digital technology across all aspects of asset maintenance.	○●○
E2.7b	Make asset maintenance and augmentation a high priority for the future infrastructure program.	○●○

● Priority actions ● Progress planning ● Long-term need

E3 Transport supports the visitor economy

NSW leads the nation in the number of domestic and international visitors and the total value of tourism. It aims to be the premier visitor economy of the Asia Pacific.

Transport will continue to support the NSW Government and the tourism sector realise this aim.

Responses

- E3.1 Improve access and experiences
- E3.2 Deliver networks, services and technologies that support visitor access across the whole State

E3.1 Improve access and experiences

Legible, reliable transport services help visitors access and navigate key places. Visitors will stay longer and explore more places if we ensure they have access and certainty in their trip-making.

Visitors in the future will increasingly expect convenient access to airports, cruise ship terminals, mass transit services, on demand services, car share and shared mobility options.

Regular and one-off large-scale events attract domestic and international visitors, and underpin the Sydney and NSW brand. Transport will continue to coordinate with Destination NSW and event managers to facilitate access to major events and provide regional event support.

Transport is not always just about access; it is also an experience in itself. Ferry trips, rail trails, scenic rail corridors and heritage trains, cycling routes and walking trails are a growing segment of NSW tourism. Transport can support the growing NSW visitor economy to access new experiences through innovative services and policies.

Rail trails and foreshore routes, such as the Parramatta to Sydney link and the proposed Northern Rivers Rail Trail, improve access and experiences, and support the visitor economy. The Northern Rivers Rail Trail is an example of a rail trail partially being delivered, with future stages currently in the planning phase. It is expected similar types of facilities will be implemented in other areas of NSW in the future.

E3.1 Actions		Timing
E3.1a	Consider the visitor as a customer in the design of precincts and journeys.	○●○
E3.1b	Support the provision of consistent wayfinding.	○●○
E3.1c	Improve connections to and from cruise terminals.	○○●
E3.1d	Investigate reusing non-operational assets to support the visitor economy.	○●○
E3.1e	Upgrade Transport-owned maritime assets to support tourism operators.	○●○

● Priority actions ● Progress planning ● Long-term need

Figure 41
Proposed Northern Rivers Rail Trail.

KEY

- Regional city
- Strategic centre
- Local centre
- NSW LGA
- NSW QLD Border
- Railway line and station
- Tweed and Richmond Valley sections - opening 2023*
- Byron and Lismore sections - planning*
- Connection through to Tweed - future investigation

*Source: www.northernriverstrail.com.au

E3.2 Deliver networks, services and technologies that support visitor access across the whole State

Transport can boost tourism income by enhancing Statewide journey planning and offering better access to key regional places and events. We can investigate more innovative and sustainable travel options such as cycling and micromobility use, which could improve first and last mile connections to visitor destinations and become go-to recreational experiences in their own right. Transport will also deliver more integrated, seamless ways for visitors to plan, book and pay for a wide range of services across NSW.

Road trips or self-drive holidays and visiting family and friends comprise the majority of visitor trips. Maintaining key tourist routes, including provision of rest stops and facilities to support safe driving, will continue to be important.

Easy, practical and reliable transport services and journey planning, such as car-free access to walking and cycling trails, offers visitors more choice and expands the activities available to them.

Fast Rail and regional aviation connections will serve as gateways to regional NSW, providing fast, reliable and frequent journeys out of Greater Sydney and transforming how visitors travel in NSW. Transport will capitalise on the benefits of Fast Rail investment and extend its reach by enhancing and diversifying the public transport network in regional and outer metropolitan areas.

NSW has an abundance of natural assets, including national parks, an extensive coastline, harbours, inland waterways and lakes. These are important cultural, environmental and recreational assets and attract a diverse group of visitors and recreational users. Many of these areas of natural amenity or environmental importance are hard to reach by public transport, walking or cycling, meaning visitors have no choice but to drive. Transport is committed to increasing the options for visitors and communities to conveniently access our parks, waterways and coastline.

