

Integrated Transport Strategy

Technical Report

80019026



Prepared for
Inner West Council

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Acronyms and terms

A list of acronyms and terms used in this report is listed as follows:

Term	Description
ABS	Australian Bureau of Statistics
BRT	Bus Rapid Transit
CBD	Central Business District
CSP	Community Strategic Plan
DCP	Development control plan
DDA	Disability discrimination act
DPE	Department of Planning and Environment
DSPAT	Disability Standards for Accessible Public Transport
ECDP	Eastern City District Plan
EV	Electric Vehicle
FT56	Future Transport 2056
GIS	Global Information System
GMA	(Sydney) Greater Metropolitan Area
GPS	Global Positioning System
GSC	Greater Sydney Commission
HTS	Household Travel Survey
ITS	this / the Integrated Transport Strategy
IWC	Inner West Council, the government organisation
JTW	Journey to Work
kph	kilometres per hour
LEP	Local Environment Plan
LGA	Local Government Area, the physical geography
LSPS	Local strategic planning statement
M3C	A Metropolis of Three Cities
MaaS	Mobility as a Service
PAMP	Pedestrian Accessibility and Mobility Plan
the Inner West	the LGA / Inner West area / study area / strategy area
TPA	Transport Performance and Analytics

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1 Introduction

1.1 The strategic context

This Integrated Transport Strategy (ITS) presents a significant opportunity to identify, review and build on the three former Councils' transport needs, opportunities and projects from past plans and studies. It should align with broader NSW Government land use plans and transport strategies, identifying how these may benefit the locality and identifying where mitigations to manage local impacts may be required.

Relevant State and Local Government land use plans and transport strategies that helped to help to guide the ITS vision, principles, and initiatives.

1.1.1 Community Strategic Plan

The Council Strategic Plan (CSP) was produced by Council with active community input to identify a vision of how the Inner West Council might best evolve to satisfy community needs over the next two decades. The plan implementation will involve collaboration with key stakeholders and Council has committed to reporting back to the community every four years on progress.

This Integrated Transport Strategy can help to give effect to the CSP. Relevant strategic directions, outcomes, strategies and indicators are reproduced in **Table 1-1**.

Table 1-1 Community Strategic Plan, strategic directions, outcomes and strategies the Integrated Transport Strategy can help give effect to

Strategic directions	No.	Outcome	Strategies	Indicators
1: An ecologically sustainable Inner West.	1.1	The people and infrastructure of Inner West contribute positively to the environment and tackling climate change.	Provide the support needed for people to live sustainably. Develop planning controls to protect and support a sustainable environment. Provide green infrastructure that supports increased ecosystem services.	Residential energy consumption.
	1.4	Inner West is a zero emissions community that generates and owns clean energy.	Develop a transport network that runs on clean renewable energy.	
	1.5	Inner West is a zero waste community with an active share economy.	Support people to avoid waste, and reuse, repair, recycle and share.	
2: Unique, liveable, networked neighbourhoods.	2.1	Development is designed for sustainability and makes life better.	Identify and pursue innovative and creative solutions to complex urban planning and transport issues. Develop planning controls that protect and support a sustainable environment and contribute to a zero emissions and zero waste community.	Community satisfaction with managing development in the area. Community satisfaction with long-term planning for Council area. Satisfaction with safety of public spaces. Satisfaction with access to public transport.
	2.3	Public spaces are high-quality, welcoming and enjoyable places, seamlessly connected with their surroundings.	Plan and deliver public spaces that fulfil and support diverse community needs and life Ensure private spaces and developments contribute positively to their surrounding public spaces Advocate for and develop planning controls that retain and protect existing public and open spaces	

Strategic directions	No.	Outcome	Strategies	Indicators
	2.5	Public transport is reliable, accessible, connected and enjoyable.	Advocate for improved public transport services to, through and around Inner West. Advocate for, and provide, transport infrastructure that aligns to population growth.	People who travel to work by public transport. Satisfaction with Cycleways. Satisfaction with maintaining footpaths. Community satisfaction with management of parking.
	2.6	People are walking, cycling and moving around Inner West with ease.	Deliver integrated networks and infrastructure for transport and active travel. Pursue innovation in planning and providing new transport options Ensure transport infrastructure is safe, connected and well maintained	
3: Creative communities and a strong economy.	3.3	The local economy is thriving.	Strengthen economic viability and connections beyond Inner West Promote Inner West as a great place to live, work, visit and invest in.	Satisfaction with Council support of local jobs and businesses.
	3.5	Urban hubs and main streets are distinct and enjoyable places to shop, eat, socialise and be entertained.	Pursue a high standard of planning, urban design and development that supports urban centres.	
4: Caring, happy, healthy communities.	4.1	Everyone feels welcome and connected to the community.	Foster inclusive communities where everyone can participate in community life. Empower and support vulnerable and disadvantaged community members to participate in community life.	Satisfaction with support for people with a disability. Walkable open space within 400 metres of all residents. Satisfaction with provision of services for older residents.
	4.3	The community is healthy and people have a sense of wellbeing.	Provide the facilities, spaces and programs that support wellbeing and active and healthy communities.	
	4.4	People have access to the services and facilities they need.	Plan and provide services and infrastructure for a changing and ageing population.	
5: Progressive local leadership.	5.2	Partnerships and collaboration are valued and recognised as vital for community leadership and making positive change.	Collaborate with partners to deliver positive outcomes for the community, economy and environment.	Satisfaction with Council's community engagement. Satisfaction with the community's ability to influence Councils decision making. Community satisfaction with long term planning for council area. Overall satisfaction with Council's performance.

1.2 Previous transport strategies and plans

1.2.1 Leichhardt Integrated Transport Strategy 2013 – 2023

The former Leichhardt Council's Integrated Transport Strategy 2013 – 2023, set the community's transport vision for achieving a sustainable and liveable community. The nine objectives of the Strategy are:

1. Improve accessibility within and through the LGA;

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2. Create a legible, direct and safe pedestrian and cycling environment;
 3. Provide appropriate levels of parking;
 4. Provide a safe and efficient road network for all road users;
 5. Encourage public transport use;
 6. Facilitate integration of land use, transport, community and cultural activities;
 7. Provide convenience for users of the former Leichhardt LGA;
 8. Promote health and wellbeing; and
 9. Improve environmental conditions.

Strategies to support the objectives reflect an overriding objective to reduce private car dependency and to increase patronage of more sustainable modes.

Nine strategies were developed for Leichhardt, they are:

- > A modal hierarchy reflecting the desired future;
- > Developing performance targets including mode share, road safety and parking;
- > A legible, direct and safe pedestrian network;
- > A safe, attractive and comprehensive bicycle network;
- > A fully integrated and adaptable public transport system;
- > Understanding community transport needs;
- > A systemic and equitable approach to parking and management;
- > A safe and adaptable street network; and
- > Integration of land use and transport.

1.2.2 Leichhardt Integrated Transport Plan (2014 - 2021)

Leichhardt's Integrated Transport Plan (ITP) is an essential element of Council's integrated planning system and details numerous long-term opportunities for the community's future. Leichhardt's ITP was subject to a comprehensive three-year development process that involved extensive consultations with the local community and numerous other stakeholders.

The ITP objectives focus on a sustainable, safe, accessible and connected transport network:

- > Improve accessibility within and through the LGA;
- > Create a legible, direct and safe pedestrian and cycling environment;
- > Provide appropriate levels of parking;
- > Encourage public transport use;
- > Provide a safe and efficient road network for all road users;
- > Facilitate integration of land use, transport and community & cultural activities;
- > Provide convenience for users of Leichhardt LGA;
- > Promote health and wellbeing; and
- > Improve environmental conditions.

The former Leichhardt Council adopted its ITP in February 2014, including an action to identify precincts for the preparation of 'neighbourhood movement plans' to inform future works for create safe, friendly, walkable and ridable suburbs.

1.2.3 Marrickville Integrated Transport Plan (2007)

Marrickville's ITP is a strategic guide which informs the community and other stakeholders about the work undertaken by the former Council to promote sustainable transport. Its chief aim was to reduce local car use and promote public transport, walking and cycling. Areas of focus from the ITP address:

-
- > Transport and Urban Form: focus development in areas with ready access to public transport and urban services.
 - > Public Transport: Work with State Government to improve public transport services and better integrate services with other modes.
 - > Roads, Traffic and Parking: Collaborate with State Government to minimise impacts of future major development, and manage local roads, local developments and car parking.
 - > Walking & Cycling: Improve conditions for active transport, focusing on connections to public transport nodes, commercial centres and schools.
 - > Council Policies and Processes: Ensures all relevant Council policies and processes are developed and co-ordinated to help promote sustainable transport.

An action plan for future works is also included at the end of Marrickville's ITP.

1.3 Previous modal plans

The three former councils produced a range of modal plans including:

1.3.1 Ashfield Pedestrian Access and Mobility Plan (2016)

The Ashfield Pedestrian Access and Mobility Plan (PAMP) provided the former Council with a framework to develop pedestrian routes or areas identified by the community and key stake holders as important. These would receive future infrastructure investments to enhance amenity, improve safety and increase permeability.

1.3.2 Leichhardt Bike Plan (2016)

This Plan provides the framework to further develop the established bicycle network and proposes facility upgrades for better integration with other transport modes and better connections with neighbouring LGAs. It targets the estimated 60 percent of people who make up the 'interested but concerned' category identified by bike co-ordination specialist, Roger Geller, who claimed low perceptions of on-road safety are a major deterrent for many. While cyclists are permitted to use all roads in the former Leichhardt LGA, this Plan encourages the development of a network which a 12-year old might feel safe navigating.

The report draws from the Inner Sydney Regional Bike Plan of 2010, presenting a range of infrastructure recommendations categorised into path typologies, and offers a number of soft initiatives as well. It provides two action plans covering four year and ten year periods, with a combined cost factor of roughly \$11 million.

1.3.3 Marrickville Bicycle Strategy (2007)

Marrickville's Bicycle Strategy sought to increase the appeal of cycling within the former Marrickville LGA, proposing a \$7.2 million network of designated corridors. A supporting component is a gradual roll-out scheme of bicycle parking and end-of-trip facilities. The Bicycle Infrastructure Development Strategy for Marrickville, part of this report, was guided by four clear actions:

- > Develop a bicycle network plan.
- > Develop a bicycle parking plan.
- > Integrate the cycling network with public transport.
- > Create bicycle friendly streets and neighbourhoods.

1.3.4 Car share

Each former Council has documented car share policy and each Council supports car share as a means to reduce car parking demand and improve sustainability.

Local transport plans and policies - Implications for IWC ITS

- > Each former Council's commitment to sustainable transport choices, accessible travel and healthy lifestyles should be reflected in the ITS.
- > A well-connected cycling network separated from high speed and high volume traffic within the LGA will help make cycling safe, convenient and attractive.
- > Car share policies are already in place in much of the LGA and should be consolidated.

2 Transport vision, values, hierarchy and principles

2.1 Stakeholder consultation outcomes

The transport, values, hierarchy and principles was developed to follow the Community Strategic Plan and through consultation with a wide range of Council stakeholders for various departments, **Table 2-1** summarises the initial Council stakeholder consultation.

