Subject: LMM 28/11/2017 - DRAFT GREATER NEWCASTLE FUTURE TRANSPORT PLAN

PURPOSE:
To note the release of the Draft Greater Newcastle Future Transport Plan 2056 by Transport NSW, and to direct the production of a submission for consideration by Council in February 2018

MOTION
That Newcastle City Council:

1. Notes that on 21 November 2017, the NSW Government released the Draft Greater Newcastle Future Transport Plan (Attachment A), with the aim of providing a detailed plan for all forms of transport in Greater Newcastle, including public transport and active transport in the Lower Hunter. The Plan is a supplementary document to the Government’s Draft Future Transport Strategy 2056 and provides the overarching strategic transport network and vision that will guide transport planning for the Greater Newcastle area;
2. Prepares a submission, on the Draft Greater Newcastle Future Transport Plan, for approval by the LM and CEO, in line with Council’s adopted vision, policies and strategies;
3. Invites the Newcastle Coordinator General to provide Councillors with a briefing in February 2018 on the draft Plan, as well as updates on current major RMS projects including the M1 to Pacific Highway link, and the final stage of the Newcastle Inner City Bypass.

Background:

Newcastle City Council has taken a proactive leadership approach in advocating for the delivery of a long-term transport vision for the Greater Newcastle area involving all key stakeholders (including neighbouring councils, transport operators, Department of Planning and Environment, HDC, RMS and Transport for NSW). Most notably, this includes the production of a detailed Connecting Newcastle vision (Attachment B), Smart City vision including adoption of technologies which make autonomous vehicle trials possible, and the strong advocacy for integrated transport and land-use planning across the Greater Newcastle region.

On 13 October 2016, Newcastle City Council, by way of a Council resolution, identified several issues to be addressed prior to the consideration of the responses to the public exhibition of the planning proposal, draft Newcastle City Centre Development Control Plan (DCP), and associated Voluntary Planning Agreement (VPA).

This included several items related to the development of a ‘comprehensive, evidence based plan for public transport and active transport in the Lower Hunter’.

The Government’s Draft Greater Newcastle Future Transport Plan builds on Council’s Thought Leadership, and demonstrates a significant shift in NSW Government thinking away from simply large transport infrastructure assets (mainly state-roads) to a more holistic approach to transport planning (including public transport, active transport, and land-use issues).

Newcastle is an emerging global city, and the draft Future Transport Plan acknowledges Newcastle as being the state’s third global gateway hub (after Sydney and Canberra). This focus closely matches the work Council has been undertaking to promote and position the City, including our partnership with the University of Newcastle, Newcastle Airport and the Port of Newcastle. Additionally it builds on our work to bring significant events and investment to the City.

Importantly, the Plan builds on Council’s previous advocacy for an expanded light rail network connecting the CBD and suburbs, as well as proposed long term locations for park-and-ride facilities. Again, this builds on the leadership of Council – particularly in recent months with the HDC, Keolis Downer and Transport partnership delivering the park-and-ride from Hunter Stadium to the CBD to help mitigate some of the disruption from light rail construction works. Councillors were invited to attend a workshop hosted by TfNSW launching the draft Plan, which included senior executive and planning officers.

It is requested that Council’s expert transport, traffic, smart city and land-use planners develop a draft submission for Council’s endorsement on the TfNSW draft document. This should include consideration of short term planning objectives (such as articulating best cycleway linkages in the inner city to be delivered alongside light rail construction, and ensuring the final stage of the inner city bypass is fit for the future without disrupting current cycle paths).

It should also be noted that on 22 November 2017, Michael Cassel, Program Director, Revitalising Newcastle wrote to Newcastle City Council advising that with the release of this integrated transport strategy, it is the NSW Government’s view that the requirements of the Council resolution of 13 October 2016 have been addressed.

**Attachments**

**A: Draft Greater Newcastle Future Transport Plan:**

**B: Connecting Newcastle:**
Contents

SECTION 1 INTRODUCTION……………………………………………………………………… 3

1. About the Draft Greater Newcastle Future Transport Plan……………… 4
   1.1 Defining Greater Newcastle and its future ........................................ 5
   1.2 Overview of transport objectives and customer outcomes for Greater Newcastle ........................................................................................................... 7

SECTION 2 SERVICE AND INFRASTRUCTURE INITIATIVES…………………………… 8

2. Initiatives to support the customer outcomes…………………………………… 9
   2.1 A flexible, agile investment approach ................................................. 10
   2.2 State-wide initiatives for investigation relevant to Greater Newcastle ... 11
   2.3 Greater Newcastle Initiatives we plan to investigate ........................ 13

SECTION 3 LAND USE AND TRANSPORT VISION FOR 2056……………………… 17

3. Matching transport services and infrastructure with demand………………… 18
   3.1 Building an evidence base – understanding travel behaviour ........... 21
   3.2 Greater Newcastle transport vision .................................................. 28
   3.3 City centre transport networks .......................................................... 30

SECTION 4 CUSTOMER OUTCOMES FOR GREATER NEWCASTLE …………………… 32

4. Regional NSW customer outcomes explored within this Draft Greater Newcastle Future Transport Plan ................................................................. 33
   4.1 Customer Outcome 3: Customers enjoy improved connectivity, integrated services and better use of capacity ................................................................. 34
   4.2 Customer Outcome 4: The appropriate movement and place balance is established enabling people and goods to move efficiently through the network whilst ensuring local access and vibrant places ........... 42
   4.3 Customer Outcome 6: A transport system that adapts to and embraces new technology ................................................................................................. 44
   4.4 Customer Outcome 7: Changes in land use, population and demand, including seasonal changes, are served by the transport system... 46
   4.5 Customer Outcome 8: Flexible transport services are an integral part of the transport system helping to deliver the most appropriate type of service for customer needs.................................................................................. 50
   4.6 Customer Outcome 9: Support the development of the Global Gateway Cities of Greater Newcastle and Canberra ................................. 54

Table of figures .................................................................................................................. 58
Glossary ............................................................................................................................. 60
SECTION 1 – Introduction

This section describes the purpose of this document, including its place in the suite of Draft Future Transport 2056 documents, outlines Greater Newcastle and its future as well as provides an overview of the Draft Regional NSW Services and Infrastructure Plan objectives and customer outcomes for transport in Regional NSW, specifying those particularly relevant to Greater Newcastle.
About the Draft Greater Newcastle Future Transport Plan

- The Draft Future Transport Strategy 2056 sets the vision, state-wide directions and headline initiatives that will deliver the six outcomes.
- The Draft Services and Infrastructure Plans set the customer outcomes and identify the networks and initiatives required to achieve these, including policy, service and infrastructure initiatives.
- The Supporting Plans are more detailed issues-based or place-based planning documents that will support the implementation of Future Transport 2056.
- The Draft Greater Newcastle Future Transport Plan is a supporting plan that considers the Greater Newcastle area. It provides the overarching strategic transport network and vision that will guide future transport planning for the Greater Newcastle area.
Defining Greater Newcastle and its future

Global Gateway City

Greater Newcastle is a key Global Gateway City, with a catchment of over 1 million people. It has strong connections within NSW to Sydney, Central Coast, North Coast, New England North West and Central West and Orana. Greater Newcastle has growing national and international connections through its airport and port.

Greater Newcastle is currently undergoing transformation from its heavy industrial past to an urbanised, service-based economy. It is benefited by its access to international markets through the port and airport, strong health and education precincts and economic development opportunities through tourism, growth of specialised manufacturing and small-medium enterprises, defence facilities as well as a growing knowledge industry base.

There are further urban renewal opportunities to be realised. Transformative light rail and the introduction of frequent bus and ferry connections as well as opportunities to support and increase liveability through more sustainable travel behaviour are examples to ensure its success into the future.

Five local government areas

Greater Newcastle comprises of the local government areas (LGAs) of Newcastle, Lake Macquarie, Cessnock, Maitland and Port Stephens.

It is home to around 575,000 people and is expected to grow to around 760,000 people by 2056. This is larger than the state of Tasmania or the Australian Capital Territory. The majority of the population live within the Lake Macquarie (35%) and Newcastle (29%) LGAs.

The area’s greatest population density is within 5-10km of the Newcastle city centre at around 19 people per hectare. This area is expected to continue to grow and densify into the future. However, greenfield development and population increase is expected to occur along the New England Highway corridor around Branxton, Maitland and Thornton. Other growth areas are Cameron Park, Morisset, Nelson Bay, Raymond Terrace and around Williamtown-Medowie-Karuah.

Greater Newcastle currently has around 275,000 jobs. Most jobs are located in Newcastle (43%) and Lake Macquarie (27%) LGAs.

Newcastle city centre has the greatest employment density at over 57 jobs per hectare, which is more than double the next highest area of Hamilton/Broadmeadow at 22 jobs per hectare. Employment precincts are also located at Glendale and Charlestown and a corridor of employment stretches along the New England Highway towards Maitland.

Employment growth is expected across Greater Newcastle, with the greatest growth occurring within the Newcastle city centre.
Figure 2: Greater Newcastle existing transport network schematic
Overview of transport objectives and customer outcomes for Greater Newcastle

Our customers are at the centre of everything we do. Within the Draft Regional NSW Services and Infrastructure Plan, we have identified transport objectives and customer outcomes that people can expect when travelling in Regional NSW – whether they are commuters, customers travelling for leisure or freight customers.

These transport objectives and customer outcomes are also relevant to Greater Newcastle. This Draft Greater Newcastle Future Transport Plan explores in detail six of these customer outcomes within the context of Greater Newcastle, making the outcomes more relevant to customers travelling within, to, from and through this important Global Gateway City.

Regional NSW customer outcomes

1. A safe transport system for every customer with zero deaths or serious injuries on the network by 2056
2. A transport system which is resilient to significant weather events including floods, fog, bush fires
3. Customers enjoy improved connectivity, integrated services and better use of capacity
4. The appropriate movement and place balance is established enabling people and goods to move efficiently through the network whilst ensuring local access and vibrant places
5. Increased accessibility to employment and services such as health, education, retail and cultural activities within Regional Cities and Centres
6. A transport system that adapts to and embraces new technology
7. Changes in land use, population and demand, including seasonal changes, are served by the transport system
8. Flexible services are an integral part of the transport system helping to deliver the most appropriate type of service for customer needs
9. Support the development of the Global Gateway Cities of Greater Newcastle and Canberra
10. Improved efficiency of the network to/from/within the two Satellite Cities of the Greater Sydney by 2056 – Gosford and Wollongong

Figure 3: The transport customer outcomes for Regional NSW specifically explored within the Draft Greater Newcastle Future Transport Plan
This section summarises the policy, service and infrastructure initiatives to support the customer outcomes, and includes initiatives that the NSW Government has committed for delivery in the next 10 years. There are also initiatives identified for investigation in the next 10 and 20 years and visionary initiatives beyond 20 years that will be subject to strategic business cases.
Initiatives to support the customer outcomes

We will investigate a range of initiatives to support the customer outcomes extending across the 40 year timeframe of Future Transport, including both policy and service improvements as well as infrastructure improvements. These include initiatives that the NSW Government has committed to (over the next 10 years), initiatives for investigation for potential commitment or implementation in the 0-10 year and 10-20 year timeframes and visionary initiatives that may be investigated within the next 10 years but on preliminary evidence are likely to require implementation in the 20+ year timeframe. Further investigation of all initiatives will be undertaken within the next 10 years to ensure any major impacts in growth patterns or use are considered.