E3.2 Actions		Timing
E3.2a	Support better access to key events and experiences in regional NSW.	○●○
E3.2b	Improve road infrastructure and wayfinding, and support investment in EV charging infrastructure at regional tourist locations and on routes.	○●○
E3.2c	Invest in integrated services, ticketing and customer platforms to support greater visitor access across the State.	○●●
E3.2d	Explore improvements in regional aviation and airport facilities.	○○●
E3.2e	Support investment in regional cruise and maritime infrastructure.	○○●
E3.2f	Improve car-free access to national parks and other natural assets.	●●●

● Priority actions ● Progress planning ● Long-term need

Improving transport services will make it easier to visit key regional events.
(Image Tao Jones)

E4 The transport system is financially sustainable

Financial pressure on the transport system will continue to grow.

Public spending needs, a growing and ageing asset base, the need to upgrade assets, the costs of operations and technology systems to improve resilience, and the need to optimise our networks to accommodate growth and satisfy customers' changing needs all come at a cost. This cost is usually met through taxpayer-funded government budgets, user fares and charges, and infrastructure contributions or levies.

Traditional funding structures for transport infrastructure and services have often not kept up with the pace of change. Planning and investment for infrastructure services and technologies that meet the needs of diverse communities will involve trade-offs. There are choices around how to fund the transport system. Ultimately, all costs must be affordable.

Responses

E4.1 Optimise revenue streams for the long-term viability of the transport system

E4.2 Reduce cost pressures by enhancing spending efficiency

E4.1 Optimise revenue streams for the long-term viability of the transport system

Optimising revenue can support ongoing improvements to the transport system and ensure its long-term financial viability. This can be achieved through innovative approaches to infrastructure funding, financing and delivery, and expanding revenue sources.

Explore alternative funding, finance and delivery models

Transport will explore innovative approaches to how we fund, finance and deliver infrastructure and services. We will look for increasingly efficient, sustainable and equitable means of funding to provide value for money and community outcomes. For example, value sharing can lead to a more efficient and fairer allocation of resources by linking projects to beneficiaries and sharing costs across businesses, households and governments (not solely users).

Infrastructure in NSW is partially funded by developer contributions collected via special infrastructure contributions, planning agreements and local contributions. The NSW Government has taken steps to make the system more simple, transparent, fair, predictable and efficient.

Transport supports and enables private investment where it aligns with our outcomes. For example, the unsolicited proposal pathway enables innovative ideas, services and infrastructure by inviting private sector organisations to progress commercial proposals that stand to benefit NSW. Public-private partnerships can be used for risk sharing between the public and private sectors, and can provide private sector infrastructure and skills across the design, construction, finance, maintenance and delivery of services.

An artist's impression of Hunter Street Station to be delivered through the innovative Hunter Street Precinct Development Partner Model.

Expand revenue sources

Transport was responsible for revenue streams of $1.4 billion in the financial year 2021. However, financial pressures continue to grow. As infrastructure becomes more sophisticated, diverse and technologically advanced, in addition to direct revenue sources from the NSW Government and Australian Government, revenue can increasingly be accrued through:

- developer contributions
- incorporating cost recovery early in the planning process
- complementary developments
- fares and service charges
- third-party revenue sources, for example, revenue from advertising on Transport assets.

E4.1 Actions		Timing
E4.1a	Investigate alternative funding, financing and delivery models.	● ○ ○
E4.1b	Make cost recovery considerations explicit early in the planning process.	○ ● ○
E4.1c	Investigate expanding existing and developing new revenue sources.	● ○ ○

● Priority actions ● Progress planning ● Long-term need

Transport is trialling new service models to improve customer and financial outcomes.

E4.2 Reduce cost pressures by enhancing spending efficiency

Optimising revenue streams is half of the financial sustainability equation – the other half is enhancing spending efficiency. Spending efficiency can be enhanced by using data for evidence-based investment decisions; improving the way we measure benefits; using innovative service and contracting models; and better strategic planning, such as corridor preservation.

Improve capital expenditure efficiency

Capital expenditure of $71.5 billion to June 2025 creates opportunities for efficiencies within both discrete projects and at the portfolio level. Transport will ensure efficiencies are identified as much as possible by continuing to improve capital expenditure processes.

Outcomes-focused investment decisions

To ensure we put the needs of our customers and the community at the centre of investment decisions, we use an Outcomes Budgeting framework. This framework is accelerating the shift to a place-based approach that considers outcomes for entire cities, regions, corridors, or precincts.

Improve benefits measurement techniques

An outcomes-based approach to selecting and prioritising projects relies on our ability to estimate future benefits with confidence. We have made progress in this area; however, we can further improve how we measure benefits by:

- Enhancing measurement techniques
- Quantifying social and environmental benefits more holistically
- Factoring in whole-of-life considerations into our decision-making processes
- Accounting for resilience and flexibility benefits
- Capturing broader network effects.