Table 2-1 Initial Council stakeholder consultation outcomes

Area	Comments
General comments	<ul style="list-style-type: none"> > Future Council plans will directly reference the ITS as a strategic list of actions and objectives. The IWC ITS should have an overall aim with a series of objectives. > The ITS should also set realistic targets for changes in mode share for the LGA. > The ITS should consider qualifying anecdotally the consequences if the actions presented are not applied, such as by continuing to allow high usage of private vehicles. > Within the LGA, non-commuting and weekend trips make up a significant portion of travel demand and should be analysed in the same way as weekday AM and PM trips.
Integrated planning	<ul style="list-style-type: none"> > It is important that the NSW Government is involved in Council's planning processes from the beginning and that Council's position is understood on transport initiatives and projects. > Neighbouring Council's strategies and plans often stop at the boundary of the LGA and do not consider integrating with adjacent ideas. > The IWC Housing strategy involves increasing housing density around underutilised public transport nodes. It will focus on Marrickville, Dulwich Hill and Parramatta Road for new density. > The ITS should consider future employment changes such as potential relocation of the logistics land use around the airport to the LGA from Botany. Development Control Plan (DCP). > Future transport projects including Sydney Metro Southwest will attract more residents to the LGA. The Local Environment Plan and DCP should be updated before this major growth occurs to limit future issues with the transport network.
Active transport	<ul style="list-style-type: none"> > Active transport should be prioritised in the LGA and placed higher in the road hierarchy than private vehicles as it can achieve higher movement of people. > The IWC ITS should recommend to prepare an Active Transport Plan, Bicycle Plan and a Wayfinding Strategy for the LGA to improve active transport planning. > Pedestrian mode share in the LGA is high, and is reflective of the presence of urban centres throughout the LGA accessible by walking. > Some areas of Marrickville are not as accessible (due to distance and personal security issues). > Cycling as a mode of transport is growing in popularity in the LGA. The AustRoads participation survey shows that people within the LGA are more likely to cycle than the average Australian. But cycling numbers are low relative to other modes in the LGA, despite short distances to the CBD. > Some cycling routes are in poor condition and are opportunities to improve accessibility. > Trips made in the LGA with a distance of less than five kilometres should be targeted for modal shift to cycling. > Bicycle parking and end of trip facilities should be provided at transport interchanges. > The new DCP should require bicycle parking as part of all new developments. New developments should have allocation for end of trip facilities, secure bike parking, electric bike parking and charging stations. > Cycling infrastructure also needs to be provided both linking to and on Parramatta Road. > Cycleways that are not lit can be dangerous at night. Personal security needs to be considered when building infrastructure and cycleways should be built in areas of passive surveillance. > There is conflict between introducing cycleways and removing street parking on local streets. Residents are not always on board with providing cycling infrastructure and it is important to engage with the community and work with them when planning new infrastructure. The ITS should acknowledge that improving cycling infrastructure can have a high cost. > Unreported crashes may form a significant number of cyclist crashes. Crash data from hospitals should be better integrated with police crash data. > There are over 15,000 students from 25 schools located close to the Greenway in the LGA; 30 per cent of which walk or cycle to school. A major issue with promoting kids to walk and cycle to schools is ensuring parents that routes are safe. Cycling to schools needs to be encouraged through a School Active Travel Program.

Area	Comments
Public transport	<ul style="list-style-type: none"> > It is important that public transport is accessible and convenient for trips leaving and within the LGA. Public transport planning for the LGA should integrate with regional bus and light rail services, to ensure that people entering the LGA are using sustainable modes rather than private vehicles. > There is a lack of north-south and looping public transport connections, posing an issue for the many trips made within the LGA for key purposes such as education, health, retail and social. > Marrickville South and Haberfield have reduced public transport access. > Public transport should better integrate with active transport. > There is an opportunity to investigate Opal tap on with commuter car parking, similar to the state government initiative at the Ashfield Station car park, which allows free parking if customers tap on to transfer to rail. > New public transport services could include B-Line style buses/ services within the LGA, trackless tram along Parramatta Road were proposed as was a light rail link via Glebe Island Bridge. > Light rail is currently running at full capacity during peak periods, with services often reaching capacity before entering/ leaving the LGA. Occupancy is also high during other periods. > The proposed ferry wharf at the future Fish Market site poses conflicts with the proposed active transport links height of the Glebe Island Bridge.
Heavy vehicles	<ul style="list-style-type: none"> > The functional road hierarchy in the LGA should reconsider where freight vehicles can travel. Some existing freight routes are ideal locations for active transport, however conflicts with heavy vehicles pose safety threats to cyclists, such as on Pymont Bridge Road, Balmain Road and Darley Road. > Heavy vehicles are an issue in the LGA, including waste management trucks that are often commissioned from several different contractors.
Private vehicles and road network	<ul style="list-style-type: none"> > It is important to recognise that some particular trips do require a private vehicle, such as driving kids to events. However, car ownership is high in the LGA, requiring a behavioural and attitude change for residents. > Future transport projects such as the Iron Cove link to Westconnex will substantially change traffic conditions on Victoria Road and needs to be considered in the ITS. > Key roads such as Parramatta Road, Victoria Road and New Canterbury Road should have a focus on people movement rather than private vehicle movement. > The growth areas at Marrickville and Dulwich Hill require road capacity studies to identify constraints to increased residential growth. Consider localised widening of intersections rather than widening whole corridors. > A possible mitigation measure to congestion on some roads is to provide clearways during certain periods. However, this is not widely accepted by the community as clearways often remove parking that is used for businesses on key roads.
Parking	<ul style="list-style-type: none"> > Some car owners use their off-street parking for storage, and use street parking to park their cars. > University boarding houses have very high numbers of vehicles belonging to the residents, taking up a lot of street parking. > Parking rangers do not always operate in night periods as well as day as this is when people are commonly parking illegally. > Resident parking schemes are not always accepted by residents, especially when legal parking restrictions are enforced. <p>Potential mitigation measures to parking issues include:</p> <ul style="list-style-type: none"> > Increasing storage in new apartments to reduce people using their off street parking spaces for storage. > Adaptation of commuter car parks. > Investigation of parking across driveways. > Coupled and uncoupled parking. > Best practice car share methods should be incorporated in the ITS. There are around 200 car share pods in the LGA, each pod gets about 25 trips per month. Analysis shows that car share is more highly used when parking locations are on public roads rather than in development car parks. > Incentives should be given to new developments that provide sustainable options such as car share and bike parking. > Internal roads in new developments should have dedicated car share spaces; > Child care centres should have drop off zones and parking allocations in the DCP.

Area	Comments
	<ul style="list-style-type: none"> > A large portion of street space is used for parking, when driving is only used for a small percentage of the day. A better future might include less cars that are utilised more. This might be achieved by autonomous vehicles which can drop passengers off and park elsewhere.
Travel demand management	<ul style="list-style-type: none"> > The DCP should ensure that major employment centres have a Traffic Management Plan or Green Travel Plan for each large employer, look at best practice like Optus at Macquarie Park. > If private vehicle behaviour continues to be catered for, people will not change their perceptions on private vehicle ownership. > The average person drives less than ten kilometres per day and the average household owns 1.15 cars (this is 0.9 for apartments and 0.8 around rail stations).
Environment factors	<ul style="list-style-type: none"> > IWC has strong resolutions around climate change and wishes to be an Australian leader. The ITS should be integrated with Council's Climate Change Study and present matching information. Council's aims is to make the LGA 100 per cent carbon neutral by the earliest possible date, while balancing immediate actions with the need for more impactful, longer term solutions. > Council's Climate Change Study includes setting targets and timeframes for the take up of renewable energy and energy conservation solutions, including benchmarks for new developments. > Emissions from transport are estimated at eight per cent of community greenhouse gas emissions in the LGA. > The Inner West community are concerned about air quality in the Inner West as a health issue, particularly the effects of WestConnex. > The materials used to construct transport infrastructure should be able to mitigate the impacts of flooding and extreme heat and protection from elements should be provided as part of bus stops and active transport routes. > It is important to respect areas of biodiversity such as around the Hawthorne Canal and Cooks River when considering infrastructure. > Green infrastructure should be incorporated with waterways (green and blue links).
Social factors	<ul style="list-style-type: none"> > A strategic direction in the IWC Community Strategic Plan is to create liveable neighbourhoods, which involves access to an efficient transport network. > A large social issue in the LGA is the ageing population. Involvement of the elderly is vital to strengthening the community and reduces isolation and loneliness. Vulnerable communities require safe routes of travel to access places of participation, and encourage people to get out of the house. > Parramatta Road is a barrier to accessible transport, especially to elderly and other vulnerable pedestrians. Pedestrian crossing times at lights are long, and some vulnerable pedestrians may consider these issues when deciding to leave the house. > Good public transport that is comfortable, equally available and ecologically sustainable is a social justice issue. It is important for social cohesion, reducing social isolation, providing transport alternatives for people enjoying night time activities such as in Newtown; and providing access for the people who are less mobile such as the elderly. > Vulnerable communities require shelter from extreme weather conditions at all bus stops, and may consider this when deciding to leave the house. > Smaller, on-demand community buses are important for the LGA, particularly for the elderly and disadvantaged communities during the inter-peak period. These services should be focused on providing connections within the LGA. > It is important for IWC to manage the way in which information on local transport is delivered to the community. Information on transport can help residents manage their day, including suggestions on when and how to travel should be given. There is an absence of information in disability parking permits, and some vulnerable people cannot always get a disabled parking space due to high demand. > It is important that vulnerable groups such as the elderly are able to seamlessly travel to the same areas with multi-purposes such as going to the shops and to the doctors in the same area via public transport. Marrickville South has many vulnerable residents and public transport is not as widely available.
Technology and innovation	<p>Innovative solutions to mitigating future impacts on the transport network:</p> <ul style="list-style-type: none"> > Consideration for electrical vehicle charging infrastructure within the LGA. > Investigation of trackless trams within the LGA, possibly on Parramatta Road. > The impacts of autonomous vehicles in the network, including the interactions of AV and cyclists.

Following Council consultation through a collaborative approach, the Vision, Core Values and Principles were refined. These are discussed in the following sections.

2.2 Vision

The proposed vision statement is as follows:

Growing numbers of Inner West residents, workers and visitors prefer to walk, cycle and use public transport because it is safe, convenient, enjoyable and healthy. Inner West transitions to environmentally sustainable transport and reduces its carbon footprint.

Everyone is connected to their community and local services, and can access educational, retail, cultural and recreational districts, as well as jobs and services across local and regional areas.

The transport network enhances local economic vitality, with freight and goods movements are separated from people by space and/ or time.