![Figure 4: Initiatives to support the customer outcomes](image-url)
A flexible, agile investment approach

A strategic investment prioritisation evaluation was undertaken for each proposed initiative, considering:

- How initiatives would serve customer needs and place-based visions over 40 years;
- Multimodal corridor planning and the evolution of places, applying Movement and Place planning principles;
- How well initiatives would meet future customer needs, against a range of likely scenarios, including technological and other disruptive events;
- Benefits, alignment to the strategic objectives of the Regional plans, and their ability to deliver on service outcomes; and
- The (high level) timeframe for project need, linked to interdependencies with other initiatives.

Our investment approach is designed to be flexible, responding to change and uncertainty. The draft timeframes are indicative, based on preliminary evidence, of when potentially these initiatives may be need to be implemented or committed.

Further investigation of all initiatives in the Draft Strategy and Plans will be undertaken within the next 10 years to ensure any major impacts in growth patterns or use are considered.

Initiatives are listed in the following categories:

**Committed initiatives (0-10yrs)** – initiatives that either have committed funding, are committed/contractually committed, are for immediate detailed planning, or are part of key maintenance, renewal or safety programs. Some initiatives are subject to final business case.

**Initiatives for investigation (0-10, 10-20yrs)** – intended to be investigated for potential commitment or implementation within the next 20 years. Those listed in 0-10 horizon will be prioritised for more detailed investigation to determine if they are required in the next decade.

**Visionary initiatives (20+ years)** – longer term initiatives that may be investigated within the next 10 years, but are unlikely to require implementation within 20 years.
State-wide initiatives for investigation relevant to Greater Newcastle

State-wide – Committed 0-10 years

- Fixing Country Roads Program*
- Fixing Country Rail Program*
- Timber Truss Bridge replacements and upgrades
- Bridges for the Bush*
- Road Safety Program*
- Road Freight Safety and Productivity
- New Intercity Fleet
- Regional Rail Fleet Program
- Transport Access Program
- Regional point to point booking system*
- Roll out Automatic Train Protection
- NSW Boating Now Program

State-wide – Initiatives for investigation 0-10 years

- Stations – DDA compliance program
- Roll out Demand Responsive Transport across all regions
- Walking programs
- Cycling programs
- Car share package integrated with OPAL to increase use of public transport
- Town bypasses – identification of future need
- Regional Parking Guidelines*
- Key Precinct Access Plan*
- Resilience Package*
- Sealing Country Roads program*
- Slopes and culverts condition program*
- Service centres along state highways*
- Last Mile Productivity Program*
- Heavy Vehicle rest areas*
- Regional Airports Program*
• Regional centre in town access improvement program*
• Regional Interchange Program*
• Rail Network Optimisation Program*
• Port Efficiency, Access and Integration Package*
• Programs to ensure CAV/AV readiness*
• Roadside facilities for CAV/AV
• Maritime Safety Program*

**State-wide – Initiatives for investigation 10-20 years**

• Outer metro roads program*

**State-wide – Initiatives for investigation 20+ years**

• Higher speed connections along east coast

*Indicates multi-period potential initiatives
Greater Newcastle Initiatives we plan to investigate

Policy/Planning

- Develop Key Precinct Access Plans for various key destinations across Greater Newcastle to improve travel choices. Destinations include transport interchange hubs, Newcastle Airport, Newcastle Hospital, University of Newcastle, Hunter Sports and Entertainment Precinct and key retail centres
- Work with key stakeholders to develop a Movement and Place framework for strategic centres and corridors across Greater Newcastle
- Regional Parking Guidelines – utilise guidelines to inform a car parking review to evaluate and prioritise car parking availability and use within centres and at key interchanges, including opportunities for car share
- Develop and support the implementation of travel demand management policies and tools such as Travel Plans to support behaviour change as well as support activities that generate demand at particular periods such as during events and holiday periods
- Work with relevant stakeholders to better use technology currently available within Greater Newcastle, while also recognising opportunities for technology changes into the future
- Corridor preservation for Higher Speed Connections
- The potential for the application of autonomous vehicle and active transport only areas and corridors within Greater Newcastle as technology availability and use intensifies.

Service

- Deliver Newcastle Light Rail to improve access and amenity in the Newcastle city centre
- Improvements to public transport service availability and frequencies in Greater Newcastle, including the development of an integrated public transport network hierarchy to enable frequent connections between centres and support urban renewal along key transport corridors
- Reduce journey times for Intercity rail services between Greater Newcastle, Central Coast and Sydney
- Investigate potential new servicing patterns and associated enabling infrastructure requirements with a focus on travel between Regional Cities and Centres to accompany new diesel fleet to enable better connections and day return opportunities for regional communities
- Extensions to the Newcastle light rail and ferry network
- New suburban type rail service for Newcastle
- Implement bus priority and bus head start programs on key corridors where growth is occurring such as along the New England Highway growth areas and within Inner Newcastle
• The delivery of flexible transport services to increase accessibility across Greater Newcastle, including facilitating roll out of car sharing services to decrease car dependency and parking demands while increasing use of active and public transport.

**Infrastructure**

**Public transport:**

• Review opportunities for rail track upgrades or new infrastructure to support faster travel times and more frequent timetabling between Sydney and Greater Newcastle
• Electrification of the Hunter Line (Wickham to Telarah)
• Improved interchange with rail/light rail/bus services and provision of car share at interchanges
• Higher speed connections along the East Coast
• New rail alignment of North Coast Line between Newcastle and Stroud Road – investigation corridor.

**Active transport:**

• Work with Councils and key stakeholders to develop and deliver walking and cycling infrastructure and end of trip facilities to encourage sustainable travel choices, including:
  – A region wide network of safe and connected cycling infrastructure; and
  – High quality walking infrastructure around key centres, interchanges and within Newcastle city centre.

**Maritime:**

• Newcastle Cruise Terminal*
• New ferry wharves.

**Road:**

• Address pinch points in the road network and inform the program of road network optimisation improvements
• M1 – Newcastle SMART Motorway
• M1 Pacific Motorway extension to Raymond Terrace
• Cormorant Road to Industrial Drive^
• Inner City Bypass extension - Rankin Park to Jesmond^
• Integration of New England and Golden Highways at Maitland^ (improve freight movements)
• Nelson Bay Rd improvements – Williamstown to Bobs Farm (support the visitor economy)
• Nelson Bay Rd improvements – Fern Bay to Williamtown (improve access to Newcastle Airport)
• Tomago Rd improvements – Pacific Highway to Williamtown (improve access to Newcastle Airport)
• The Lakes Way corridor improvements (support the visitor economy)
• Golden Highway improvements
• Cooperative Intelligent Transport Systems (CITS) to enable greater safety and optimisation of the management of pedestrian and vehicle traffic.

**Freight:**

• Support the efficient movement of freight through the region by ensuring freight connections along major highways, the Port of Newcastle and Newcastle Airport meet the existing and future demand, including the protection and development of the Lower Hunter Freight corridor
• Main Northern Line improvements to address freight pinch points
• Port Efficiency, Access and Integration Package.

*2017/18 Budget commitments
^ indicates multi-period potential initiatives

Figure 5: Initiatives we plan to investigate in the Hunter region
SECTION 3 – Land Use and Transport Vision for 2056

An overview of the Greater Newcastle strategic land use and transport vision for 2056 that underpins our plans for services and infrastructure.
Matching transport services and infrastructure with demand

Integration between transport and land use

The Department of Planning and Environment’s Hunter Regional Plan 2036 recognises key employment, educational, health, industrial and recreational hubs such as Newcastle city centre, Central Maitland, Hunter Sports and Entertainment Precinct (emerging), Kotara, Charlestown, Cardiff-Glendale (emerging), Newcastle Port, Newcastle Airport, John Hunter Hospital and the University of Newcastle. The Hunter Regional Plan 2036 focuses on connecting these locations through a network to further strengthen the economy contained within them and support a growing population. To do this, it has identified locations where growth is expected to occur across Greater Newcastle. It is expected within its:

- 14 strategic centres – Broadmeadow (emerging), Central Maitland, Callaghan, Cessnock, Charlestown, East Maitland, Cardiff-Glendale (emerging), John Hunter Hospital, Kotara, Kurri Kurri, Morisset, Newcastle City Centre, Nelson Bay, Raymond Terrace, plus global gateway transport hubs of Newcastle Airport and Newcastle Port;
- Urban renewal corridors – including Charlestown to Belmont, Glendale to Cardiff, Newcastle City Centre to Broadmeadow, Kotara and Mayfield; and
- Growth areas – such as Newcastle–Lake Macquarie Western Corridor and Maitland Corridor.

Strategic centres are centres of activity and employment. They contain clusters of professional, retail, health and education services and are forecast to be major drivers of the economy into the future. Newcastle city centre is the heart of Greater Newcastle, the location of key headquarters, businesses and services.

Population and employment growth are anticipated in strategic centres, particularly within Newcastle city centre, Maitland East, Nelson Bay and Raymond Terrace. The Hunter Regional Plan 2036’s vision is for 95 percent of Greater Newcastle’s residents to live within 30 minutes of a strategic centre. To achieve this, sufficient transport connections are necessary.

Urban renewal corridors are precincts identified for a greater intensification of residential and commercial development and are generally along key transport corridors.

Growth areas are large areas that have been identified for new housing developments, supporting an increase in population into the future.

Supporting connections to, from and within strategic centres, urban renewal corridors and growth areas is important to make it easier for our customers to get to the places they need to travel to. This includes travelling for work and to undertake business, or to education sites like schools, TAFE and the University of Newcastle, key retail areas like Charlestown, health facilities such as John Hunter Hospital, sporting precincts and the airport.
To ensure the best value of money is spent on transport services and infrastructure, we need to make sure that the level of service we provide meets the demand for those connections. This means providing an appropriate level of transport services and infrastructure for the role of the centre and density of the urban renewal corridor and new housing developments. For example, the Newcastle city centre generates significant travel demand as a large number of people want to travel to and from it as well as within it. This is expected to continue with the increase in employment and population projected for the centre. We need to balance providing the high level of services and infrastructure required in Newcastle city centre and other strategic centres with the lower level of demand expected in other areas.

However, this does not mean other areas miss out. There is an opportunity to better use our resources and provide flexible, on demand services to connect customers to the places they want to go.

Additionally, as Greater Newcastle grows and people continue to primarily use their private vehicle to get around, there will be increased pressure on the road network. We need to work with stakeholders to develop travel demand strategies to re-balance travel demand (re-time, re-mode, re-route and reduce) to ensure that the expected increase in private vehicle trips does not lead to congestion and unacceptable journey times and reliabilities. We need to ensure that public and active transport (sustainable transport) are viable options for travelling to/from and within Greater Newcastle.
Source: Department of Planning and Environment 2016, *Hunter Regional Plan 2036*, Department of Planning and Environment, Newcastle, p. 13.

Figure 6: Greater Newcastle’s strategic centres, urban renewal corridors and growth areas
Building an evidence base – understanding travel behaviour

How and why people in Greater Newcastle travel

To provide appropriate transport services and infrastructure into the future, an understanding of how, where and why people travel to, from and within Greater Newcastle is needed.