Use innovative service commissioning models and contracting

Conventional public transport service models should be challenged and new models tested to deliver trips as safely, efficiently and financially sustainably as possible. More flexible service models and the technological enhancements that enable them can help improve financial and customer outcomes.

Undertake strategic planning and corridor preservation to increase spending efficiency

Early identification and protection of strategically important corridors is key to pre-empting and offsetting the effects of increased costs and safeguarding future networks. In addition to reducing the cost of infrastructure, early identification and planning provides certainty to communities and investors regarding the location of future transport infrastructure.

E4.2 Actions		**Timing**
E4.2a	Improve and embed benefits realisation measurement and techniques, including the adoption of Real Options Analysis linked to Cost Benefit Analysis.	● ● ●
E4.2b	Explore how targeted, small-scale investments can be used to reduce risk and capital intensity.	● ○ ○
E4.2c	Refine decision-making criteria to improve the equitable comparison of projects assessed by a combination of methods, consistent with the NSW Government's investment appraisal framework.	● ● ●
E4.2d	Explore the use of innovative service commissioning models and contracting to improve commercial and customer outcomes.	● ○ ○
E4.2e	Explore new technologies, data analytics and assets to improve commercial and customer outcomes.	● ● ●
E4.2f	Undertake strategic planning to identify and protect land for future transport corridors.	● ○ ○

● Priority actions ● Progress planning ● Long-term need

E5 Leverage our procurement power for better outcomes

Transport's significant procurement expenditure is a powerful lever for sharing economic benefits with small-to medium-sized businesses.

Our unprecedented multibillion-dollar project pipeline allows us to deliver sustainable and ethical supply chain operations and improve social, economic and environmental outcomes for the people of NSW.

Responses

- E5.1 Promote sustainable and ethical procurement
- E5.2 Make procurement easier and more efficient
- E5.3 Adopt flexible procurement practices to promote innovative services and solutions
- E5.4 Introduce new delivery approaches

E5.1 Promote sustainable and ethical procurement

Transport is committed to fair and ethical procurement that supports economic participation, environmental sustainability, social inclusion, skills development and the creation of jobs for the people of NSW.

Transport's Procurement Policy 2020 and Environment and Sustainability Policy, underpinned by the NSW Government's Procurement Policy Framework, establishes a consistent procurement framework that promotes sound commercial decisions based on the principles of integrity and risk while driving sustainability and social outcomes.

Social procurement and supply chain diversification can increase the market share of locally based small- and medium-sized enterprises, social enterprises, Aboriginal businesses, regional businesses and targeted businesses in capability-building programs.

The use of sustainable finance instruments can also play a large part in promoting sustainable and ethical procurement while supporting positive environmental and social outcomes.

E5.1 Actions		Timing
E5.1a	Invest in goods, services and workforces that are local where possible.	● ○ ○
E5.1b	Refine social procurement criteria to encourage the engagement of locally based small-and medium-sized, regional and disability enterprises.	● ○ ○
E5.1c	Prioritise the use of Aboriginal-owned enterprises to ensure they are considered in business opportunities across the spectrum.	● ● ○
E5.1d	Investigate the use of sustainable finance instruments (such as green, social or sustainability bonds) to finance transport projects.	● ● ○

● Priority actions ● Progress planning ● Long-term need

E5.2 Make procurement easier and more efficient

Making procurement easier and more efficient saves time and money for Transport and our suppliers. Accessible and streamlined processes are critical to lowering barriers to participation for our current and prospective suppliers. This will help us to expand Transport's supplier base and extend further opportunities to small- and medium-sized businesses. We are committed to continuously improving and innovating across the procurement lifecycle to maximise value for money while making it easy for businesses to do business with us.

E5.2 Actions		Timing
E5.2a	Explore opportunities for procurement efficiencies and engagement with industry.	●○○
E5.2b	Strengthen partnerships with the Aboriginal business sector to improve supply side engagements and support the use of Aboriginal procurement.	●○○

● Priority actions ● Progress planning ● Long-term need

E5.3 Adopt flexible procurement practices to promote innovative services and solutions

Private businesses are a great source of innovation and can assist government to work smarter and deliver better services. Industry engagement and flexible procurement practices assist Transport to adopt innovative services and solutions and support innovation in government supply chains. Innovation can be encouraged at three levels of market engagement:

- State economic level – through effective, early, structured and open communication of needs to the market
- Sourcing level – by adapting sourcing methods to facilitate innovation and collaboration
- Contract management level – by focusing on outcomes and developing supplier relationships that deliver value beyond the contract.