2.3 Core values

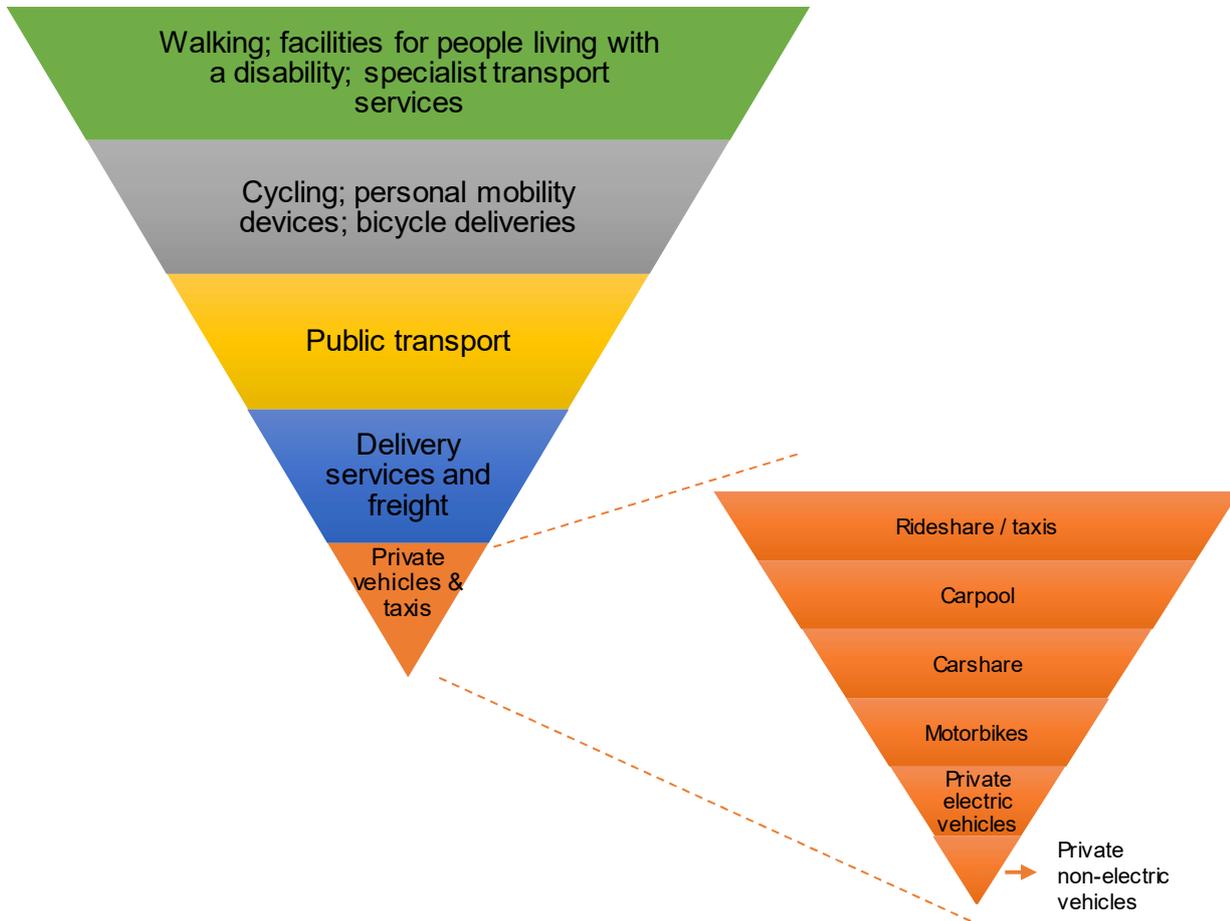
The transport network must be developed to achieve its core values, irrespective of mode or technology advancements. The six core values for the Inner West's transport network are:

Safe	<ul style="list-style-type: none">• Everyone is, and feels, safe at all times and the network is designed to support the safety for all users, especially vulnerable users.
Just	<ul style="list-style-type: none">• Transport is accessible, affordable and inclusive, without barriers regardless of ability.
Trustworthy	<ul style="list-style-type: none">• Transport in the Inner West can be relied upon for all types of trips. It is resilient to climate change and responds to changing needs.
Clean	<ul style="list-style-type: none">• Transport will enhance the local and global environment and progress towards zero emissions.
Comfortable	<ul style="list-style-type: none">• There is enough space for people on their journeys, and the system is legible and easy to navigate.
Viable	<ul style="list-style-type: none">• Transport is effective and efficient for the customer and the provider, and supports local economies.

2.4 Modal hierarchy

The Integrated Transport Network's modal hierarchy, shown in **Figure 2-1**, emphasises a people-first approach, with active transport, along with facilities for people living with a disability and specialist transport services that will support vulnerable people such as older people, at the top of the hierarchy. Within the category of private vehicles and taxis, modes are further split to prioritise those that support shared use of vehicles, encourage reduced car ownership and limit environmental impacts.

Figure 2-1 Inner West modal hierarchy



Principles

The principles follow from the Community Strategy Plan, the vision, core values and model hierarchy and provides more details, these are supported by proposed actions. The seven principles are discussed in the following sections.

Principle A – Plan land use to reduce travel times and distances

Reducing the time and distance spent travelling to and from the Inner West means that residents, workers and visitors have more time in their day to do what they enjoy. It will also reduce pressure on public transport, traffic congestion, parking demand and transport emissions. This can lead to less investment required to expand the transport system, and reductions in travel related costs for customers too.

Many trips have more than one purpose; leaving work could be combined with a trip to the gym or hair dresser, and then dropping off a package at the post office. Reducing distances travelled between these trip purposes, by providing retail and services close to home and work locations, will lead to more convenient, and shorter trips. Reducing the need to travel can also be addressed through efficient delivery of goods and services and working from home or the local neighbourhood.

This principle will be achieved by:

- > Rationalising the number of trips through co-located land uses and supporting pedestrian movements between them.
- > Containing trips to a local area by providing a range of services and facilities close to the people who need them.
- > Supporting work from home, flexible working hours, and co-working locations in the Inner West.
- > Supporting efficient delivery options.

Project idea – encourage and support co-working spaces

Co-working spaces provides a work environment for individuals and small businesses looking to rent space on a flexible basis, from as little as a few hours to monthly commitments. They allow workers to attend a dedicated work space with equipment, support services, and communication tools. Many are office environments, but some can be small-scale manufacturing spaces, or more casual locations like hotel lobbies or cafes. Co-working spaces have a reputation for a clientele of start-up businesses, entrepreneurs and digital nomads, but they can also support people who want to be close to home, close to their child's daycare or school, or just avoid a long commute to the office.

Co-working spaces can form part of flexible working arrangements. If employers know that their worker is attending a dedicated and supported work space, they may be more open to allowing them to work close to home. If a suitable co-working space is provided in a nearby local centre, people will have a shorter trip to work, and won't contribute as much demand on the transport network during peak commuting periods. The worker may also be able to choose an active travel mode to attend the nearby co-working space, because of the shorter travel distance.

The Inner West has attractive local centres, urban hubs and main streets, with the amenity and quality of activities that would be attractive to workers. Co-working spaces can support a local centre's economy by using empty space in buildings and attracting workers during the weekday who will be potential customers (The Conversation 2018) for cafes, shops and services.

The establishment of co-working spaces in the Inner West's local centres can be supported through:

- > Review of planning controls to ensure they don't restrict the type of employment activity anticipated for co-working spaces in local centres.
- > Providing guidance for navigating and securing the required development approvals, as planning controls are historically developed for permanent land uses.
- > Providing support for achieving building upgrades to address areas such as DDA compliance and fire and safety management plans.
- > Identification of centres and existing buildings that would be appropriate for establishment of co-working spaces.
- > Promotion of co-working spaces located in the Inner West.

Principle B - Improve safety, personal security, and provide equitable access for full community participation

Just access to opportunity

Regardless of age, ability, income, or personal circumstances, people in the Inner West need to access jobs, local services, their social circles, community amenities, transport services and open space. Transport plays an important role in equitable access to the economic, cultural, and social opportunities available in Sydney, and it can enable social participation.

Like other areas in Sydney, the Inner West population is growing older. The number of people aged over 60 increased by 14 per cent between 2011 and 2016, and older people represented 16.9 per cent of the population in 2016, up from 15.8 per cent in 2011. While older people have different travel needs and priorities, retaining mobility and independence as aging occurs is an important factor in social inclusion and overall wellbeing. They are increasingly dependent on walking or public transport as they age, and safe, affordable and accessible connections to local shops, health services and community facilities will be important.

People living with a disability, which can include physical, vision, hearing or cognitive impairment, in the Inner West need the same access to economic, cultural and social opportunities and recreational activities as the rest of the population. A lack of equitable access also affects people who may have impermanent limited mobility, like parents with young children or short-term injuries.

Safer streets for everyone

Inner West streets should be safe for everyone. While there are many crash factors beyond the IWC's control, crash clusters indicate potential issues with the road geometry, land use, network operation, and road user behaviour in those locations. Causes of pedestrian, cyclist and vehicle crash clusters should be investigated to understand likely factors. Addressing vehicle speeds, crossing opportunities for pedestrians, road layout, intersection design and operation and road user awareness may help to improve safety and reduce the likelihood and severity of future crashes.

This principle will be achieved by:

- > Removing barriers to accessing transport services and local destinations.
- > Providing community transport services that meet the need and demand.
- > Considering safety and comfort for older people on the footpath network and at public transport stations and stops.
- > Providing information on transport options and how to access them.
- > Investigating causes of crash clusters.
- > Reducing vehicle speeds.
- > Providing separation from vehicles for vulnerable road users.

Project idea – 40 kilometre per hour speed limits on all local roads.

Lower speed limits on local roads is an initiative to improve safety for all road users. Speed limits of 30 kilometres per hour further improve safety and reduce the speed differential between cyclists and motorist.

The stopping distance for a vehicle can reduce from 35 metres to 26 metres¹ and impacts speeds are likely to be lower in a collision event.

¹ <https://roadsafety.transport.nsw.gov.au/speeding/speedlimits/safespeedlimits.html>

Principle C - Prioritise people in centres and main streets and revitalise key roads

People first in centres and main streets

Successful centres put the people and place experience ahead of vehicle movements, and encourage walking and cycling. They do this by providing priority for people on foot and bike: frequent crossing points, short waiting times at intersections, pedestrian/cycling-only links, separated and wide paths. They have a mix of shops and services, outdoor seating for cafes, activity across the day and night, and they are comfortable and engaging places to spend time in, with shelter from weather conditions.

The Inner West already has many local centres, urban hubs and main streets that are vibrant, walkable, and attractive. They are frequented by residents, but also draw visitors who appreciate the atmosphere, human-scale building forms and diversity of restaurants, cafes, bars and boutiques. The pedestrian experience in some Inner West centres suffers however from through traffic, at speeds and volumes that affect pedestrian and cyclist amenity.

Enhancing the importance of the pedestrian and cyclist experience across all local centres, urban hubs and main streets in the Inner West will reinforce their unique drawcard, and motivate people to walk and cycle to access them. Business owners will appreciate the pedestrian footfall as people enjoy spending time in and around the centres. Vehicles will behave differently as they move through centres and main streets, aware that pedestrians have priority.

Revitalising key roads

As vehicle volumes decrease on Parramatta Road and Victoria Road once WestConnex is operational, road user priorities can be rebalanced. Active and public transport can be dedicated more of the road space, with greater priority at intersections and more crossing opportunities for pedestrians.

The reduced traffic volumes provide opportunity for these key roads to evolve into attractive places with vitality, renewed economic opportunities, and more pedestrian footfall. Instead of divided suburbs, with limited space and amenity for people and roadside activities, the two sides of each road could integrate better; making it easy to visit shops, eateries and services regardless of their location.