Most people travel in Greater Newcastle by private vehicle (over 80 percent of all trips). Public transport use is low. However, there are strong rates of active transport, with more than 13 percent of all trips made by walking or cycling.

Most trips in Greater Newcastle are for discretionary purposes such as shopping, social and recreational trips. These are trips where people can choose the timing and/or destination for their travel. As these trips are generally shorter and within the region, there is an opportunity to support more sustainable travel options for these trips.

Commuting trips occur primarily in the AM and PM peaks. There is an opportunity for these to be provided by public or active transport, rather than private vehicle.

People tend to primarily make short journeys, between 0-5km in length. There is an opportunity for these shorter journeys to be taken by walking or cycling.

![Mode of Travel in Greater Newcastle](image)

Figure 7: Mode of travel in Greater Newcastle
AM peak: 6-10am, Inter-peak: 10am-3pm, PM peak: 3pm-7pm, Other: 7pm-6am

Figure 8: Weekday trip purpose within Greater Newcastle by time of day

Figure 9: Percentage of trips made in Greater Newcastle, by distance

Where people in Greater Newcastle travel

The majority of trips occur within Greater Newcastle. Only 5 percent of all trips are to/from destinations outside Greater Newcastle. Of these trips, there is a strong pull to the south, towards the Central Coast (73 percent of trips made outside Greater Newcastle).

This reflects Greater Newcastle’s strong self-containment and strength as a Global Gateway City. This is especially clear when compared with the Central Coast where 15 percent of all trips are to/from outside the region and nearly a third of Central Coast workers leave it for work.
However, the polycentric nature of Greater Newcastle presents a challenge in providing transport services and infrastructure between the various destinations and centres. For example, strong travel demand exists between:

- Maitland and Metford, via East Maitland
- Broadmeadow and Newcastle city centre
- Charlestown and Newcastle city centre
- Kotara and Charlestown/Broadmeadow
- Newcastle Port and Newcastle city centre

To a lesser extent, demand to/from these centres also extends to other locations such as Raymond Terrace, Cessnock, Nelson Bay and Morisset.

We need to match the transport service and infrastructure with the level of demand generated. Clear, strong transport corridors should be provided between centres of high demand. There should be opportunities to connect to these corridors in areas where there is a lower level of demand.

These strong transport corridors will experience increased pressure into the future, especially as the majority of new housing and population growth will be located along the New England Highway corridor and within the Newcastle inner city area. Planning for travel options, such as effective public and active transport, is necessary to ensure efficient access for our customers.

Figure 10: Daily trip demand within Greater Newcastle across local government areas, 2016-2056
Looking at road volumes in the AM peak, strongest demand for private car travel is along:

- Maitland Road and Newcastle Link Road, heading east into Newcastle;
- M1 Pacific Highway in both directions, people travelling north or south; and
- Hunter Expressway between Kurri Kurri and Newcastle in both directions.

Projections forecast volumes to significantly increase in the next 40 years during AM peak along sections of:

- M1 Pacific Highway in both directions;
- Newcastle Link Road, eastbound;
- Hunter Expressway;
- Pacific Highway, north of Hexham; and
- New England Highway, Charlestown Road, City Road/Pacific Highway and Main Road.
Public transport data reflects key places people travel to in Greater Newcastle using the public transport network. It only reflects the existing network. Despite this limitation, bus patronage data shows strong demand for travel to and from key destinations such as Charlestown Square shopping centre, University of Newcastle,
Stockland Jesmond shopping centre, Stockland Glendale shopping centre as well as schools across the region.

Stations generating the most use are Hamilton (former temporary access point into Newcastle city centre), Morisset, Broadmeadow, Warabrook (University of Newcastle) and Cardiff.

Figure 13: Daily Greater Newcastle bus tap on/off counts
Figure 14: Daily Greater Newcastle train tap on/off counts
Greater Newcastle transport vision

Transport network hierarchy and vision for the next 40 years

What we need to do:

Public transport:

Public transport within Greater Newcastle is currently underutilised. Bus routes and service frequencies do not meet the community’s needs. Revised routes to support current and future travel demand and a clear hierarchy of public transport services is needed across the region. Measures to support public transport priority are also needed. Services should be integrated with the Central Coast and broader Hunter area. As demand increases on key bus corridors, light rail may be necessary to meet the demand. We will work towards:

- A single operator taking multi-modal responsibility across Greater Newcastle covering bus, light rail and ferry services
- Improved integration and interchange between modes/services to enable seamless customer experience
- Expanding 30 minute catchments for public transport
- Improved time of day coverage and service frequency, reduced journey times, and the deployment of on-demand, flexible services
- Rail corridor infrastructure investment programs allowing the new intercity fleet to operate to its operational capacity with significant travel time savings. Station upgrades and integration between the stations and surrounding land uses are needed to support increased public transport travel. Opportunities for park and ride at key stations should be implemented to reduce private vehicle travel for long distances
- Facilitating car sharing services that are integrated with public transport.

Active transport:

Capitalising on the strong active transport use within Greater Newcastle, there is an opportunity for trips within centres as well as trips less than 10km to be made by walking or cycling. We will support the development of cycling and pedestrian networks to support sustainable travel as a real travel choice.

Road:

With increasing population and strong private vehicle use, congestion on the road network will occur. With improvements to public and active transport, there is an opportunity to consider the role and function of roads across Greater Newcastle. We will work towards:

- Addressing pinch points in the road network and informing the program of road network optimisation improvements to support the maintenance of 30 minute catchments for car journeys
• Undertaking a car parking review to evaluate and prioritise car parking availability and use within centres and at key train stations

• Introducing travel demand management policies and transport optimisation programs (such as clearways and bus priority) to re-balance demand against service and infrastructure provision.

**Freight:**

Freight is crucial to Greater Newcastle’s economy and role as a Global Gateway City. We will protect freight through movements and reinforce key links to the Port and Airport that serve Greater Newcastle as well as reduce the volume of freight trains travelling through urban areas.

![Draft Greater Newcastle network hierarchy](image-url)
City centre transport networks

Supporting integrated transport within Greater Newcastle’s strategic centres

To support the efficient movement of people and goods and better places within Greater Newcastle’s strategic centres, an integrated transport network has been developed for Newcastle city centre and the key centres of Maitland and Maitland East.

These integrated transport networks aim to capitalise on the demand, role and function of the transport network as well as surrounding land uses to deliver the best transport solution for the precincts moving forward. These plans aim to support the liveability of places, while also encouraging greater economic activity.

It is anticipated that similar integrated transport networks will be developed for each strategic centre as part of our precinct planning process and in consideration of the Movement and Place framework.

Figure 16: Draft integrated transport network for Newcastle city centre
Figure 17: Draft integrated transport network for Teralba – Maitland – Maitland East
SECTION 4 – Customer Outcomes for Greater Newcastle

An overview of the outcomes that customers can expect when using transport in Greater Newcastle.
Regional NSW customer outcomes explored within this Draft Greater Newcastle Future Transport Plan

Customer Outcome 3: Customers enjoy improved connectivity, integrated services and better use of capacity

Customer Outcome 4: The appropriate movement and place balance is established enabling people and goods to move efficiently through the network whilst ensuring local access and vibrant places

Customer Outcome 6: A transport system that adapts to and embraces new technology

Customer Outcome 7: Changes in land use, population and demand, including seasonal changes, are served by the transport system

Customer Outcome 8: Flexible services are an integral part of the transport system helping to deliver reliability and the most appropriate type of service for customer needs

Customer Outcome 9: Support the development of the Global Gateway Cities of Greater Newcastle and Canberra
Customer Outcome 3: Customers enjoy improved connectivity, integrated services and better use of capacity

An efficient and reliable network

We will plan for and build an efficient network in order to:

- Provide quality transport connections to/from and between strategic centres
- Provide a legible and frequent public transport network to service customers, with a clear hierarchy of service, providing customers with real travel choice
- Improve the interchanging between transport modes and services to facilitate a seamless travel experience.

Greater Newcastle development cycle opportunity

The predominant use of private vehicle in Greater Newcastle is a result of its strong road network, limited road traffic congestion outside peak periods, the ease and availability of parking and the lack of other suitable transport options.

As Greater Newcastle and its catchment grows in population and freight throughput, traffic congestion issues along key corridors will worsen. This will make it increasingly difficult to travel, reducing Greater Newcastle’s ability to function and grow as a vibrant Global Gateway City. Changes to how our customers travel are needed to ensure Greater Newcastle’s success into the future.

There is an opportunity to support Greater Newcastle’s development by “getting ahead of the curve” and supporting its transition into Stage 3 of the development cycle (see Figure 18), where there is a focus on efficient and sustainable modes of transport, rather than car use. This means it can avoid the consequences of strong car based movement such as severe congestion and long travel times, increased CO₂ emissions and poor urban amenity.

To do this, changes should be implemented to make public and active transport a viable option:

- Development of a strong public transport hierarchy, connecting where people live to where they want to travel to. Bus routes should reflect customer’s travel needs and desires, with priority given to buses on key corridors to provide comparable, if not quicker, journey times to people travelling in private vehicles. Service levels should match the travel demand, with turn up and go frequencies on key corridors

- Better integrating Greater Newcastle’s train stations with the surrounding land uses, including providing feeder transport services like on demand services, bike share, bike parking, footpaths as well as making sure development responds to the stations through good urban design
- Reviewing car parking provision across Greater Newcastle and limiting parking in centres where strong public transport exists and exploring opportunities for park and ride and car sharing services integrated with public transport

- Encouraging travel demand management policies (re-time, re-mode, re-route and reduce travel) and infrastructure such as promoting people working from home, travelling in off peak periods or reallocation of road space to reduce the number of single occupant vehicle trips

- Collaborating with local councils and key stakeholder groups to develop a safe and connected cycling network and creating more walkable places across Greater Newcastle.

Figure 18: City development cycle

Priority multi modal transport corridors

In 2019 Newcastle Light Rail will commence operation, providing a new way of moving through the Newcastle city centre. To support this investment, we need efficient transport connections that enable people to access the Newcastle Light Rail network and city centre.

Seventeen potential priority multi modal transport corridors have been investigated across Greater Newcastle and its strategic centres for development over the next 10 years. Corridors investigated included connections to the Newcastle Airport, University of Newcastle, John Hunter Hospital, Broadmeadow as well as other key destinations. All corridors investigated are located within Inner Newcastle due to their anticipated patronage growth and development, travel trends and opportunities to build upon the existing public transport network. Consideration of connections across Greater Newcastle such as between Inner Newcastle and Maitland will be considered into the future.
Six key corridors have been identified from a multi criteria assessment and sensitivity testing:

- Corridor O: Newcastle Interchange/City Centre – Wallsend
- Corridor Q: Newcastle Interchange/City Centre – Charlestown
- Corridors A, B, C and D: Newcastle Interchange/City Centre – Charlestown via Adamstown and Kotara
- Corridor H: Newcastle Interchange/City Centre – Mayfield
- Corridor A: Newcastle Interchange/City Centre – Broadmeadow
- Corridor E: Broadmeadow – John Hunter Hospital

These corridors connect Newcastle city centre with key strategic centres such as Charlestown, Kotara, Cardiff-Glendale (emerging), John Hunter Hospital, Broadmeadow (emerging) and the University of Newcastle. They radiate out from Newcastle city centre. This is consistent with a growing public transport network and the revitalisation occurring within the city centre. Cross regional priority corridors, providing north-south movement, will become more viable into the future as these east-west corridors develop.