E5.3 Actions		Timing
E5.3a	Trial innovative or outcomes-based solutions to meet our business needs.	●○○

● Priority actions ● Progress planning ● Long-term need

E5.4 Introduce new delivery approaches

New delivery approaches will support Transport's ongoing financial sustainability. They include:

- Purchasing products and services at scale
- New and innovative technologies to reduce our operational energy consumption
- Focusing on our speed to market, particularly when working alongside the private sector.

E5.4 Actions		Timing
E5.4a	Improve transparency for the market of upcoming Transport needs.	●○○

● Priority actions ● Progress planning ● Long-term need

Chapter 5

How we deliver

Transport's vision-and-validate approach begins with a vision to provide a safe, sustainable and integrated transport system for accessible passenger and freight journeys. The **Future Transport Strategy** does not stand alone. It forms part of a suite of strategies and plans that will help Transport deliver a world-class network that puts customers and communities first.

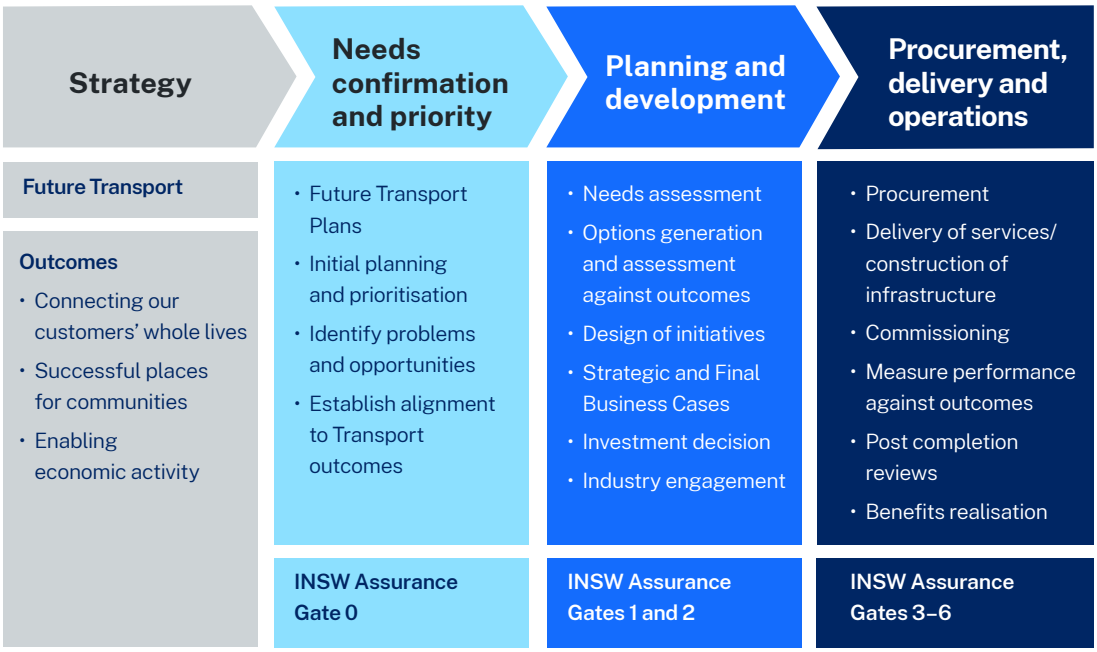


Figure 42 From strategy to the investment lifecycle.

The **Future Transport Strategy** will be supported by regional and metropolitan plans, which provide local context following engagement with the community, customers and stakeholders. These plans contain initiatives needed to achieve the strategy, and their funding and delivery options to ensure our vision takes shape in a way that matters to customers and communities.

As initiatives are rolled out, we will continue to engage with our customers, the community and stakeholders so we can meet their needs and respond to new challenges and opportunities.

Transport's assurance approach enables a robust review of projects as they progress through the investment lifecycle – from initial concept and strategic business case to delivery and benefits realisation – and incorporates independent expert reviews of major projects by Infrastructure NSW.