Public transport needs to retain a priority role in connecting people to and through these revitalised areas. Dedicated space for high capacity and frequent public transport along the length of Parramatta Road and Victoria Road will contribute to the vibrancy, accessibility and attractiveness of the area. New residents and workers moving into the Camperdown, Taverners Hill, Leichhardt and Kings Bay urban renewal areas, as well as the growth of the Camperdown-Ultimo Collaboration Area, will stimulate the local economy, and emphasise the value of Parramatta Road as a renewed destination with strong place characteristics, instead of just a through route.

Across the Inner West, the key roads are the fastest routes to regional destinations, but their cycling facilities are limited or non-existent. Cyclists currently have to travel in mixed traffic on Parramatta Road, or on a constricted share path with several obstacles and intersections to navigate along Victoria Road. Allocating space for separated cycleways on both roads would support development of a connected cycling network for the Inner West, and encourage cycling for regional trips to the Sydney CBD and the Camperdown-Ultimo Collaboration Area.

This principle will be achieved by:

- > Ensuring people are prioritised before vehicles in local centres, urban hubs and main streets.
- > Reinforcing the place characteristics for all local centres, urban hubs and main streets, even those that support through traffic movements.
- > Reducing vehicle speeds so that the likelihood and severity of pedestrian (and vehicle) crashes is reduced in these locations busy with people.
- > Giving pedestrians and bicycles enough road space, and more time at intersections.
- > Designing streetscapes with enough footpath space and crossing opportunities, and attractive and comfortable landscaping, weather protection and street furniture.
- > Rebalancing road user priorities on key roads with changing conditions as motorway projects reduce traffic volumes.

Project idea: Parramatta Road revitalisation

Inner West Council seek to revitalise Parramatta Road. It currently operates as a major east-west vehicle traffic route, accommodating high numbers of vehicle movements.

The economic activity of land uses along the road are understood to be in decline, foot traffic is relatively low and it is not considered a destination for shopping, eating and socialising when compared to other activity streets such as Norton Street or King Street/ Enmore Road.

Inner West previously commissioned the Parramatta Road Transport Opportunities Study which recommends the implementation of a Track-free Tram. This would provide a service provision that appears similar to light rail, including high capacity vehicles than typical buses with reduced implementation costs. The proposal included dedicated space along the centre of Parramatta Road and increase the accessibility of the corridor.

The WestConnex M4 to M5 link will provide an alternative route for traffic along the east-west axis of the Inner West Council. A condition of this project is that dedicated 24-hour public transport lanes are provided along Parramatta Road. It is expected this will divert some through traffic on Parramatta Road. This would provide an opportunity to reallocate space on Parramatta Road. City West Link will remain a parallel route.

The Parramatta Road revitalisation is to reduce general the corridor to one general through traffic lane. This would facilitate space for:

- > 24 hour public transport/ mass transit lane (Track-free tram) with additional space at stops for customers;
- > Plantings and car parking at mid-block locations; and
- > Separated cycle facilities.

A key implication is the reduction of general vehicle capacity. It is likely to cause congestion. This will have the benefit of discouraging through traffic movements and “traffic calming” along the corridor as well as encouraging the use of other modes. Traffic impacts have not been assessed, people capacity of dedicated public transport lanes exceeds general vehicle lanes.

The key benefits include:

- > High people movement capacity along the public transport lane.
- > Supporting bicycle trips within and through the Inner West along a direct, legible east-west link.
- > Plantings would enhance the look of the corridor; and
- > Car parking would appease business operators and create a barrier effect between the verge and carriageway.

The layout rationale was developed to:

- > Provide a barrier effect and spacing for higher vehicle volume lanes along the corridor;
- > Locate the cycleway on the side of the road that would likely have less interface with waiting public transport customers. It is assumed that most waiting by people numbers would occur on the Sydney CBD bound side; and
- > Provide public transport stops adjacent to or within kerbside areas. There is more overflow area and amenity than stops located in the middle of the carriageway.

The proposal would provide revitalisation benefits from increasing access by bicycle and public transport and the amenity improves from less traffic and general traffic lanes separate from the kerbside improving amenity.

Indicative concept plans are shown in **Figure 2-2** to **Figure 2-6**.

Figure 2-2 Parramatta Road space reallocation concept – Liverpool Road

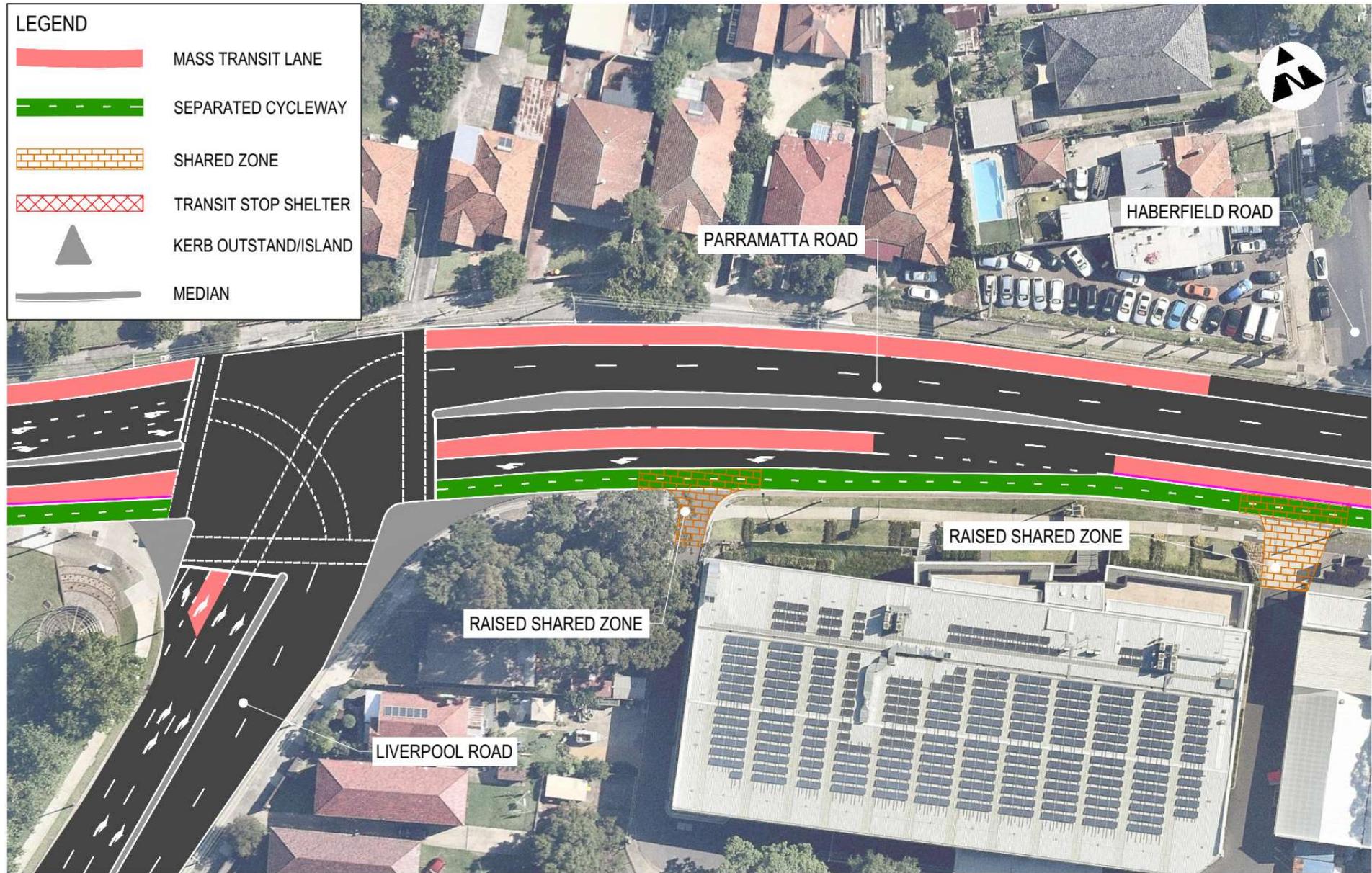


Figure 2-3 Parramatta Road space reallocation concept – Taverners Hill



Figure 2-4 Parramatta Road space reallocation concept – Norton Street

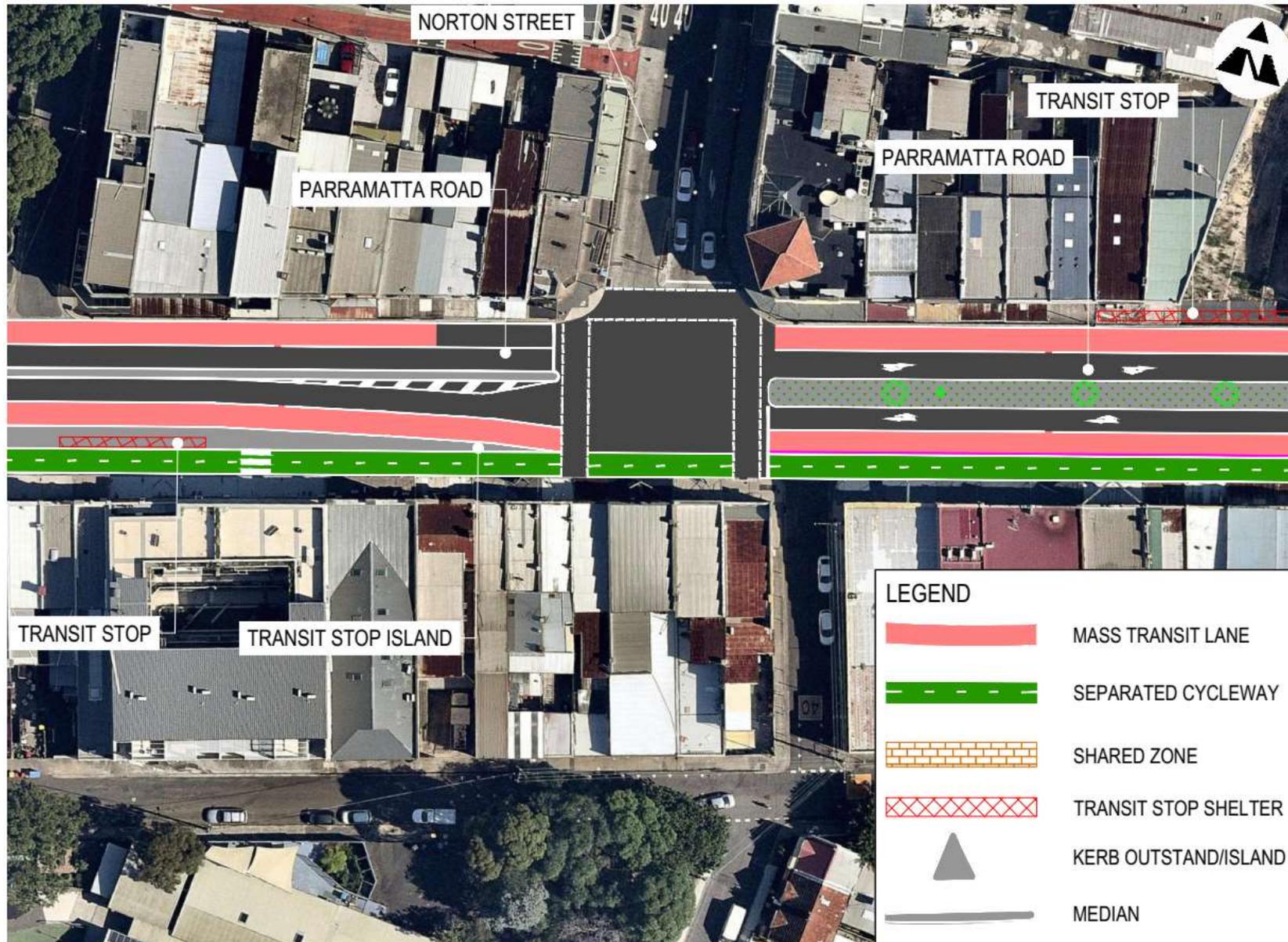


Figure 2-5 Parramatta Road space reallocation concept – Crystal Street



Figure 2-6 Parramatta Road space reallocation concept – Pyrmont Bridge Road



Principle D – Commit to active transport infrastructure, services and programs

When active transport networks are safe, connected, accessible and attractive, walking and cycling can be the first mode choice for people accessing nearby destinations like corner shops, local centres, open space, schools and childcare, and community facilities.