The identification of these six corridors forms the basis for more detailed feasibility assessment to be undertaken to deliver transport improvements such as bus priority or light rail based on demand into the future.

Figure 19: Six potential key priority multi modal transport corridors
Better ways to manage parking

A strategic approach to the provision of car parking needs to be considered for Greater Newcastle. Previous parking policies have focused on providing parking to meet the demand. However, ease of parking results in traffic congestion, decreases the viability of public transport and detracts from the amenity of places as they focus on vehicle access and not access for people.

As sustainable transport becomes a more viable option in Greater Newcastle, there is an opportunity now to review how parking is provided. These policy positions should be considered:

- Parking should support customer and business service needs;
- Sustainability should drive parking supply, not demand:
  - Need for parking turnover
  - Reallocation of all day parking away from centres that are supported by strong public transport networks
- Maximising value in parking spaces particularly in centres through:
  - Prioritisation of short stay, high turn-over spaces over long stay, low turn-over spaces
  - On street parking for short stay uses only
  - Reduction in time limits for on-street parking
- Parking to support transport objectives through:
  - Progressive reduction of relative parking supply or pricing as a travel demand management tool to encourage mode shift to public and active transport.

Other opportunities are available, including:

- Using technology to better manage car parking through improved communication and wayfinding, parking enforcement and compliance and pricing based on demand
- Development controls setting a maximum for parking space requirements in new developments
- Shared use of car parking spaces with other businesses who only require car parking at certain periods
- Facilitating car sharing services to reduce car dependency (including parking needs) and support active and public transport usage
- Park and ride.

Park and ride

Potential park and ride locations within Greater Newcastle have been considered. They have been identified due to their strategic location in supporting increased accessibility to strong public transport spines for people living in areas that may not have access to frequent public transport routes.
A park and ride location in Maitland would enable people moving into new housing estates around Maitland, Kurri Kurri and Branxton to have access to the Hunter rail line and any potential high frequency buses in that area, reducing their need to travel long distances or into other strategic centres by private car.

The identification of these and other opportunities will be included as part of a review we will undertake of car parking across Greater Newcastle. We will use this review to develop a strategy that evaluates and prioritises where and how much car parking should be provided.

Figure 20: Potential park and ride locations in Greater Newcastle

Active transport network

Walking and cycling provides a number of benefits for both people and places. Around the world, people’s health is negatively impacted by congestion and sedentary lifestyles. Walking and cycling for short, local trips helps to prevent the onset of chronic illnesses, reduces road congestion and lowers carbon emissions and air pollutants.

Places that have corridors where walking and cycling connects people to green spaces, shops, services, schools and entertainment are also attractive places. This is important for the wellbeing of the community and to attract skilled workers that facilitate globally competitive businesses and cities.

Walking and cycling infrastructure is also more cost effective in that it enables more people to move, at a lower cost.
Improvements to active transport infrastructure can be achieved through:

- Infrastructure and technology that prioritises walking and cycling through direct connections as well as in centres and interchanges
- Information and promotion to ensure customers are aware of the opportunities available and benefits of walking and cycling
- Policy and partnership to ensure it is a key focus of all transport projects, land use and urban design.

Figure 21: Infrastructure costs and number of customers moved per hour

Figure 22: Transport and healthy lifestyles
Policy, service and infrastructure initiatives for investigation

We will:

- Work to develop improvements to public transport service availability and frequencies in Greater Newcastle, including the development of an integrated public transport network hierarchy to enable frequent connections between centres. This includes:
  - Extensions to the Newcastle light rail and ferry network where demand is justified;
  - Rail service improvements including a new suburban type rail service and electrification of the Hunter Line (Newcastle Interchange to Telarah);
  - Improvements to interchanges; and
  - Facilitating car sharing services integrated with public transport to support increase the reach and usage of public transport.

- Develop Key Precinct Access Plans for various key destinations across Greater Newcastle to improve travel choices. Destinations include transport interchange hubs, Newcastle Airport, Newcastle Hospital, University of Newcastle, Hunter Sports and Entertainment Precinct and key retail centres

- Develop and support the implementation of travel demand management policies and tools to support behaviour change as well as support activities that generate demand at particular periods such as during events and holiday periods

- Implement bus priority and bus head start programs on key corridors where growth is occurring, such as along the New England Highway growth areas and within Inner Newcastle

- Work with Councils and key stakeholders to develop and deliver walking and cycling infrastructure and end of trip facilities to encourage sustainable travel choices, including:
  - A region wide network of safe and connected cycling infrastructure; and
  - High quality walking infrastructure around key centres, interchanges and within Newcastle city centre.

- Review opportunities for rail track upgrades or new infrastructure to support faster travel times and more frequent timetabling between Sydney and Greater Newcastle

- Address pinch points in the road network and inform the program of road network optimisation improvements. Examples of local road improvements include:
  - Inner city bypass – Rankin Park to Jesmond;
  - Nelson Bay Road; and
  - The Lakes Way corridor

- Undertake a car parking review to evaluate and prioritise car parking availability and use within centres and at key interchanges
- Support the efficient movement of freight through the region by ensuring freight connections along major highways, Newcastle port and airport meet the existing and future demand, including the protection and development of the Lower Hunter Freight corridor, improvements to the Main Northern Line to address freight pinch points and implementation of the Port Efficiency, Access and Integration Package.
Customer Outcome 4: The appropriate movement and place balance is established enabling people and goods to move efficiently through the network whilst ensuring local access and vibrant places

Making better places for people

Roads form the majority of Greater Newcastle’s transport network. They help to move around thousands of our customers every day. However, they are also places. They are key parts of the urban fabric where people go for work, shop and meet people.

For example, the New England Highway supports the movement of people between Maitland and Newcastle, is home to a number of people as well as the location of major destinations such as Stockland Green Hills shopping centre, Maitland Private Hospital, Maitland TAFE and parks and open spaces.

Some of the most challenging decisions faced in managing the road network are balancing the needs of the different users.

The Movement and Place framework aims to balance these interests through the application of a model that looks at the road function. It looks at whether they are:

- Movement corridors - main vehicle connections;
- Vibrant streets - have a high demand for vehicle movements and high pedestrian activity;
- Places for people - have a high level of pedestrian activity and lower level of vehicle movements; and
- Local streets - the suburban neighbourhood environment.

The classification then determines the design principles that should be implemented to support its function.

The Movement and Place framework assists in supporting decisions for the management of road space to support the development of places.

![Figure 23: The Movement and Place framework](image)
Policy, service and infrastructure initiatives for investigation

We will:

- Work with key stakeholders to develop a movement and place framework for strategic centres and corridors across Greater Newcastle.

- Develop Key Precinct Access Plans for various key destinations across Greater Newcastle to improve travel choices. Destinations include transport interchange hubs, Newcastle Airport, Newcastle Hospital, University of Newcastle, Hunter Sports and Entertainment Precinct and key retail centres.
Customer Outcome 6: A transport system that adapts to and embraces new technology

Adopting new technology

Technology has the real potential to change how people in Greater Newcastle travel. We must take advantage of these opportunities to ensure the transport network provides the best level of service possible.

We will work with relevant stakeholders to use the technology available now to investigate and provide within Greater Newcastle:

- Dynamic, personalised, customer-centric services, including flexible, on demand services and real time information
- A seamless service offering - the customer interface will increasingly be the Mobility as a Service provider, not the operator. Transport services/options can be bundled and sold so that greater transport choice is provided
- Smart motorways that make best use of the smart technologies being developed in vehicles, including improving productivity and safety through freight technology advances e.g. supply chain efficiencies of platooning, reducing human interaction
- Personal mobility devices (e-bikes, segways, mobility scooters) enabling people to travel further than traditional active transport (walking, cycling)
- Improved security systems to increase passenger safety during journeys and at interchanges.

Over the next 40 years autonomous vehicles will become more prevalent and there is an opportunity to evaluate the role they will play in Greater Newcastle. They have the potential to reduce the amount of vehicle emitted noise in streets, the amount of greenhouse gas emissions put into the atmosphere and could be shared amongst people, resulting in fewer vehicles parked and travelling on roads. This has the potential to change the amenity and how places operate.

There is also potential for active and shared, autonomous vehicle only areas that have high levels of urban amenity. This level of amenity has associated benefits such as increased attractiveness for business investment, more life on the streets and personal health and wellbeing improvements.
Policy, service and infrastructure initiatives for investigation

We will:

- Work with relevant stakeholders to better use technology currently available within Greater Newcastle, while also recognising opportunities for technology changes into the future.
- Investigate the potential for the application of autonomous vehicle and active transport only areas and corridors within Greater Newcastle as technology availability and use intensifies.
- M1 – Newcastle SMART Motorway investigations. This is intelligent traffic technologies such as ramp metering, lane use signs, variable speed limit signs, additional traffic sensors and CCTV cameras to support quicker and safer journeys.
Customer Outcome 7: Changes in land use, population and demand, including seasonal changes, are served by the transport system

Changing transport demand

Over the next 40 years, Greater Newcastle’s population will primarily increase in greenfield development sites along the New England Highway corridor as well as in areas like Morisset-Cooranbong, Nelson Bay Peninsula, Raymond Terrace and Williamtown-Medowie-Karuah. Population within the Newcastle city centre will also increase.

Areas within 10km of the Newcastle city centre will increasingly densify. The urban renewal of the Newcastle city centre, including the University of Newcastle NewSpace campus and other corridors will generate additional demand that needs to be catered for.

We need to provide a transport network that supports these changing land uses, matching services, span of hours and frequencies to demand. Public and active transport infrastructure and service changes should be put in place before people move into new developments to support sustainable travel behaviour and provide viable transport choices.

We also need to support other activities that generate increased travel demand. These include:

- Recreational events such as sporting games, festivals and concerts that generate travel from within and outside Greater Newcastle. The Hunter Sports and Entertainment Precinct redevelopment will continue to see increased demand for travel
- Tourism demand across Greater Newcastle, including the new Cruise Terminal.

This could mean the introduction of special event services, park and ride options or integrated public transport ticketing for events.