We will continue to develop place-based transport plans, modal and network plans, and issues-based plans that explore approaches for meeting future demand, challenges and opportunities. As these plans are developed, we will progress to the detailed feasibility assessments of specific initiatives as part of the business case process.

To measure our progress, we will link the **Future Transport Strategy** to Transport's Outcomes Performance Framework. This framework includes quantitative indicators and measures covering all transport modes and supporting services.

Planning, prioritising and performance

Outcomes shape our focus

Transport's outcomes describe the value we seek for customers, communities, the people of NSW and the people of Transport.

This outcomes-based planning approach ensures we start by thinking about the value and outcomes we want to achieve, and that we work with customers and communities to identify the best solutions. This approach is aligned to the NSW Government's Outcome Budgeting framework, which recognises the allocation of public resources should be based on outcomes for people, not the amount spent.

Vision-led planning and delivery

Traditional predict-and-provide planning tends to reinforce current experiences and historical trends. When looking at the future, we have instead used a vision-and-validate approach. The focus of this approach is on:

- developing a shared long-term vision and outcomes with key stakeholders for a specific location, service or network
- establishing a baseline through data collection and analysis to understand how people and goods currently move as well as the function of a location or place
- co-designing creative solutions and validating them through robust principles, strategic merit testing, scenario modelling and data analysis
- deciding on the priorities and actions required in the short, medium and long term, and the responsibilities across the NSW Government, councils and community.

The vision-and-validate approach recognises the need for continuous improvement and reviews. Feedback from periodic and post-implementation reviews allows for validation that expected benefits are being realised. We will also have change pathways where we consider whether initiatives need to be reviewed or reprioritised.

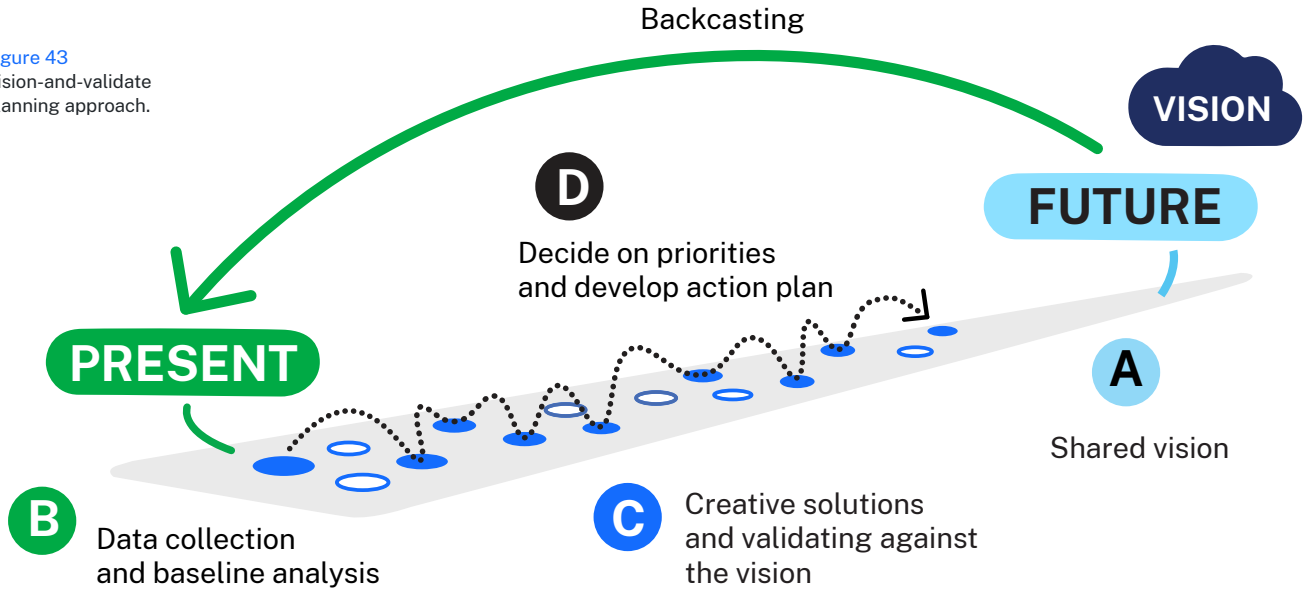


Figure 43
Vision-and-validate planning approach.