Residents will choose to walk or cycle for short trips because it's the easier, more comfortable, healthier, and often, the faster option. They know the route, and know that they will have safe crossing locations, enough separation from vehicles, an interesting environment, and a place to take a rest on a bench or to park their bike when they reach their destination.

Laneways and parks should be inviting to pedestrians and cyclists, rather than places to avoid at night. They need to be well lit and have active and passive surveillance. Parks, streets and station precincts will feel safer and more welcoming when they have a mix of people, activity across the day and night, and active frontages instead of blank walls.

Cycling isn't just for recreation on the weekend, but a viable, safe and efficient way to travel within the Inner West and to nearby regional destinations. The Inner West needs a comprehensive network of separated cycleways that provide direct connections to where people want to travel. Quiet local streets are often appropriate for cycling to the local shops or park, but destinations further afield require separation from vehicles, completed routes with no missing sections, and regular wayfinding signage.

This principle will be achieved by:

- > Allowing a diverse mix of land uses close to each other so that people can walk or cycle to many everyday services, shops and facilities.
- > Enhancing streets, parks and station precincts with passive and active surveillance, good lighting and nearby land uses that encourage pedestrian activity throughout the day and at night.
- > Ensuring a connected footpath network that is accessible to people of all abilities, with comfortable widths and safe crossing locations.
- > Building separated cycleways on key roads to regional destinations and upgrading off road cycleways and the connections between them to neighbourhoods and centres.
- > Communicating the benefits of walking and cycling for short trips and providing information about facilities and routes to help people plan their trips.

A core pedestrian and core cycling network is described in **Sections Figure 5-1** and **5.1.3**.

Principle E - Encourage shift to sustainable transport from private vehicles and reduce the negative impacts of congestion and parking

Shifting mode share to sustainable transport

Transport mode share targets provide important benchmarks to track achievement against the Inner West transport vision and objectives. The proposed shifts from private vehicle to active and public transport in the long term are ambitious, and depend on infrastructure and services improvements to the transport network, not only within the Inner West, but across Sydney. Achieving these targets will also reflect increasingly integrated land use and transport planning within the Inner West, bringing more employment, recreation, shopping and services within walking or cycling distance of where people live. The current attitudes and travel behaviour of residents, workers and visitors will also evolve with more attractive transport options.

Better public transport choices

Public transport is already a popular choice in the Inner West, residents have increased the proportion of work trips taken by public transport in recent years, in 2016 public transport accounts for 42 per cent of work trips, compared with 35.5 per cent in 2006. Improved frequency and reliability of services, and providing enough capacity in the peak periods, and better coverage across the Inner West will support even greater public transport mode share. A number of transport projects present the opportunity to improve public transport services through better frequency, capacity and coverage across the Inner West:

- > The Sydney Metro Southwest will provide Dulwich Hill, Marrickville and Sydenham with an upgraded rail service, increasing the attractiveness of public transport in the south of the LGA.
- > The Sydney Metro West line between the Western CBD and the Eastern Harbour City proposes a station within The Bays, with other locations still to be confirmed. Interchange between the Dulwich Hill Light Rail and the Sydney Metro West station at The Bays would improve connectivity between the Inner West and the Central City. The northern section of the Inner West is a dense urban location, close to the Eastern Harbour City, but without any current rail access. Improving access from the peninsula to The Bays metro station would support this population heavy area.
- > The demand for the T1 Western Line will decrease with the introduction of Sydney Metro West. This will improve the capacity and therefore comfort for people boarding and alighting from peak hour services in the Inner West.
- > The Inner West is also reliant on bus services for journeys both within the LGA and to external destinations. Improving bus priority, seamless interchange, and the directness of bus routes across the LGA to centres, train stations and to regional destinations, will increase the service attractiveness and coverage.
- > With Westconnex reducing traffic demand on Parramatta Road, proposals for a mass transit, priority public transport option between Central Station, Camperdown-Ultimo Collaboration Area and Burwood or Strathfield can be explored.

Alternatives to car ownership

Private car use is related to both car ownership and the availability of high quality transport alternatives like public transport. Over the past six years a number of alternatives to private car ownership and use have launched or grown in popularity in Sydney, including ridesharing, carsharing and the growth in online shopping and food delivery. These services reduce the need to own a car, or use it as often, but still provide access to vehicle trips when needed.

Supporting growth of car ownership alternatives will reduce the need for owning one or more cars, and therefore the number of private vehicle trips, leading to less congestion, less demand for parking and better environmental outcomes. Reducing incentives for car ownership like the availability of on and off-street parking is also a factor. Successful implementation of Mobility as a Service (MaaS) will improve the ease of planning and paying for travel needs, across the full range of private car alternatives, from bikeshare, to public transport and ridesharing.

This principle will be achieved by:

- > Providing connections to the Sydney Metro West Bays station from the north of the LGA and integrating the Dulwich Hill Light Rail with Sydney Metro West.

-
- > Reviewing the Inner West bus network for direct connections between centres, better interchange opportunities and regional connections.
 - > Providing a high quality mass transit service along Parramatta Road.
 - > Supporting the introduction of new alternatives to car ownership, and the entry of new providers for competition.
 - > Prioritising road space for vehicles with shared uses, over those privately owned.
 - > Reducing the incentives for private vehicle ownership.
 - > Helping households consider the alternatives to car ownership, at the times they are considering purchase of the first or second car.
 - > Supporting efficient delivery of goods and services.

An innovative Grid Bus Network is presented in **Section 5.1.3**.

Principle F - Managing an efficient freight and goods delivery network to enhance efficiency and Inner West liability

Planning for and managing heavy vehicle movements and impacts through the Inner West will improve the liveability for residents and safety for all road users. Freight and delivery is essential for economies at every level, but heavy vehicle movements impact traffic flow and congestion, pavement deterioration, road safety, environmental pollutants, noise and vibration and land use amenity and value.

The current and future motorway network generally provides route options around the boundary of the Inner West for heavy vehicles entering and exiting the Sydney Airport and Port Botany area and with origins and destinations beyond the Inner West, instead of needing to travel through neighbourhoods. The development of a multi-user port facility as a distribution depot for concrete and other materials however presents a potential increase in heavy vehicle activity in the north of the Inner West. With details of access to and from this facility not yet known, advocating for direct access to the motorway network, without the need to use Victoria Road or City West Link will help retain separation of heavy vehicle through traffic from other road users.

For local deliveries and destinations within the Inner West, a focus on vehicle movements separated from other road users by time and space, distribution centres for more agile, last mile, courier deliveries, appropriate vehicle sizes, and route restrictions can help balance impacts, but can also potentially affect the cost or quality of the delivery service.

This strategy will be achieved by:

- > Accommodating all types of delivery activity in centres including regular deliveries, short stopping activity e.g. post services, and special purpose vehicles for construction or maintenance.
- > Providing loading zones in centres that are away from street frontages and areas of high pedestrian activity and other road users, but close to the delivery destination.
- > Supporting bicycle and other last mile delivery options including emerging technologies across the Inner West.
- > Incentivising (or regulating) deliveries within the Inner West to occur at quiet times of the day and night.
- > Support or incentives for vehicles with fewer emissions and the right size for delivery needs and streets.

Project idea – increased support for goods deliveries

Freight and goods deliveries are essential for the operation of local economies and an emerging issue with the increase in online shopping. There are several opportunities around developing a framework for freight and goods delivery which effectively and efficiently utilises the transport network.

One key opportunity is kerbside parking/loading conditions. Council may seek to develop a uniform kerbside plan for the Inner West, which includes adequate provision of loading facilities near land uses that generate these movements. Such a plan should be considered in line with the preferred modal hierarchy.

In descending order of planning priority for kerbside use, the hierarchy would include:

1. Bicycle and manually powered mobility device parking (for example shared scooters)
2. Public transport stops
3. Service vehicle zones
 - a. Mail zones
 - b. Truck zones
 - c. Loading zones
4. Taxi/rideshare zones
5. Carshare zones
6. Motorbike parking
7. Private vehicle parking

-
- a. Accessible parking
 - b. Electric vehicle parking
 - c. Non-electric vehicle parking

Adequate freight vehicle zones will reduce freight and goods vehicle circulation or illegal parking activity.

An issue which tends to arise in local centres is the long hours of loading zones (some operate the majority of the day), which can lead to extended periods of non-utilised kerbside space. A further initiative is to draw on the experience of Pitt Street mall, Sydney CBD. Freight loading is restricted to a small period between 5am and 8am. By nominating a small window for deliveries to occur, this forces deliveries to occur in an efficient manner. Outside of these times, the space can be reallocated to other kerb side uses.

Some deliverables (to shops) or pick-ups (from shops) might be directed to distribution hubs within the LGA which Council could incentivise.

Principle G - Harness technology to improve information, safety, travel choices and environmental outcomes

Adoption of new transport technologies and innovation has the potential to increase the range of sustainable travel choices and give customers the information and options to plan their trip. The type, timing and extent of future transport technology is unknown, and will continue to evolve and respond to changing environments, information, customer expectations and innovation. Readiness and adaptability to consider and refine emerging technologies will help retain a focus on prioritising safety, sustainability and accessibility. By engaging in technology trials and development of solutions, Council will be able to provide direction on technology development that works for the Inner West.

Development of a flexible yet principle-based transport technology framework for guiding and adopting new technology, will support a future transport system that aligns with the Inner West's transport vision and objectives. A transport technology framework will provide a tool for Council to review, and respond to, new technologies as they arise. It will provide a benefits and risks assessment, identify areas for enhancement, and opportunities to address a number of transport objectives including, safety, environmental sustainability, better mobility, and efficient freight.

This principle will be achieved by:

- > Council involvement in the rollout of new technology to ensure it benefits the community and potential risks are addressed.
- > Staying up-to-date with technology development and involvement in trialling and testing to help shape best directions and outcomes.
- > Planning charging infrastructure to meet the growing demand for electric vehicles.
- > Embracing the growth in data provided through ITS and incorporating it into planning, design and maintenance of transport assets.