We also need to consider enhancing freight connections to cater for changing freight demand to enable improved market access.
Figure 26: Greater Newcastle population density, 2016 and 2056
<table>
<thead>
<tr>
<th>Area (ABS SA2)</th>
<th>Population increase (2016-2056)</th>
<th>Population density change (additional people per Ha, 2016-2056)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Branxton-Greta-Pokolbin</td>
<td>14,028</td>
<td>0.4</td>
</tr>
<tr>
<td>Maitland East</td>
<td>12,452</td>
<td>3.1</td>
</tr>
<tr>
<td>Newcastle-Cooks Hill</td>
<td>11,360</td>
<td>28.6</td>
</tr>
<tr>
<td>Morisset-Cooranbong</td>
<td>10,842</td>
<td>0.3</td>
</tr>
<tr>
<td>Thornton-Millers Forest</td>
<td>9,988</td>
<td>1.6</td>
</tr>
<tr>
<td>Maitland West</td>
<td>8,671</td>
<td>0.5</td>
</tr>
<tr>
<td>Maryland-Fletcher-Minmi</td>
<td>8,097</td>
<td>4.7</td>
</tr>
<tr>
<td>Nelson Bay Peninsula</td>
<td>7,231</td>
<td>0.7</td>
</tr>
<tr>
<td>Raymond Terrace</td>
<td>7,219</td>
<td>0.7</td>
</tr>
<tr>
<td>Williamtown-Medowie-Karuah</td>
<td>6,410</td>
<td>0.2</td>
</tr>
</tbody>
</table>

Blue shading represents primarily greenfield development

Figure 27: Population growth in top 10 areas (SA2s) in Greater Newcastle as well as density change, 2016-2056

Figure 28: Newcastle city centre car and public transport 30 minute catchments, 2016-2056
Policy, service and infrastructure initiatives for investigation

We will:

- Support the efficient movement of freight through the region by ensuring freight connections along major highways, Newcastle Port and Newcastle Airport meet the existing and future demand, including the protection and development of the Lower Hunter Freight corridor, improvements to the Main Northern Line to address freight pinch points and implementation of the Port Efficiency, Access and Integration Package

- Implement bus priority and bus head start programs on key corridors where growth is occurring, such as along the New England Highway growth areas and within Inner Newcastle

- Work with Councils and key stakeholders to develop and deliver walking and cycling infrastructure and end of trip facilities to encourage sustainable travel choices, including:
  - A region wide network of safe and connected cycling infrastructure; and
  - High quality walking infrastructure around key centres, interchanges and within Newcastle city centre

- Develop and support the implementation of travel demand management policies and tools to support behaviour change as well as support activities that generate demand at particular periods such as during events and holiday periods

- Develop Key Precinct Access Plans for various key destinations across Greater Newcastle to improve travel choices. Destinations include transport interchange hubs, Newcastle Airport, Newcastle Hospital, University of Newcastle, Hunter Sports and Entertainment Precinct and key retail centres

- Investigate the delivery of flexible transport services to increase accessibility across Greater Newcastle

- Address pinch points in the road network and inform the program of road network optimisation improvements.
Customer Outcome 8: Flexible transport services are an integral part of the transport system helping to deliver the most appropriate type of service for customer needs

Flexible transport in Greater Newcastle

A large proportion of Greater Newcastle is rural, semi-rural or has low population and employment densities. These areas are often have very poor levels of public transport accessibility. We also expect areas of Greater Newcastle to age significantly, increasing their reliance on public transport.

In the development of the public transport network hierarchy proposed in Customer Outcome 3, rural or semi-rural areas as well as areas with low population and employment densities are likely to have lower levels of public transport services and frequencies due to their distance to centres and lower level of demand.

We also anticipate that areas within Greater Newcastle will be home to a large percentage of older people, particularly out towards Nelson Bay and around Lake Macquarie. Older people are often reliant on friends and family or public transport, including community transport, to travel around.

The provision of flexible transport services is an option for these areas. Flexible transport services enable customers to book personalised transport services to access services like key bus stops and stations as well as health services and shopping precincts when they need it.

This means that no one is left out. That people across Greater Newcastle will be able to travel by public transport to the places they need and want to go without having to rely on using a private vehicle.
Figure 29: Public transport accessibility across Greater Newcastle, 2015
Figure 30: Location of population age groups across Greater Newcastle - majority age group in SA2, 2016 and 2056
Policy, service and infrastructure initiatives for investigation

We will:

- Investigate the delivery of flexible transport services to increase accessibility across Greater Newcastle.
Customer Outcome 9: Support the development of the Global Gateway Cities of Greater Newcastle and Canberra

Growing importance of Greater Newcastle as a Global Gateway City

The Draft Regional NSW Services and Infrastructure Plan recognises the role that Greater Newcastle will have over the next four decades as a Global Gateway City. This is due to its:

- Catchment of over 1 million people
- Access to international markets through the port and airport, strong health and education precincts, world class sporting facilities and economic development opportunities such as tourism, growth of specialised manufacturing and small-medium enterprises, defence facilities and a growing knowledge industry base;
- Urban renewal opportunities with transformative light rail and frequent public transport connections; and
- Its liveability, including opportunities for more sustainable travel behaviour.

Transport has an important part to play in supporting Greater Newcastle as a Global Gateway City to ensure its success and competitiveness into the future.

Connections to Greater Sydney

A key part of a successful Global Gateway City is its connections to other major cities. The demand for travel between Sydney and Greater Newcastle will continue to grow. With recent significant investment in road infrastructure on these corridors, alternate public transport links such as rail have significant room for improvement in journey times to become competitive with car and air travel.

Emerging technologies for land based long distance travel are rapidly evolving, however, tested and proven methods of transport remain some time off and the previously Federally investigated (2012) mode of high speed rail (HSR) was not deemed to be feasible until the 20+ year timeframe.

Whilst the operation of emerging technologies are likely to be some way off, investigations into corridor preservation based upon the most constrained design criteria (HSR) should be investigated.

In the short term, it is recommended that the rail corridor infrastructure investment programs (faster rail) to the south east (Illawarra), north (Newcastle/Central Coast) and south west (Canberra) be prioritised to allow the new intercity fleet (NIF) to operate to its operational capacity for the benefit of both passenger and freight flows with significant travel time savings. This investment will be required independently of the introduction of higher speed connections which would appeal to different rail travel markets (i.e. less or no stops and potentially higher fares).
Figure 31: AM peak trip volume by rail, 2016 and 2056
Policy, service and infrastructure initiatives for investigation

We will:

- Review opportunities for rail track upgrades or new infrastructure to support quicker travel times and more frequent timetabling between Sydney and Greater Newcastle, including new rail alignment of North Coast Line between Newcastle and Stroud Road – investigation corridor

- Investigate potential new servicing patterns and associated enabling infrastructure requirements with a focus on travel between Regional Cities and Centres to accompany new diesel fleet to enable better connections and day return opportunities for regional communities

- Corridor preservation for Higher Speed Connections

- Electrification of Hunter Line (Newcastle Interchange to Telarah)

- Address pinch points in the road network and inform the program of regional road network optimisation improvements. Examples of regional road improvements include:
  - Nelson Bay Road - Fern Bay to Williamtown
  - Tomago Road – Pacific Highway to Williamtown
  - M1 Pacific Motorway extension to Raymond Terrace
  - New England Highway improvements
  - Golden Highway improvements

- M1 – Newcastle SMART Motorway investigations. This is intelligent traffic technologies such as ramp metering, lane use signs, variable speed limit signs, additional traffic sensors and CCTV cameras to support quicker and safer journeys

- Support the efficient movement of freight through the region by ensuring freight connections along major highways, Newcastle port and airport meet the existing and future demand, including the protection and development of the Lower Hunter Freight corridor, improvements to the Main Northern Line to address freight pinch points and implementation of the Port Efficiency, Access and Integration Package.
Figure 32: Options for connecting Global Gateway Cities to Greater Sydney
Table of figures

Figure 1: Overview of Draft Future Transport 2056 ................................................................. 4
Figure 2: Greater Newcastle existing transport network schematic ........................................ 6
Figure 3: The transport customer outcomes for Regional NSW specifically explored within the Draft Greater Newcastle Future Transport Plan ................................................. 7
Figure 4: Initiatives to support the customer outcomes ........................................................ 9
Figure 5: Initiatives we plan to investigate in the Hunter region .......................................... 15
Figure 6: Greater Newcastle's strategic centres, urban renewal corridors and growth areas .......................................................... 20
Figure 7: Mode of travel in Greater Newcastle .......................................................... 21
Figure 8: Weekday trip purpose within Greater Newcastle by time of day ...................... 22
Figure 9: Percentage of trips made in Greater Newcastle, by distance ............................ 22
Figure 10: Daily trip demand within Greater Newcastle across local government areas, 2016-2056.......................................................... 23
Figure 11: Daily trip demand between strategic centres in Greater Newcastle, 2016 24
Figure 12: Hunter region AM road volumes, 2016.......................................................... 25
Figure 13: Daily Greater Newcastle bus tap on/off counts ................................................. 26
Figure 14: Daily Greater Newcastle train tap on/off counts ............................................ 27
Figure 15: Draft Greater Newcastle network hierarchy ....................................................... 29
Figure 16: Draft integrated transport network for Newcastle city centre ........................................ 30
Figure 17: Draft integrated transport network for Teralba – Maitland – Maitland East .......................................................... 31
Figure 18: City development cycle ........................................................................ 35
Figure 19: Six potential key priority multi modal transport corridors .................................. 36
Figure 20: Potential park and ride locations in Greater Newcastle ..................................... 38
Figure 21: Infrastructure costs and number of customers moved per hour ....................... 39
Figure 22: Transport and healthy lifestyles ...................................................................... 39
Figure 23: The Movement and Place framework ............................................................... 42
Figure 24: Example of the potential application of the Movement and Place framework in Newcastle city centre, 2016-2036 .......................................................... 43
Figure 25: Ways technology is likely to influence transport into the future ........................ 45
Figure 26: Greater Newcastle population density, 2016 and 2056 ..................................... 47
Figure 27: Population growth in top 10 areas (SA2s) in Greater Newcastle as well as density change, 2016-2056 .......................................................... 48
Figure 28: Newcastle city centre car and public transport 30 minute catchments, 2016-2056 48
Figure 29: Public transport accessibility across Greater Newcastle, 2015.................. 51
Figure 30: Location of population age groups across Greater Newcastle - majority
age group in SA2, 2016 and 2056 ................................................................. 52
Figure 31: AM peak trip volume by rail, 2016 and 2056 ........................................... 55
Figure 32: Options for connecting Global Gateway Cities to Greater Sydney.......... 57
## Glossary