Transport's outcomes describe the value we seek for the people of NSW as well as our people at Transport.

Developing and prioritising initiatives

The **Future Transport Strategy** and its supporting plans are our cornerstone for identifying and prioritising initiatives. Prioritisation will be based primarily on urgency of need, value for money and our ability to deliver on outcomes. This process will start with a transport or place-based plan focused on improved outcomes for cities, regions, corridors or precincts, exploring approaches for meeting future demand, challenges and opportunities.

The plan will form the initiation phase of a project and will be used to inform an investment brief. This will be followed by a strategic business case focused on delivering the strategic responses and actions in the **Future Transport Strategy**. In the past, business cases were often focused on delivering one outcome, without adequate consideration of the trade-offs being made and negative externalities. The new plans will allow business cases to acknowledge the impacts and economic outcomes beyond a project's core scope, such as place, environmental sustainability, social and freight outcomes.

Transport's assurance approach enables a robust review of projects as they progress through the investment lifecycle – from initial concept and strategic business case to implementation and benefits realisation – and incorporates independent expert reviews of major projects by Infrastructure NSW.

Measuring our performance

The **Future Transport Strategy,** while shaping our priorities and investments, will also measure and evaluate how they are contributing to our outcomes over time. Measuring our performance enables us to track our progress in achieving our long-term vision.

The example measures following relate to the improvements we are seeking to achieve through the **Future Transport Strategy.** They will be researched and refined to provide us with the insights needed to align more closely with customer expectations of an effective and integrated transport system. Transport will also partner with other agencies to deliver these outcomes where needed, such as the net zero greenhouse gas emissions target for NSW.

As advances in data capture and analysis continue, we will better understand changing patterns of movement of people and goods, particularly in rural and regional areas. We are also exploring opportunities to work with telecommunications data and other emerging data sources for near real-time insights on the movement of people, including information on their origin and destination, purpose and time of travel, travel patterns and demographics.

Table 2 Approach to measuring our performance.

Outcome	What we want to achieve	Example measure
Connecting our customers' whole lives	People are safer when they use the transport network	• Number of fatalities and serious injuries on the transport network (decrease)
	People can plan and book their travel easily and experience efficient door-to-door journeys	• Customer satisfaction index for end-to-end journeys (increase)
	More people are walking and cycling	• Walking and cycling movements for the six cities (increase) • Walking and cycling mode-share (increase)
	People can access the jobs and services they need within 30 minutes of home	• Population that is within 30 minutes travel time to key destinations by public transport across all six cities (increase) • Wait times and interchange times (decrease)
	Public transport services are accessible to everyone	• Population with good access to reliable public transport (increase) • Proportion of stations, stops, wharves, vessels and vehicles that are accessible for people with a disability, limited mobility or prams (increase) • Customer satisfaction level for people with a disability (increase) • Customer satisfaction level for people by geography (increase)
Successful places for communities	A whole-of-Government effort that reduces greenhouse gas emissions	• Greenhouse gas emissions generated by the transport sector (decrease*) • Proportion of zero or low emission vehicles (e.g. electric or hybrid by vehicle type) (increase)
	Transport projects enhance biodiversity	• Number of native and amenity trees replaced when trees are permanently removed as part of Transport projects (net increase)
	Communities are liveable	• Relative use of walking and cycling for short neighbourhood trips less than 2km (increase)
	Communities are thriving, cohesive and connected	• Place satisfaction index scores (increase).
	The transport network is available, even after disruptions	• Total time assets are available (increase) • Time taken to bring asset(s) back to operational levels following a disruption (maintain or decrease)

Outcome	What we want to achieve	Example measure
Enabling economic activity	The transport network enables strong, sustainable economies in NSW	• Contribution to NSW economy (employment supported by Transport projects) (maintain or increase)
	Efficient, sustainable freight networks reduce the cost of goods and services to producers and consumers, and boost productivity	• Freight capacity and reliability (maintain or increase)
	Stabilise traffic in Greater Sydney	• Vehicle kilometres travelled (maintain or decrease)
	Networks are optimised based on customer demand and usage	• Embedded smart sensors, systems and analytics to optimise our networks (increase)
	A financially sustainable and affordable transport system for the people of NSW	• Cost recovery ratio (maintain or increase)

*acknowledging that:

- this will take a range of NSW Government-wide actions and will not be immediate. However, Transport is committed to a net zero Target for Transport Operations by 2035
- current projections indicate that transport sector emissions are likely to increase before decreasing.