Project idea – Track-free tram

Track-free trams combine the service, capacity and comfort of light rail with the low cost and implementation of a bus. These autonomous, electric vehicles use GPS and LiDAR technology developed in Europe and China to fill key gaps in the transport network that are typically filled by buses. The key difference between trackless trams and light rail is that the vehicles use rubber wheels instead of running on rails and relying on underground or overhead utilities.

Track-free trams are operating in the city of Zhuzhou China, known as Autonomous Rail Transit (ART). Onboard batteries are recharged at tram stops while customers are boarding and alighting and at end of line for up to ten minutes². The ART is able to approach the kerb with millimetre accuracy, increasing accessibility for all customers. Stabilisation technology also produces less vibration and swaying than buses, even at speeds approaching 70 kilometres per hour.

The ART is optically guided with GPS and LiDAR technology; however, human operators can also intervene with steering if an accident or disturbance occurs. Each carriage on the ART can carry approximately 100 passengers, with a maximum number of five carriages per trackless tram.



The benefits of trackless trams range from cost, comfort and accessibility, they include:

- > Improved safety and customer comfort with less vibration and swaying of the carriages;

² <http://theconversation.com/why-trackless-trams-are-ready-to-replace-light-rail-103690>

-
- > Speed of implementation as it does not require extensive hard infrastructure works such as laying rails or utilities;
 - > Zero carbon emissions at point of use. Net emissions can potentially be zero if batteries are charged with renewable energy sources;
 - > Ability to be implemented within narrow road reserves due to narrower carriages and smaller turning circles;
 - > Capability to deviate from travel course if an accident or temporary disturbance occurs by a human operator; and
 - > Reduced noise pollution from lack of a conventional combustion engine.

Track-free trams are considered the best option for public transport on Parramatta Road as a catalyst for urban transformation. Parramatta Road is well suited for a Guided Electric Transit System (GETS), however limited road reserve presents some limitations. Trackless trams do not require the complete removal of kerb side parking which is crucial in the Inner West for retail and businesses.

GETS implemented on Parramatta Road could provide a “spine and spur” network to key local centres, and connections to higher speed public transport services.

Cost and implementation

The cost of implementation of track-free trams is significantly lower than that for light rail, as there is no need to lay tracks or utilities along the route. This also reduces disruptions to the local economy and the road network during preparation.

Conventional light rail can cost up to \$120 million per kilometre, whereas trackless trams costs are estimated around \$6 - \$8 million per kilometre.

Some considerations and limitations include:

- > Road line markings can become dirty, clear markings are required for optical guidance.
- > Roads may need repair before trackless trams can be run on them, or need reinforcement because the vehicles are heavier than buses.

Alternative options

Council at its meeting of 3 March 2020 resolved *that light rail be considered as well as a GETS as:*

- > *Light Rail builds on a system that has already been established and is strongly supported in our community;*
- > *Light rail was promised by the NSW Government to the community as part of the Westconnex project;*
- > *Light rail networks work in other cities, e.g. Melbourne;*
- > *Light rail creates more liveable streets, promoting public transport as opposed to private car use, reduces air pollution;*
- > *The disruptions associated with the CBDESR light rail are not likely to be replicated as WestConnex is reckoned to remove vehicles from Parramatta Road; and*
- > *Provide rail to Sydney Uni/RPA.*

3 Inner West transport network

3.1 Initial considerations

3.1.1 Land use

Inner West Council is located in close proximity to the Sydney CBD. The public transport corridors have generally led to an intensification (in fill) of housing along these corridors and around selected strategic centres. Land use plays an important role in guiding the transport implications on the broader networks. Land use and transport planning should be considered in parallel.

3.1.2 Trips

Marchetti's constant has shown that people tend to have a 'travel time budget' rather than a 'travel distance budget'. As urban infill progresses, transport networks tend to get more congested which slows trips. This has generally led to people completing shorter journeys, which is reflected by people having a preference to live near where they work.

3.1.3 Active Transportation

Active transport options are highly sustainable and have substantial health benefits. While walking and cycling journeys are promoted in principle by various levels of Government, there can be a shortfall in terms of experience for people. There may not be enough infrastructure, end of trip facilities, crossing points, amenity and urban design to make people actively consider walking and cycling as their preferred option.

3.1.4 Public Transport

Public transport options are highly efficient in terms of the space per passenger required. Public transport journeys also generally do not require parking provision, however, all public transport journeys have a pedestrian component. A safe and amenable pedestrian environment must be provided to encourage public transport journeys. If there is limited provision of footpaths and crossing points, pedestrians cannot access public transport services.

3.1.5 Roads

Road reserves support the movement of pedestrians, cyclists, selected public transport and private vehicles. The functionality and form of a road is subject to review through a movement and place classification. Road reserves are (generally) fixed and are mutually exclusive environments, to improve the function of a road for one user group means that something has to be taken away from another group. For example, dedicated public transport lanes on the road mean that general traffic lanes must be removed, and if a cycleway is to be proposed, it may result in the loss of some parking. If a new pedestrian crossing is added to the network, this will have impacts on the levels of service for vehicles.

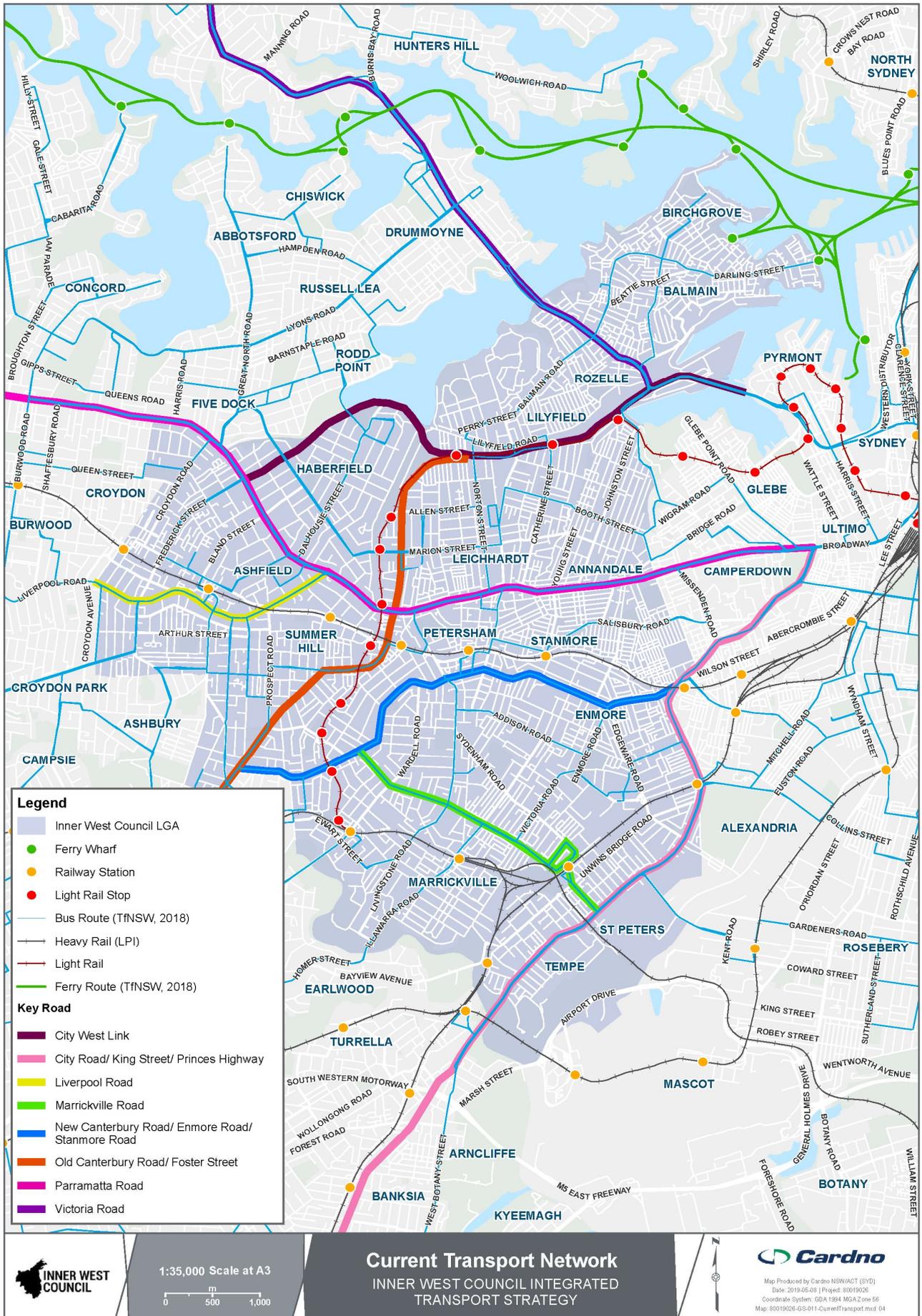
WestConnex has potential to change divert traffic from Parramatta Road, particularly heavy vehicles, freeing up road space for public transport and encouraging active transport and streetscape revitalisation. The construction of WestConnex is predicted to reduce vehicles by around 25,000 to 50,000 per weekday between Wentworth Road and Wattle Street³.

It is important for the proposed on-road public transport proposals for Parramatta Road to be implemented come day 1 of WestConnex operations otherwise there is the potential that the increase in road supply will be absorbed by induced demand.

The core existing transport network is shown in **Figure 3-1**.

³ Parramatta Road Public Transport Opportunities Study, Inner West Council, February 2017

Figure 3-1 Existing transport network



3.1.1 Through movement summary – all modes

The Inner West's location, directly to the west of the Eastern Harbour CBD, means it facilitates significant through movements, on roads and public transport.

Lilyfield Road forms a key east-west link for cyclists. It forms part of a regional link between Sydney CBD and western Sydney. Victoria Road also forms part of the regional cycling network between Sydney CBD and locations to the north of Inner West.

The T1 North Shore, Northern and Western Line, T2 Inner West and Leppington Line and T3 Bankstown Line provide through movement for people travelling between Sydney's west and the CBD.

The main north-south public transport service is the L1 Dulwich Hill Light Rail which connects Dulwich Hill and Rozelle before an east-west route to the Eastern Harbour CBD.

The freight routes that allow through movement for larger vehicles in the Inner West are located on Parramatta Road, City West Link, and Victoria Road, providing access from Port Botany to other areas of Sydney.

Port Botany is Australia's largest container port, and is located south-east of the Inner West. The intermodal freight facility is connected to the Inner West and beyond via Sydenham Road and Parramatta Road. Freight routes are discussed further in **Section 3.6**.

Vehicle through movements within the Inner West are predominantly made east-west. Parramatta Road and City West Link are Sydney's main east-west routes, carrying high volumes of through traffic throughout the day.

Traffic congestion together with poor amenity reflect Parramatta Road's current function as a high movement corridor, with low place function.

Parramatta Road provides the most direct access between the Sydney CBD and Western Sydney for high numbers of heavy vehicles and buses. Bus lanes operate in the AM and PM peaks on Parramatta Road, with on-street parking available during other times.

Victoria Road provides an alternative route to western Sydney with a link across the Iron Cove bridge. Victoria Road also has bus lanes which operate in the AM and PM peaks, with on-street parking during off peak periods. Victoria Road is an option of travelling between north west Sydney and the Sydney CBD.