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>30 Minute City</td>
<td>A planning concept for a city in which citizens can easily access the places they need to visit on a daily basis within 30 minutes travel from where they live.</td>
</tr>
<tr>
<td>Accessibility</td>
<td>The ability for everyone, regardless of disability or special needs, to use and benefit from the transport system.</td>
</tr>
<tr>
<td>Active transport</td>
<td>Transport that is human-powered, such as walking or cycling.</td>
</tr>
<tr>
<td>Active Transport (Walking and Cycling) Program</td>
<td>Programs to improve walking and cycling connections within major centres and at public transport interchanges.</td>
</tr>
<tr>
<td>Aerotropolis</td>
<td>A metropolitan subregion where the layout, infrastructure, and economy are centred on an airport which serves as a multimodal &quot;airport city&quot; commercial core. It is similar in form to a traditional metropolis, which contains a central city commercial core and commuter-linked suburbs. The area around Western Sydney Airport (WSA) is envisaged to perform this role.</td>
</tr>
<tr>
<td>Alternative fuels</td>
<td>Fuels derived from sources other than petroleum. Examples include ethanol, electricity, biodiesel and natural gas.</td>
</tr>
<tr>
<td>Amenity</td>
<td>The extent to which a place, experience or service is pleasant, attractive or comfortable. Improved features, facilities or services may contribute to increased amenity.</td>
</tr>
<tr>
<td>Arterial roads</td>
<td>Main roads that carry high volumes and generally form the main freight routes.</td>
</tr>
<tr>
<td>Assisted Mobility Devices</td>
<td>Forms of transport that facilitate individual personal transportation. Examples include powered wheelchairs, scooters, segways, bicycles and unicycles. Although many such devices are used by people with activity or mobility restrictions, mobility aids can be employed generally such as for transportation in place of private vehicles.</td>
</tr>
<tr>
<td>Automation</td>
<td>Use of control systems, such as computers, robots or artificial intelligence to undertake processes previously done by humans. Transport technology may be fully or partially automated, with the latter involving some form of human input to or manage the technology.</td>
</tr>
<tr>
<td>Better Use</td>
<td>Optimising existing and new infrastructure to extract the maximum sustainable capacity from the network. Examples include re-allocating road space to vehicles that can carry more people in the same amount of space.</td>
</tr>
<tr>
<td>Bridges for the Bush Program</td>
<td>NSW Government investment in critical infrastructure to remove significant freight pinch points or bottlenecks on the state road network and to improve the safety and reliability of some old bridge structures.</td>
</tr>
<tr>
<td>Bus Headstart</td>
<td>New bus routes implemented in new growth areas.</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
</tr>
<tr>
<td>----------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Catchment</td>
<td>The area from which a location or service attracts people.</td>
</tr>
<tr>
<td>Central River City</td>
<td>One of the three cities of the Greater Sydney metropolis, anchored by Greater Parramatta in the Central City District.</td>
</tr>
<tr>
<td>Child Restraint Evaluation Program</td>
<td>Program to provide child restraint ratings to help inform parents about safety of child restraints prior to purchase.</td>
</tr>
<tr>
<td>Coastal geography</td>
<td>The area broadly represented as between the Great Dividing Range and the NSW coastline. It excludes Greater Sydney and the Outer Metropolitan area.</td>
</tr>
<tr>
<td>Committed initiatives (0-10 years)</td>
<td>Initiatives funded for construction or contractually committed as part of key maintenance, renewal or safety programs. Some are subject to final business cases.</td>
</tr>
<tr>
<td>Commuter car parks (CCPs)</td>
<td>A car park near an interchange where customers can leave their car and connect to a transport service such as a ferry, train or bus.</td>
</tr>
<tr>
<td>Congestion</td>
<td>When demand for a part of the transport network during a particular time nears its capacity, resulting in lower average speed, increased delay and unreliable journeys.</td>
</tr>
<tr>
<td>Connected and Autonomous Vehicles (CAVs)</td>
<td>A motor vehicle such as a car, truck or bus that uses technology to share data wirelessly with other vehicles, infrastructure, transport management systems and mobile devices (connected) and has one or more of the primary driving controls (steering, acceleration, braking) that are automated for a sustained period of time (automated). Levels of automation range from automated applications that assist the human driver with the driving task, through to fully and highly automated vehicles that can drive themselves.</td>
</tr>
<tr>
<td>Conurbation</td>
<td>The merging of separate cities generally through population growth and physical expansion to form an extended urban area.</td>
</tr>
<tr>
<td>Corridor</td>
<td>A broad, linear geographic area between centres or trip generators.</td>
</tr>
<tr>
<td>Customer</td>
<td>Everyone who uses transport services or infrastructure is a customer of the NSW transport system. Whenever a person drives, travels by train, bus or light rail, or walks or cycles they become a customer of the transport system. Our customers also use our transport networks for business purposes, to deliver goods and services, and to move freight across the State and beyond.</td>
</tr>
<tr>
<td>Customer outcomes</td>
<td>What customers can expect from the transport system.</td>
</tr>
<tr>
<td>Demand-responsive (or on-demand)</td>
<td>Transport services that are run based on the demands of individual customers, rather than a fixed timetable or route.</td>
</tr>
<tr>
<td>Disability Discrimination Act (1992)</td>
<td>A Commonwealth Act that makes it unlawful to discriminate against a person, in many areas of public life, including: employment, education, getting or using services, renting or buying</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>a house or unit, and accessing public places, because of their disability.</td>
<td></td>
</tr>
<tr>
<td>Driver Licensing Access Program</td>
<td>Program that helps remove the barriers that prevent disadvantaged Aboriginal people and other disadvantaged communities in NSW from entering the licensing system.</td>
</tr>
<tr>
<td>Drones</td>
<td>An unmanned aerial vehicle (UAV) which may be remotely controlled or can fly autonomously.</td>
</tr>
<tr>
<td>Eastern Harbour City</td>
<td>One of the three cities of the Greater Sydney metropolis, spanning the North, Eastern City and South Districts, anchored by the Harbour CBD.</td>
</tr>
<tr>
<td>Enhanced Enforcement Program</td>
<td>Partnership with the NSW Police Force, including the expansion of Mobile Drug Testing.</td>
</tr>
<tr>
<td>First mile / last mile</td>
<td>A term applied to the first and final stage of a journey in which people or goods travel to a broad range of origins or destinations. An example of a last mile journey is the trip made between a train station and the final destination of a shopping centre or place of work.</td>
</tr>
<tr>
<td>Fixing Country Rail</td>
<td>NSW Government program that provides targeted funding for rail infrastructure enhancement projects that eliminate connectivity constraints on the NSW regional rail network.</td>
</tr>
<tr>
<td>Fixing Country Roads</td>
<td>NSW Government program that provides targeted funding to local councils to repair and upgrade Regional NSW roads.</td>
</tr>
<tr>
<td>Fleet</td>
<td>The collective vehicles of a transport company or service.</td>
</tr>
<tr>
<td>Flexible transport</td>
<td>The same definition as demand-responsive transport.</td>
</tr>
<tr>
<td>Freight</td>
<td>Goods or cargo transported by truck, rail, aircraft or ship.</td>
</tr>
<tr>
<td>Geographies</td>
<td>Used in the Draft Regional NSW Services and Infrastructure Plan to differentiate between the different areas of NSW. The geographies have different population densities and growth rates, which influences how transport is provided and transport networks are structured. They include the Remote, Inland, Coastal and Outer Metropolitan geographies.</td>
</tr>
<tr>
<td>Global city</td>
<td>Cities that service and support the complex and specialised economic activities of global markets.</td>
</tr>
<tr>
<td>Global gateway</td>
<td>Cities that provide state level services and facilities to support a broad population catchment while also having international connections through their airport and/or port. Canberra, Greater Sydney and Greater Newcastle are examples of global gateway cities.</td>
</tr>
<tr>
<td>Greater Newcastle</td>
<td>The area encompassed by the five local government areas of Cessnock, Lake Macquarie, Maitland, Newcastle and Port Stephens.</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
</tr>
<tr>
<td>------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Greater Parramatta</td>
<td>The central business district of Parramatta includes Parramatta City, and the precincts of Westmead, Parramatta North, Rydalmere and Camellia.</td>
</tr>
<tr>
<td>GPOP</td>
<td>The Greater Parramatta and the Olympic Peninsula - a 4,000-hectare area in Greater Sydney. It spans 13 km east–west from Strathfield to Westmead, and 7 km north–south from Carlingford to Lidcombe and Granville. GPOP is the geographic and demographic centre of Greater Sydney.</td>
</tr>
<tr>
<td>Greater Sydney</td>
<td>The 33 local government areas of Bayside, Blacktown, Blue Mountains, Burwood, Camden, Campbelltown, Canada Bay, Canterbury-Bankstown, 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, The City of Sydney, The Hills, Waverley, Willoughby, Wollondilly and Woollahra.</td>
</tr>
<tr>
<td>Greater Sydney Commission (GSC)</td>
<td>An independent organisation funded by the NSW Government, responsible for coordinating and aligning the planning that will shape the future of Greater Sydney.</td>
</tr>
<tr>
<td>Greater Wollongong</td>
<td>The area encompassed by the two local government areas of Wollongong and Shellharbour.</td>
</tr>
<tr>
<td>‘Green On Green’ Pedestrian Protection Program</td>
<td>Program to better-protect pedestrians from turning vehicles at intersections by installing new traffic light infrastructure and changing the timing of lights to give pedestrians their own green light or more time to cross before traffic starts turning.</td>
</tr>
<tr>
<td>Hub and spoke</td>
<td>A transport network model that provides connections (spokes) to and from key centres (hubs). The spokes link to different hubs across an area, rather than focussing on one key hub.</td>
</tr>
<tr>
<td>Infrastructure NSW (iNSW)</td>
<td>An Independent statutory agency responsible for assisting the NSW Government with identifying and prioritising the delivery of critical public infrastructure for NSW.</td>
</tr>
<tr>
<td>Initiatives for investigation (0-10 years, 10-20 years)</td>
<td>Initiatives intended to be investigated for potential commitment or implementation within the next 20 years. Those listed in the 0-10 year horizon will be prioritised for more detailed investigation to determine if they are required in the next decade. They are prioritised based on their expected benefits or strategic importance. Initiatives proposed for investigation are unconstrained by affordability and will be subject to strategic business cases that consider a range of possible solutions.</td>
</tr>
<tr>
<td>Inland geography</td>
<td>The area broadly represented as between the Great Dividing Range and the Remote geography in NSW.</td>
</tr>
<tr>
<td>Inland rail</td>
<td>A proposed 1,700km freight rail link between Melbourne and Brisbane via regional Victoria, New South Wales and Queensland.</td>
</tr>
<tr>
<td>Intelligent Transport System (ITS)</td>
<td>Refers to embedding sensors and communication devices into transport infrastructure (e.g. roads, bridges, rail lines, trains, etc.).</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Term</td>
<td><strong>buses) that allows them to take measurements and provide information about usage, congestion, asset wear and tear, and possible maintenance issues.</strong></td>
</tr>
<tr>
<td>Interchange</td>
<td>A facility to transfer from one mode of transport, or one transport service, to another. For example, major rail station, bus facility or park and ride.</td>
</tr>
<tr>
<td>Intermediate transit</td>
<td>Intermediate transit includes buses, ferries, light rail and point-to-point transport such as taxis and rideshare. It has a key role in providing access for customers to mass transit and serving customers on corridors where mass transit is not available.</td>
</tr>
<tr>
<td>Intermodal terminal</td>
<td>An intermodal terminal is an area of land used to transfer freight between at least two modes of transport. It is typically used to describe the transfer of international shipping containers from road to rail and vice versa.</td>
</tr>
<tr>
<td>Intersection Safety Infrastructure Program</td>
<td>Investment to accelerate treatment of high risk intersections.</td>
</tr>
<tr>
<td>Journey</td>
<td>For the purposes of this document, the term journey refers to the door-to-door movements of a customer through the transport system. A journey may include several sections, or legs, and may use more than one mode of transport.</td>
</tr>
<tr>
<td>Land use planning</td>
<td>The scientific, aesthetic, and orderly disposition of land, resources, facilities and services with a view to securing the physical, economic and social efficiency, health and well-being of urban and rural communities.</td>
</tr>
<tr>
<td>Landside access</td>
<td>Ability for people to travel to and from airport infrastructure.</td>
</tr>
<tr>
<td>Last Mile Productivity Program</td>
<td>Package of works that will focus on improving first and last mile connectivity and efficiency for the freight network.</td>
</tr>
<tr>
<td>Level Crossing Improvement Program</td>
<td>Funding for level crossing upgrades and initiatives to support safety awareness and police enforcement campaigns.</td>
</tr>
<tr>
<td>Light rail</td>
<td>An urban railway transportation system using vehicles that are capable of sharing streets with vehicular traffic and pedestrians, but may also be operating on an exclusive right-of-way such as a segregated rail corridor, tunnel or elevated structure.</td>
</tr>
<tr>
<td>Liveability</td>
<td>The term ‘liveability’ is used in land use planning to focus on the people who live in an area, the places they spend time in, their health and quality of life as well as overall community wellbeing.</td>
</tr>
<tr>
<td>Local Government Road Safety Program</td>
<td>A partnership between Transport for NSW, Roads and Maritime Services and partnering local councils of NSW to provide information and assistance on safe road use to all road users.</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Mandatory Alcohol Interlock Program</td>
<td>Program to ensure drivers convicted of serious and repeat drink driving offences are restricted to driving vehicles with alcohol interlock devices for a period of time when they return to driving.</td>
</tr>
<tr>
<td>Maritime Safety Program</td>
<td>Delivery of the NSW Regional Boating Plans.</td>
</tr>
<tr>
<td>Mass transit</td>
<td>The transportation of large numbers of people by means of high capacity vehicles, especially within urban areas.</td>
</tr>
<tr>
<td>Metro</td>
<td>An urban railway transportation that is associated with high capacity, high frequencies (typically turn-up-and-go, rather than timetabled) and greater automation.</td>
</tr>
<tr>
<td>Metropolitan Centre</td>
<td>The central social and economic hubs of Greater Sydney's three cities, namely the Harbour CBD in the Eastern Harbour City, Greater Parramatta in the Central River City and an emerging Western Sydney Airport-Badgerys Creek Aerotropolis in the Western Parkland City.</td>