A solar glass canopy installed at Como Station provides shelter to customers while generating renewable energy.

NSW Common Planning Assumptions

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 the NSW 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 strategy and supporting analyses are based on the agreed Common Planning Assumptions and endorsed COVID-19 scenarios. As at April 2021 Details of the Common Planning Assumptions used are set out in the Common Planning Assumptions Book version 5.1.

The NSW Common Planning Assumptions provide a baseline of projected change over time, using current and historical data to model broad expected outcomes. They ensure that all NSW Government agencies are planning for a similar set of future circumstances, including new infrastructure required to support a growing population. These long-term forecasts of population and demographic change, economic and fiscal conditions, and transport travel demand are suitable for long-term strategic planning and support planning integration.

The Common Planning Assumptions, at this point in time, represent a pre-COVID-19 view of the world, however, there are endorsed scenarios that take account of the impact of the pandemic on population growth that have been used in the preparation of this strategy.

Glossary

Term	Definition
Six Cities Region	The region encompassing Eastern Harbour City, Central River City, Western Parkland City, Lower Hunter and Greater Newcastle City, Central Coast City, and Illawarra-Shoalhaven City.
15-minute neighbourhood	An organising principle that prioritises people's ability to meet day-to-day needs locally and creating thriving, healthy communities. For Transport, this means activating local places and improving travel choices by prioritising place making, walking, cycling, micromobility and last mile freight within 15 minutes of precincts and local destinations.
30-minute metropolitan city	Key destinations (strategic centres, major health precincts, tertiary education precincts and cultural or leisure destinations) are accessible 24/7 within 30 minutes by public transport.
Actions	Strategic actions that form the basis of Transport's programs of work, funding and delivery options to address our strategic responses and strategic directions, and ultimately achieve our Transport outcomes.
Active transport	Transport that requires individual physical effort to provide mobility. For personal travel, this includes walking, use of a wheelchair or mobility aid, cycling using a bicycle (without power assistance) and power-assisted micromobility (see below). Active forms of transport for freight delivery include both pedal-powered and electric power-assisted cargo bikes.
End-to-end customer journey	All interactions with transport networks and services before, during and after a journey.
Greater Sydney	The Eastern Harbour City, Central River City and Western Parkland City. The 33 local government areas of Bayside, Blacktown, Blue Mountains, Burwood, Camden, Campbelltown, Canada Bay, Canterbury-Bankstown, City of Sydney, Cumberland, Fairfield, Georges River, Hawkesbury, Hornsby, Hunters Hill, Inner West, Ku-ring-gai, Lane Cove, Liverpool, Mosman, Northern Beaches, North Sydney, Parramatta, Penrith, Randwick, Ryde, Strathfield, Sutherland Shire, The Hills Shire, Waverley, Willoughby, Wollondilly and Woollahra.
Long-term need	Actions that cater to the long-term needs of the State, some potentially requiring significant capital investment in the long term.
Micromobility devices	Small, lightweight, power-assisted vehicles operating at low speeds, to carry one person plus a child or other passenger, or a small load, for example, e-bikes and e-scooters
Mode share	The proportion of overall trips taken by a particular mode. Mode share is a useful measure to track the share of more sustainable modes and public transport compared to car use.
Outcomes	Transport outcomes describe the value we are seeking to achieve for customers, communities and the people of NSW.
Outer metropolitan	Areas within the six cities encompassing the local government areas of Kiama, Shellharbour, Wollongong, Central Coast, Lake Macquarie, Cessnock, Maitland, Dungog, Newcastle, Port Stephens, Shoalhaven and Singleton.
Priority actions	Actions to be implemented as a priority, with the view to start delivering outcomes in 1-5 years.
Progress planning	Actions that require (further) planning and investigation before an initiative or investment being committed to and delivered.
Regional Connected Networks	The Fast Rail, regional rail and regional coach services that form the backbone of the regional and outer metropolitan networks. These multimodal public transport services support improved interconnectivity between major centres within a region.
Shared mobility	Shared mobility is access to a vehicle or transport service as it is needed. It includes car sharing, bike and e-scooter sharing, carpooling and point to point travel in vehicles or taxis (including vehicles that ultimately could be automated).
Strategic directions	Pathways that guide the work of Transport to achieve our desired outcomes.
Strategic responses	Activities Transport and our partners undertake to align with our strategic directions
Smart infrastructure	Infrastructure that uses data gathered through sensors and technologies that are embedded in the infrastructure or surrounding environment.
Vehicle Kilometres Travelled (VKT)	Vehicle kilometres travelled is the total kilometres travelled by motor vehicles on roads during a given period of time.