City West Link provides connection from the Sydney CBD, through Lilyfield to Haberfield and connecting with Parramatta Road, and New Canterbury Road/ Enmore Road/ King Street, which connects the south-west of the Inner West to Newtown, Camperdown and the Sydney CBD.

The key north-south corridor travels along Darley Road, Forster Street, Tebbutt Street and Old Canterbury Road, connecting south-west suburbs and intersecting with east-west corridors of Parramatta Road and City West Link. Victoria Road also carries north-south traffic through the northern part of the Inner West between the Sydney CBD, the Inner West and suburbs in Sydney's northwest. Bus lanes operate in the AM and PM peaks on Victoria Road with parking permitted at other times in some locations.

Sydenham Road is a key link in the freight network as it allows a bypass between Parramatta Road and the Princes Highway without needing to travel to Broadway.

The Princes Highway and King Street South, along the south-eastern border of the Inner West connects traffic from the Princes Highway with inner city destinations including the Camperdown-Ultimo Collaboration Area and Pyrmont.

3.2 Road

Roads and road reserves are a key part of the transport network. They can support pedestrian, cyclist, public transport, freight/ delivery, private vehicle movements and parking. They provide the opportunity for solar access and urban canopies. They can also provide areas for people to rest, eat and dwell. This is generally referred to as a "place" aspect of road reserves.

Urban road network capacities are generally defined by the limits of capacity at intersections. An arterial urban road lane capacity is generally assumed to be approximately 900 vehicles per hour⁴ (i.e. a vehicle every 4 seconds).

Car occupancy is generally accepted to average approximately 1.2 people per vehicle. This changes by time of day and trip purpose.

Based on the assumed arterial lane capacity and person occupancy rate, traffic lanes can accommodate approximately 1,100 people per hour with a vehicle passing a given point on average every 4 seconds.

3.2.1 Main roads

Parramatta Road is a NSW State road connecting east-west through the centre of the Inner West, providing connections to western Sydney. Within the Inner West, there are generally three lanes in each direction, including 1.9 kilometres of bus lane in the eastbound direction and 1.3 kilometres in the westbound direction.

Land use along the Parramatta Road corridor predominantly includes vehicle-accessed commercial buildings such as showrooms and auto shops. This contributes to low pedestrian numbers and high numbers of driveways. Approximately 2.2 million trips are made on the corridor daily⁵ and result in high congestion and contributes to road noise and low air quality. Many bus routes are located on Parramatta Road, contributing to major through trip movements within the Inner West.

Victoria Road is a NSW State road which provides access from the Balmain peninsula to north-western Sydney suburbs. Bus routes servicing the City of Canada Bay are located on Victoria Road. There is 1.3 kilometres of bus lane on the eastbound side of Victoria Road

New Canterbury Road/ Stanmore Road/ Enmore Road is a NSW State road that connects the Inner West to south-western Sydney suburbs.

The Princes Highway is an arterial road which is north-south aligned through the eastern edge of the LGA. The Princes Highway provides a connection to the M5 Motorway, as well as Sydney's southern suburbs and the Illawarra region.

City West Link provides connection from the Sydney CBD via Anzac Bridge, through Lilyfield to Haberfield and connecting with Parramatta Road.

Main roads across the LGA generally have speed limits of up to 60km/h, with other major State or Regional roads sometimes having higher speed limits.

Other selected key roads in the precinct are described in **Table 3-1**.

Table 3-1 Other main roads

Road name	Classification Number	Managing authority	Description
Parramatta Road	5	NSW State Road	Generally 2 to 3 lanes in each direction with a peak hour bus lane and parking during off peak periods. Right turns are generally provided as dedicated turning lanes
Enmore Road/ Stanmore Road	167	NSW State Road	Two lanes in each direction, including two parking lanes. Clearways are also located on both sides of the road during peak times.
Old Canterbury Road	652	NSW State Road	Two lanes in each direction, including two lanes for parking.
City West Link	650	NSW State Road	High speed motorway with two to three lanes in each direction.
Balmain Road	652	NSW State Road	Two lanes in each direction, including two parking lanes.

⁴ Guide to Traffic Management, Part 3 Traffic Studies and Analysis, Austroads, 2009

⁵ Parramatta Road Public Transport Opportunities Study, 2017, IWC

Road name	Classification Number	Managing authority	Description
Darling Street	7318	Local road	Local road with many zebra crossings, cycling stencils and roundabouts.
Darley Road/ Foster Street	652	NSW State Road	One travel lane and one parking lanes in each direction, partly separated by a median strip.
Johnston Street	655	NSW State Road	Three lanes in each direction including one parking lane. Some sections have angled parking spaces.
King Street	1	NSW State Road	Two lanes in each direction, including two parking lanes. Clearways are also located on both sides of the road during peak times.
Sydenham Road	664	NSW State Road	Two lanes in each direction, including two lanes for parking.
Liverpool Road	2	NSW State Road	Two lanes in each direction, with clearways located on both sides of the road during peak times.
Railway Terrace	664	NSW Regional Road	One lane in each direction with a section of on-street parking provided on the southern side.
Livingstone Road	664	Partly NSW State Road, partly local road	Two lanes in each direction, including two lanes for parking.

3.2.2 Local roads

Local roads make up the majority of the road network in the Inner West. Most local roads have a speed limit of 40 - 50km/h. They tend to be safer environments for walking and cycling, and are used mainly to access residential land use.

3.2.3 Demands

During road network peak periods, it is generally well understood that key roads are highly utilised by private vehicles. Google Maps typical traffic viewer confirms that vehicle speeds slow down during peak periods. Slow speeds are indicative of congestion.

Road network - implications for IWC ITS

- > Parramatta Road is to have a two lanes dedicated for public transport use as part of a condition of consent
- > Arterial roads will tend to move approximately 1,000 people per lane per hour
- > Roads are mutually exclusive environments, if an action is to be taken to improve provision for one transport mode, generally, it must be taken from another.

3.3 Active transport networks

3.3.1 Pedestrian

3.3.1.1 Experience and environment

Inner West pedestrians can generally use local roads that provide a comfortable walking experience. These roads have low traffic volumes and offer a high level of amenity; separation from traffic, via street parking and landscaping, and trees for shade. Some local roads and parks however offer little passive surveillance from active street frontages or lighting at night. This reflects the origins of its various wards, which began mostly as low-rise neighbourhoods of terraced housing, with strong local employment opportunities and a tram network. Most suburban streets have a maximum speed limit of 40-50 kilometres per hour; in school zones the limit is 40 kilometres per hour and the number of formal crossings increase. Some arterial roads may such as Parramatta Road and Princes Highway have sections of 60km/h. Road crossings tend to provide a green turning arrow

Local centres such as Newtown-Enmore, Ashfield and Leichhardt attract high pedestrian numbers and offer high walkability. On weekends, Newtown-Enmore experiences very high numbers of leisure pedestrians, including visitors from out of the area, which can lead to slower walking speeds.

Major impediments in the pedestrian network are arterial roads like Parramatta Road, Victoria Road and City West Link, where pedestrian crossing wait times can be longer than a minute⁶ and there are large distances between formal crossings. This issue creates a physical barrier that lowers a pedestrian's desire to make trips around main roads within the Inner West. High traffic volumes and speeds also produce noise and air pollution that reduces pedestrian comfort and amenity. Land use along Parramatta Road and Victoria Road is predominantly retail but with several boarded up frontages.

The distances between formal pedestrian crossings on Parramatta Road, City West Link and Victoria Road are shown in **Figure 3-2**.

3.3.1.2 *Network and destinations*

Pedestrian activity is high in local urban centres and shopping districts such as in Ashfield, Balmain, Newtown and Leichhardt. Key pedestrian destinations in the Inner West are:

- > Train stations, bus stops and light rail stops;
- > Local centres, urban hubs and main streets including health services and employment centres;
- > Leisure and sports activities;
- > Schools and universities; and
- > Recreational routes such as Bay Run and Cooks River foreshore.

A large proportion of residential areas in the Inner West lie within an 800 metre walking distance of a local centre, urban hub or main street. However, areas in Marrickville South, Sydenham, Ashfield, Summer Hill, Dulwich Hill, Lilyfield and Annandale are not within a comfortable walking distance to a local centre, as shown in **Figure 3-3**.

There are strong pedestrian desire lines radiating from transport nodes such as light rail stops and train stations to residential and employment areas. Other desire lines are located between urban commercial centres and residential land.

⁶ In some cases, wait times of up to 4 minutes would potentially be observed. Depending on the time of day and location of signals, a green pedestrian phase is only shown when a signal is received. If a pedestrian neglects to push the button, or arrives at an intersection shortly after a missed signal, then a wait time of up to two full phases might be required.

Figure 3-2 Distance between formal pedestrian crossings on key roads

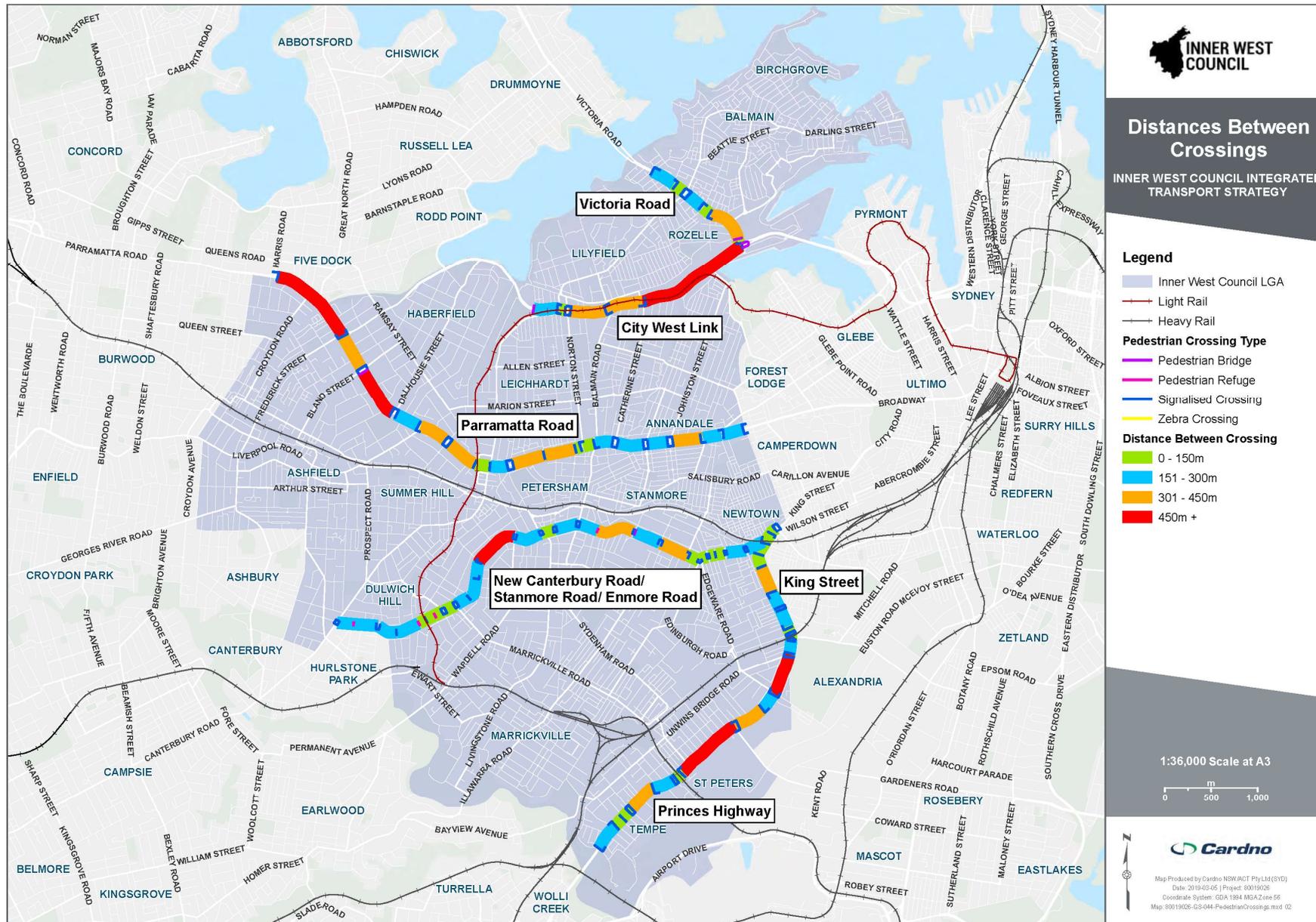


Figure 3-3 Pedestrian access to local centres 1,200 metre walking catchment (approximately 15-minute walk)



3.3.1.3 Infrastructure

Footpaths on the road network are provided throughout the LGA, with footpaths on both sides of the road within most built-up areas and residential areas.