</tr>
<tr>
<td>Mobility</td>
<td>The ability to move or be moved easily and without constraint.</td>
</tr>
<tr>
<td>Mobility as a Service (MaaS)</td>
<td>A business model for customers to access transport services in which customers can use a single account and booking interface to access a broad range of transport modes, none of which the customer owns. Examples would be allowing a customer to access public transport, car sharing and bike sharing all using the same system.</td>
</tr>
<tr>
<td>Mode</td>
<td>The type of vehicle or method used for a trip. For example, train, bus, light rail, car, motorbike, bicycle, ferry or walking.</td>
</tr>
<tr>
<td>Mode Share</td>
<td>The proportion of overall trips that are taken on a particular mode.</td>
</tr>
<tr>
<td>Movement</td>
<td>The movement of people and goods on the transport network.</td>
</tr>
</tbody>
</table>
| Movement and Place Framework              | A suite of technical documents that provides the framework for road planning based on a ‘one road network’ approach, consisting of roads and streets that have supporting functions and considers:  
  • movement needs of all our customers and the modes they use to travel  
  • places where our customers are starting and finishing their journeys.                                                                                 |
<p>| Net zero                                  | The NSW Government has committed to an aspirational objective of achieving net-zero emissions by 2050. Net-zero emissions means NSW emissions will be balanced by carbon storage. The more emissions are reduced, the less sequestration is needed to achieve net-zero. |
| New Intercity Fleet                       | A new fleet of long distance, intercity trains from Sydney to the Central Coast, Newcastle, the Blue Mountains and the South Coast.                                                                           |</p>
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>NSW Long Term Transport Master Plan</td>
<td>NSW’s first integrated transport plan, which brought together planning for freight and passenger movements across all modes of transport. Future Transport builds upon the 2012 Long Term Transport Master Plan and the commitments it has delivered.</td>
</tr>
<tr>
<td>NSW Transport Cluster</td>
<td>A group of agencies consisting of Transport for NSW, the operating agencies of Roads and Maritime Services, Sydney Trains, NSW Trains, and the State Transit Authority, the state’s private transport operators, a number of project delivery offices for major transport projects, and the Port Authority of NSW.</td>
</tr>
<tr>
<td>Our Sydney 2056: Greater Sydney Commission’s Regional Plan</td>
<td>Greater Sydney Commission’s long-term land use plan for Greater Sydney to sustain and enhance the city’s productivity, liveability and sustainability.</td>
</tr>
<tr>
<td>Outer Metropolitan Area / geography</td>
<td>An area encompassing the local government areas of Shellharbour, Wollongong, Central Coast, Lake Macquarie, Cessnock, Maitland, Newcastle and Port Stephens.</td>
</tr>
<tr>
<td>Outer Metro Roads Program</td>
<td>Program to identify improvements needed for the road networks within the Outer Metropolitan Area.</td>
</tr>
<tr>
<td>Patronage</td>
<td>Number of customers using a transport service during a particular period.</td>
</tr>
<tr>
<td>Peak travel</td>
<td>Refers to travel taken during the periods of 6am-9am or 3pm-6pm on weekdays, excluding public holidays.</td>
</tr>
<tr>
<td>Pedestrian Safe Sydney Program</td>
<td>Package of road safety infrastructure measures to improve safety at key high risk pedestrian hot spots.</td>
</tr>
<tr>
<td>Personalised transport</td>
<td>An umbrella term used in this document to refer to a world in which technology is used to make transport services and the overall transport network responsive to the needs of customers. These customers may be individuals or companies, and they may be accessing the transport network as public transport users, road users, pedestrians, or for the movement of goods. Personalised transport means understanding the specific needs of each customer, and adapting the transport network and services it provides to suit those needs.</td>
</tr>
<tr>
<td>Place</td>
<td>Destinations in their own right where activities occur, supported by the adjacent land use. These places attract non-motorised customers (typically pedestrians) for a range of activities and may include shopping streets, transport interchanges and employment centres which play an important role in the economy.</td>
</tr>
<tr>
<td>Place-based</td>
<td>Thinking and decisions that respond and consider the different characteristics of places.</td>
</tr>
<tr>
<td>Place-making</td>
<td>Successful place-making either preserves or enhances the character of our public spaces, making them more accessible, attractive, comfortable and safe.</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Point-to-point</td>
<td>Transport services that go directly from a passenger’s origin to their destination. Outside of the private car, taxis and ridesharing services (Uber, Lyft) are the most common point-to-point transport modes.</td>
</tr>
<tr>
<td>Port Efficiency, Access and Integration Package</td>
<td>Road and rail projects to improve port access, efficiency and integration.</td>
</tr>
<tr>
<td>Precinct</td>
<td>A geographical area with boundaries determined by land use. For example, an area where there is an agglomeration of warehouses may be termed a freight precinct.</td>
</tr>
<tr>
<td>Precinct Plan</td>
<td>Plan to deliver improved access to/from/within key precincts by all modes.</td>
</tr>
<tr>
<td>Private Vehicles</td>
<td>Passenger vehicles, motorcycles and trucks, owned and operated by those with a driving license and appropriate registration.</td>
</tr>
<tr>
<td>Rail Network Optimisation Program</td>
<td>Program that aims to improve efficiency in rail services.</td>
</tr>
<tr>
<td>Rapid bus package</td>
<td>Implementation of programs to prioritise access for buses over private vehicles.</td>
</tr>
<tr>
<td>Real-time information</td>
<td>Generally applied to either data or analytics in this document. Real time data is information about the status of the transport network and services that are completely live or have a lag of less than a minute or two. Real time analytics refers to analysis that is performed on real time data (generally automatically and without input from a human analyst) and is then used to make decisions or take action immediately.</td>
</tr>
<tr>
<td>Regional Airports Program</td>
<td>Landslide access improvements to increase the efficiency, accessibility, competition, commercial viability and sustainability of regional aviation in NSW.</td>
</tr>
<tr>
<td>Regional Centre In Town Access Improvement Program</td>
<td>Program to improve in town access and amenity in regional cities and centres.</td>
</tr>
<tr>
<td>Regional Interchange Program</td>
<td>Upgrades of major interchanges to encourage public transport use by providing accessible, easy to use, safe and secure interchanges between modes.</td>
</tr>
<tr>
<td>Regional NSW</td>
<td>The area of NSW outside Greater Sydney. It includes the nine regions of Central Coast, Hunter, North Coast, New England North West, Central West and Orana, Far West, Riverina Murray, South East and Tablelands and Illawarra-Shoalhaven.</td>
</tr>
<tr>
<td>Regional Parking Guidelines</td>
<td>Development of a strategy for the delivery of parking in Regional NSW.</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Regional Rail Fleet Program</td>
<td>Program to deliver a new regional rail fleet, including the replacement of the XPT, XPLORER and Endeavour trains.</td>
</tr>
<tr>
<td>Regional Transport Hubs</td>
<td>Regional cities that will perform a hub focus for transport into the future.</td>
</tr>
<tr>
<td>Remote geography</td>
<td>The area broadly represented as west of Dubbo and Griffith in NSW.</td>
</tr>
<tr>
<td>Resilience</td>
<td>The ability of infrastructure systems and services to withstand unexpected climate, weather and catastrophic events.</td>
</tr>
<tr>
<td>Resilience Package</td>
<td>Program to support immunity for flood prone regional roads.</td>
</tr>
<tr>
<td>Ridesharing</td>
<td>Business models similar to Uber and Lyft within which private citizens provide point-to-point transport services to other citizens.</td>
</tr>
<tr>
<td>Road hierarchy</td>
<td>A framework for categorising roads by function. Consistent with the Movement and Place Framework, the hierarchy consists of Motorways, Movement Corridors, Living Streets, Local Streets and Places for People. Each type of road has a different movement and place function.</td>
</tr>
<tr>
<td>Road Safety Communication Campaign Annual Program</td>
<td>Delivery of integrated suite of road safety communication campaigns across NSW to address a range of road safety issues including speeding, drink driving, drug driving, fatigue and illegal mobile phone use.</td>
</tr>
<tr>
<td>Road Safety School Education Program</td>
<td>Program to deliver mandatory road safety education in schools across NSW.</td>
</tr>
<tr>
<td>Roads and Maritime Services (RMS)</td>
<td>Agency of the New South Wales Government responsible for building and maintaining road infrastructure and managing the day-to-day compliance and safety for roads and waterways.</td>
</tr>
<tr>
<td>Rolling Stock</td>
<td>Refers to all vehicles that move on rail, including passenger carriages, powered (locomotives) and unpowered (wagons) rail vehicles.</td>
</tr>
<tr>
<td>Safer Drivers Course</td>
<td>Program to help drivers on their L-plates prepare for driving solo when they graduate to provisional licences by teaching them how to manage road risks.</td>
</tr>
<tr>
<td>Safer Roads Infrastructure Program</td>
<td>Program of road safety infrastructure projects to address key crash types across NSW.</td>
</tr>
<tr>
<td>Safe System Guidelines Framework</td>
<td>Development and implementation of a framework to identify safety measures known to reduce road trauma and based on Safe System design principles.</td>
</tr>
<tr>
<td>Satellite city</td>
<td>The cities that will form part of the conurbation of Greater Sydney.</td>
</tr>
<tr>
<td>Sealing Country Roads Program</td>
<td>Program of works to progressively seal unsealed roads in Regional NSW.</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
</tr>
<tr>
<td>------</td>
<td>------------</td>
</tr>
<tr>
<td>Self-Drive Car Share Accessibility Package</td>
<td>Provide support for development of car share across Regional NSW.</td>
</tr>
<tr>
<td>Service (or transport service)</td>
<td>Service in this document refers to transport services, generally public transport services. Examples include trains, buses, light rail and ferries. Services might also include shuttle buses and a range of privately operated but publicly accessible transport types.</td>
</tr>
<tr>
<td>Slopes and Culverts Condition Program</td>
<td>Program of works to progressively improve the conditions of slopes and culverts in the transport network.</td>
</tr>
<tr>
<td>Slots</td>
<td>The right granted by an airport that allows an aircraft to land or depart during a specific time period.</td>
</tr>
<tr>
<td>Smart Motorway</td>
<td>Motorways that use embedded sensors, analytics and customer feedback tools to actively manage congestion and safety and respond to traffic incidents.</td>
</tr>
<tr>
<td>State Infrastructure Strategy</td>
<td>The State Infrastructure Strategy was developed by Infrastructure NSW to provide the NSW Government with independent advice on the infrastructure needs of the State over the next 20 years.</td>
</tr>
<tr>
<td>Sydney City</td>
<td>Located within the Eastern City, includes the contiguous areas of Sydney CBD, Barangaroo, Darling Harbour, Pyrmont, The Bays Precinct, Camperdown-Ulmo Health and Education, Central to Eveleigh, Surry Hills and Sydney East.</td>
</tr>
<tr>
<td>Three cities</td>
<td>The three cities envisaged by the Greater Sydney Commission are the established Eastern Harbour City, the developing Central River City and emerging Western Parkland City in and around the new airport. Each of these three cities will have their own unique identity and each must be planned to maximise liveability, productivity and sustainability.</td>
</tr>
<tr>
<td>Trade Gateway</td>
<td>Trade gateways are locations with major ports or airports, and their surrounding precincts. They perform an essential and ongoing role to connect Sydney with locations across Australia and the world. Transport gateways are vital to Sydney’s prosperity and often support large concentrations of complementary business activity and employment.</td>
</tr>
<tr>
<td>Train</td>
<td>A mode of transport that carries people or goods on dedicated rail corridors. It may refer to suburban trains or metro-style trains.</td>
</tr>
<tr>
<td>Transport disadvantage</td>
<td>Where access to transport is unequally distributed, low income earners, the elderly and the unemployed can be disadvantaged with increased social isolation and reduced opportunities for employment, recreational and social activities.</td>
</tr>
<tr>
<td>Transport for NSW (TfNSW)</td>
<td>The statutory authority of the New South Wales Government, responsible for managing transport services in New South Wales.</td>
</tr>
<tr>
<td>Transport hub</td>
<td>Typically a public transport interchange, major bus stop or major train station. In terms of freight, typically a freight rail yard, intermodal terminal, seaport or truck terminal. Major airports are also considered transport hubs.</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Transport Taxi Subsidy Scheme (TTSS)</td>
<td>Support for NSW residents who are unable to use public transport because of a disability.</td>
</tr>
<tr>
<td>Trauma</td>
<td>Physical or mental injuries which require medical attention.</td>
</tr>
<tr>
<td>Travel Choices</td>
<td>A Transport for NSW behavioural change initiative to help manage demand on the transport network in response to capacity constraints or disruption. It involves helping individuals and organisations prepare for and adapt to changes on the transport network, underpinned by the 4 Rs: Remode, Retime, Reroute and Reduce.</td>
</tr>
<tr>
<td>Turn-up-and-go</td>
<td>Services with frequency equal to or under 5 minutes, requiring little to no travel planning.</td>
</tr>
<tr>
<td>Urban Renewal</td>
<td>A planned approach to the improvement and rehabilitation of city areas with new infrastructure, improved services and renovation or reconstruction of housing and public works.</td>
</tr>
<tr>
<td>Visionary initiatives (20+ years)</td>
<td>Longer term initiatives that may be investigated within the next 10 years, but on preliminary evidence are unlikely to require implementation within 20 years. Initiatives planned for investigation in the 20+ years as the funding or benefits may be too uncertain at this stage. Initiatives proposed for investigation are unconstrained by affordability and will be subject to strategic business cases that consider a range of possible solutions.</td>
</tr>
<tr>
<td>Western Parkland City</td>
<td>The metropolis of three cities includes the emerging Western Parkland City focused on the proposed Western Sydney Airport. The Western Parkland City will encompass the West and South West Districts and include the strategic centres of Penrith, Liverpool, Campbelltown-Macarthur and Blacktown (also associated with Central River City).</td>
</tr>
<tr>
<td>Western Sydney Airport (WSA)</td>
<td>The designated name for the second Sydney airport, located within the suburb of Badgerys Creek.</td>
</tr>
<tr>
<td>Whole-of-government</td>
<td>Working in partnership with all government stakeholders including the different state government agencies and local government councils.</td>
</tr>
</tbody>
</table>
Connecting Newcastle