Maps appendix

Sources

Figure 10 – Key destinations within the Six Cities Region for the 30-minute metropolitan city concept.

Source: – DCS Spatial Services; Australian Institute of Health and Welfare; GCC; Council Local Strategic Planning Statement (LSPS) documents

Figure 11 – Existing and future Six Cities Region's integrated transport network.

Source: Transport for NSW

Figure 12 – Existing and future road, bus and ferry network in the Eastern Harbour City, Central River City and Western Parkland City.

Source: Transport for NSW

Note: Only Strategic Centres on the rail network are shown.

Figure 13 – Existing and future passenger and freight rail network in the Eastern Harbour City, Central River City and Western Parkland City.

Source: Transport for NSW

Figure 15 – Existing and future NSW road, port and airport network.

Source: Transport for NSW

Note: Only a selection of centres is shown.

Figure 16 – Existing and future NSW rail, port and airport network.

Source: Transport for NSW

Note: Only a selection of centres is shown.

Figure 19 – Future regional cycling network for the Eastern Harbour City and program for the rest of the Six Cities Region.

Source: Transport for NSW

Note: Plans for the other cities will be developed in 2022/23. The Eastern Harbour City is shown an example of what Transport is planning. It does not reflect an investment priority over other parts of the Six Cities Region.

Figure 20 – Existing and future regional cycling connections in and around Wagga Wagga.

Source: Transport for NSW

Note: An example of a cycling network that has been developed for a regional town and is progressively being implemented. Transport for NSW will continue to actively partner with Local Governments to plan and develop their cycling networks for regional towns across the state. These will be key references for place-based transport plans. This does not reflect an investment priority over other areas of the State.

Figure 28 – Future NSW Fast Rail network.

Source: Transport for NSW

Figure 41 – Future Northern Rivers Rail Trail.

Source: Tweed Shire Council

Note: An example of a rail trail partially being delivered, with future stages currently in the planning phase. It is expected similar types of facilities will be implemented in NSW in the future. This does not reflect an investment priority over other areas of the State.

Definitions

Metropolitan Centre – The economic focus of Greater Sydney, fundamental to growing its global competitiveness and where government actions and investment, including transport, will be focused. The intent of these centres is to deliver very high levels of development and amenity. Metropolitan centres occur in two forms: single centres or a cluster of centres. (GSC 2018)

Metropolitan City – Highest order, economically significant centres outside of Greater Sydney, comprising Newcastle, Wollongong and Gosford. (DPE 2022)

Metropolitan Cluster – Cluster of four centres will deliver the metropolitan functions of providing concentrations of higher-order jobs and a wide range of goods and services. The presence of three long established centres provides the opportunity for a polycentric urban structure. (GSC 2018)

Regional City – Centres with the largest commercial component of any location in the region and that provides a full range of higher-order services, including hospitals and tertiary education services. (DPE 2022)

Strategic Centre (Greater Sydney) – Strategic centres vary in size, location and mix of activities. They enable access to a wide range of goods, services and jobs. Strategic centres are expected to accommodate high levels of private sector investment, enabling them to grow and evolve. They will become increasingly important parts of the region's structure. (GSC 2018)

Strategic Centre (Regional) – Centres with significant commercial components and a range of higher-order services -- higher order than local centres but smaller than regional cities. (DPE 2022)

Local Centre – Local centres that provide services such as shopping, dining, health and personal services to meet the daily and weekly needs of the local community. (DPE 2022)

Special Activation Precinct – Six locations that align with the NSW Government's 20-Year Economic Vision for Regional NSW, have growth opportunities for new and existing industries, have projected population and jobs growth, or align with key infrastructure projects.

NSW region boundaries – DPE 2022

Six cities' boundaries – Greater Cities Commission Bill 2022

Existing infrastructure – Operational infrastructure and services

Future infrastructure – Non-operational infrastructure and services including committed, funded and visionary

Future Transport Strategy: Our vision for transport in NSW

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NSW GOVERNMENT