2017 update: An expanded light rail network

Image: Supplied by Transport for NSW
An integrated transport network is the cornerstone of a thriving global city. Newcastle deserves a network where buses, trains, cars and light rail co-exist with pedestrians, cyclists and other modes of self-powered transport.

Through our Connecting Newcastle vision for Greater Newcastle, we are demonstrating how connectivity and an increased mix of transport modes will shape urban renewal and improve liveability across our region.

As Lord Mayor, I’ve been a key advocate of ensuring we get the best outcomes for our city. Council’s original Connecting Newcastle vision incorporated our feedback on the initial delivery of light rail in the city centre, such as advocating for removal of the raised platform and overhead wires and ensuring the delivery of light rail did not compromise urban renewal of Hunter Street and transport efficiencies.

While not all of Council’s position has been adopted in the NSW Government’s decisions, I maintain my personal commitment to ensuring that we work in partnership to achieve the best possible outcome for Newcastle.

Delivering a plan to expand the network is the essential next step, as viable transport corridors are otherwise likely to be lost to development in the city and to the west.

Newcastle City Council wants the expanded corridors to augment the initial Wickham to east end route, by including these Greater Newcastle destinations:
• Broadmeadow
• McDonald Jones Stadium
• Adamstown
• Mayfield
• John Hunter Hospital
• University of Newcastle
• Glendale
• Bathers Way
• Newcastle Airport

We propose leading a working party to deliver on this vision with relevant state agencies including the Hunter Development Corporation, Department of Planning and Environment, UrbanGrowth NSW, Roads and Maritime Services, Transport for NSW, Keolis Downer and the Newcastle and Hunter communities.

Pedestrians, cyclists, skateboarders and scooters are also part of a more sustainable transport system. Delivering an expanded light rail network complemented by more options for pedestrians and cyclists is an ambitious vision.

But we can achieve it if the agencies charged with delivering hundreds of millions of dollars’ worth of revitalisation projects come together to create a smart, liveable and sustainable city.

Nuatali Nelmes
Lord Mayor of Newcastle
July 2017
Delivery of the 2.7km Newcastle light rail system is the starting point of a broader network connecting the Greater Newcastle region. Council believes this should be the first step towards creating an expanded and integrated light rail network linking the city centre with suburban hubs and key infrastructure. Park and ride, and end of trip facilities should be incorporated into each node, to better deliver this integrated transport solutions.

This will provide a fast, efficient and affordable public transport alternative carrying commuters to high-demand destinations, including the John Hunter Hospital, the University of Newcastle and McDonald Jones Stadium.

It will also link directly with other modes of transport: trains, roads, walking routes and cycleways, including the scenic 15km Fernleigh Track.

This will create a truly connected city for all.
A network that works

A. BROADMEADOW
- Straightforward delivery due to existing road infrastructure
- Improved access to sports and entertainment precinct
- Direct link with intercity and interstate trains at Broadmeadow station

B. MCDONALD JONES STADIUM
- Link with trains for door-to-door delivery of visitors to major stadium events
- Improves Newcastle’s standing as a major event destination
- More than 330,000 visitors annually to sports fixtures and events

C. ADAMSTOWN
- Potential for in-fill development and urban renewal on Brunker Road corridor
- Services a significant proportion of workers based in the city

D. MAYFIELD
- Direct access to Tighes Hill TAFE
- More than 22,000 students and 760 staff to TAFE campus
- Supports Maitland Road urban renewal
- Potential for in-fill development

E. JOHN HUNTER HOSPITAL
- Improved access for hospital staff, students and visitors
- 78,000 patients and 370,000 outpatient clinic attendees
- 2,700 staff attending
- Reduced traffic and parking pressure throughout precinct

F. UNIVERSITY OF NEWCASTLE CALLAGHAN CAMPUS
- Connects Callaghan campus with NeWSpace CBD campus
- 26,600 students and 1,700 staff to campuses
- Provides easy, cost-effective and safe transport for students and staff
- Reduces reliance on cars and CBD parking
Our goals for a revitalised Newcastle include:

**POSITIONING NEWCASTLE AS A GLOBAL CITY**
Driving a vision for Newcastle to become a global city and second gateway to NSW, encompassing port, defence, university, airport and health hubs.

**REVITALISING THE CITY CENTRE**
Transforming the urban environment to bring people back to the CBD and stimulate jobs growth. Improving public spaces such as parks and entertainment precincts.

**CREATING A SMART CITY**
Making the CBD and suburbs open, collaborative and connected, where technology makes things easier and more sustainable for everyone.

**INTEGRATED PUBLIC TRANSPORT**
Establishing a Hunter Transport Authority that connects trains, light rail, bus, ferry, park and ride, cycle and pedestrian transport into one cohesive network.

**EXPANDING LIGHT RAIL**
Creating an extended light rail network that connects the CBD and other key destinations throughout the LGA and beyond.

Guiding strategies and plans

The need for better, more efficient public transport servicing key infrastructure and population hubs throughout Newcastle has been a long-term issue outlined by Council and other government agencies. Urban renewal strategies, transport strategies and Council’s overarching Newcastle 2030 Community Strategic Plan all highlight the importance of establishing a more connected city less reliant on motor cars.
In September 2015, Newcastle City Council called for:

- Any light rail project for Newcastle to connect the inner city with the University of Newcastle, John Hunter Hospital, Hunter Stadium, Newcastle Airport, the Glendale transport interchange and the city’s beaches.
- Light rail to be integrated with car parking, cycleways, footpaths, bus and trains networks.
- Collaboration with Transport for NSW to establish an integrated transport management plan, including forward planning of the next stage of any light rail project, with community consultation on the proposed routes.

In June 2017, Council resolved to:

- Update the Connecting Newcastle document.
- Lead the formation of a working party to deliver an expanded light rail network with relevant state agencies, Keolis Downer and the community.

In March 2016, Council endorsed the Connecting Newcastle: Our Urban Renewal Vision which consolidated previous strategies, reports and plans into a single document. Council also advocated for improved delivery of the network, including separated running, park and ride facilities, connected cycleway, removal of raised platforms and overhead wires.

In 2013, the NSW Government announced that its Newcastle Urban Renewal Strategy would include the Newcastle Light Rail Project.
“The most frequent thing I get about the light rail is: ‘Can you expand it? We want to see it go further,’ and that’s certainly what we are looking at.”

NSW Premier Gladys Berejiklian
Newcastle, July 2017

“It’s important to preserve future light rail corridors now to avoid increased costs in future.”

NSW Opposition Leader, Luke Foley
Newcastle, July 2017