Shared paths are located on the entire length of Victoria Road on the northern side, and less than half of the western side of the southern side. These routes contain cyclist/ pedestrian signage and a painted dashed line. Conflict points such as at bus stops where the path narrows, and at the intersection of other shared paths, have painted hatched lines and warnings for cyclists to slow down. The shared paths continue west over the Anzac Bridge towards Drummoyne.

Most of the network contains kerb ramps at intersections, however many of these are misaligned with the kerb ramp on the other side of the road.

Shared paths are generally provided as recreational paths located at the Bay Run, the northern Greenway, local parks and near the Cooks River.

Signalised pedestrian crossings are located at intersections on main roads including Parramatta Road, Victoria Road, New Canterbury Road, City West Link, Old Canterbury Road, King Street, Enmore Road, Marrickville Road, Illawarra Road, Crystal Street and Johnston Street. Signalised crossings are generally not provided on each leg of the intersection. Zebra crossings are often located on roads giving access to urban centres, schools and shop frontages, such as on Addison Road, West Street, Percival Road, Smith Street and Darling Street.

Pedestrian network - implications for IWC ITS

- > Manage existing primary road network and public transport corridors.
- > Manage existing through traffic and the impacts to IWC residents.
- > A pedestrian network audit is required to understand in detail the condition of the network.
- > Kerb ramp alignments are required for DDA compliance.
- > A primary pedestrian network should be identified to provide access between Inner West neighbourhoods.
- > Proactively consider pedestrian planning and accessibility upfront in proposals rather than in a reactive manner.

3.3.2 Cycling

3.3.2.1 Experience and environment

The cycling experience varies throughout the Inner West. Local roads provide safe, comfortable and low speed environments, whereas infrastructure is often disconnected in higher speed environments such as on Parramatta Road. While the major regional roads are often the most direct routes through the Inner West, apart from Victoria Road they don't provide cycling infrastructure, reducing cyclist safety and amenity in these high speed, high volume environments.

Existing attitudes in the Inner West towards cycling affect participation. A number of residents have safety concerns in relation to cycling, particularly as there is a lack of infrastructure which separates vehicles from cyclists. Conflicts also arise when planning for new cycling infrastructure that may replace on-street parking that residents heavily rely on.

Other challenges to cycling within the Inner West are:

- > Some road surfaces are cracked, have pot holes and utility cover obstructions;
- > Parramatta Road and other higher speed roads are a barrier to north-south cycling;
- > Popular cycling routes are often parallel to rail lines and there's limited room between the rail line and private properties;
- > Disconnected cycling infrastructure;
- > Unique topography of the area particularly the northern peninsula around Balmain;
- > Road reserves and footpaths vary in width throughout the Inner West; and
- > On- road parking is available on both sides of most streets in the Inner West, reducing room for cycling infrastructure. Angled parking is especially an issue for cyclist safety. Safe cycling infrastructure could require the removal of parking, however could be a controversial action for the community.

3.3.2.2 Network and destinations

Common cycling destinations within and outside of the Inner West include:

- > Sydney CBD;
- > Sydney Airport;
- > Newtown-Enmore; and
- > University of Sydney.

Cyclists desire to ride to employment hubs such as the Sydney CBD and Enmore/ Newtown. The University of Sydney is also a highly desirable destination for cyclists, especially for staff and students living in the Inner West.

3.3.2.3 Infrastructure

The cycle network in the Inner West mainly consists of mixed traffic routes of varying difficulty. Infrastructure on these routes typically includes bicycle stencils and wayfinding signage. Recreational shared paths are also located on the Balmain Peninsula in the north and around the Cooks River in the south of the Inner West.

Bicycle boulevards were introduced in the 2016 Leichhardt Bike Plan. These are low speed, local roads that create streets for people and a safe environment for cyclists, such as on Nelson Street, Young Street and Renwick Street, connecting Parramatta Road with Leichhardt and Annandale.

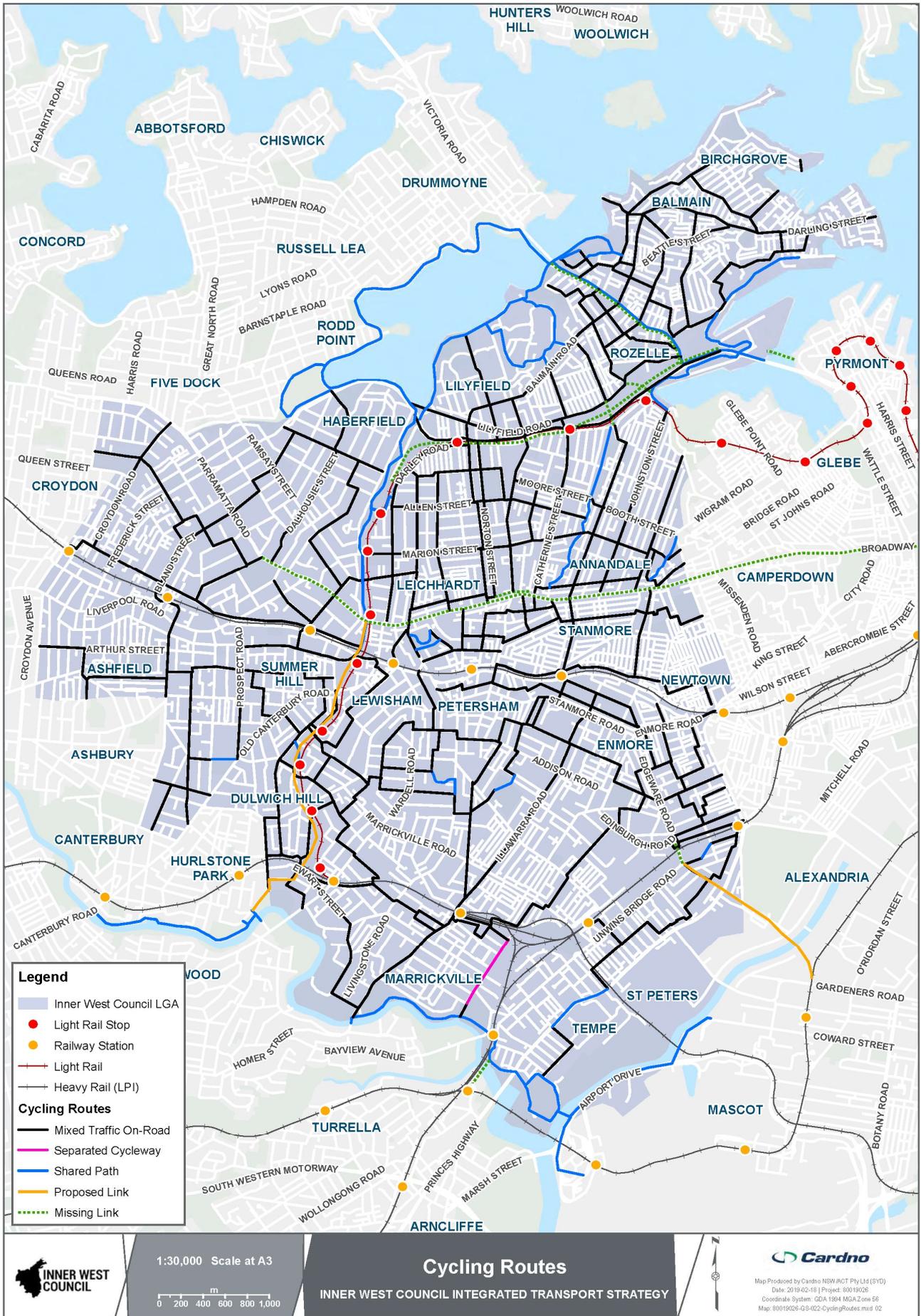
Bicycle parking is provided on main roads in local town centres, such as on King Street in Newtown, Liverpool Road in Ashfield, and Booth Street in Annandale.

The cycling infrastructure for each route across the Inner West is shown on **Figure 3-4**.

Bicycle network - implications for IWC ITS

- > A primary bicycle network should be constructed to provide easier access throughout the Inner West linking to a majority of local centres.
- > A bicycle network should be supplemented by end of trip facilities such as bicycle parking.
- > An integrated approach to bicycle network planning is to consider a Local Area Traffic Management plan in conjunction with bicycle route planning.
- > Shared paths should be avoided (where possible) around high volume pedestrian areas and in front of shopfronts to minimise the potential for conflict.
- > Consideration may be given to prioritising cyclist and pedestrian movements to improve route continuity through the provision of continuous footpaths.
- > Initiatives need to supplement infrastructure to promote awareness of new routes and 'train' people to have a mindset of walk/cycle first.

Figure 3-4 Cycling routes



3.4 Public transport networks

3.4.1 Heavy rail

3.4.1.1 Routes and networks

The following train services operate within the Inner West, shown on **Figure 3-5**:

- > T1 North Shore, Northern & Western Line;
- > T2 Inner West & Leppington Line;
- > T3 Bankstown Line;
- > T4 Eastern Suburbs & Illawarra Line; and
- > T8 Airport & South Line.

3.4.1.2 Capacity

Sydney double-deck trains have a 100 per cent capacity of approximately 1,200 people per train, with line capacities of 24,000 people per hour (assuming 3 minute frequency during peak periods).

The T3 line capacity is reduced because it shares line space with the T2 and T8 line in the Sydney CBD loop. This operational constraint limits the maximum number of trains per hour during network peaks. Currently up to 7 trains from Marrickville are scheduled in a peak hour, which provides a capacity of approximately 8,400 people.

As stated, the T2 line capacity is reduced because it shares the Sydney CBD loop with the T3 line. Currently 13 trains from Ashfield are scheduled towards the CBD in an AM peak hour, giving a capacity of approximately 15,600 people.

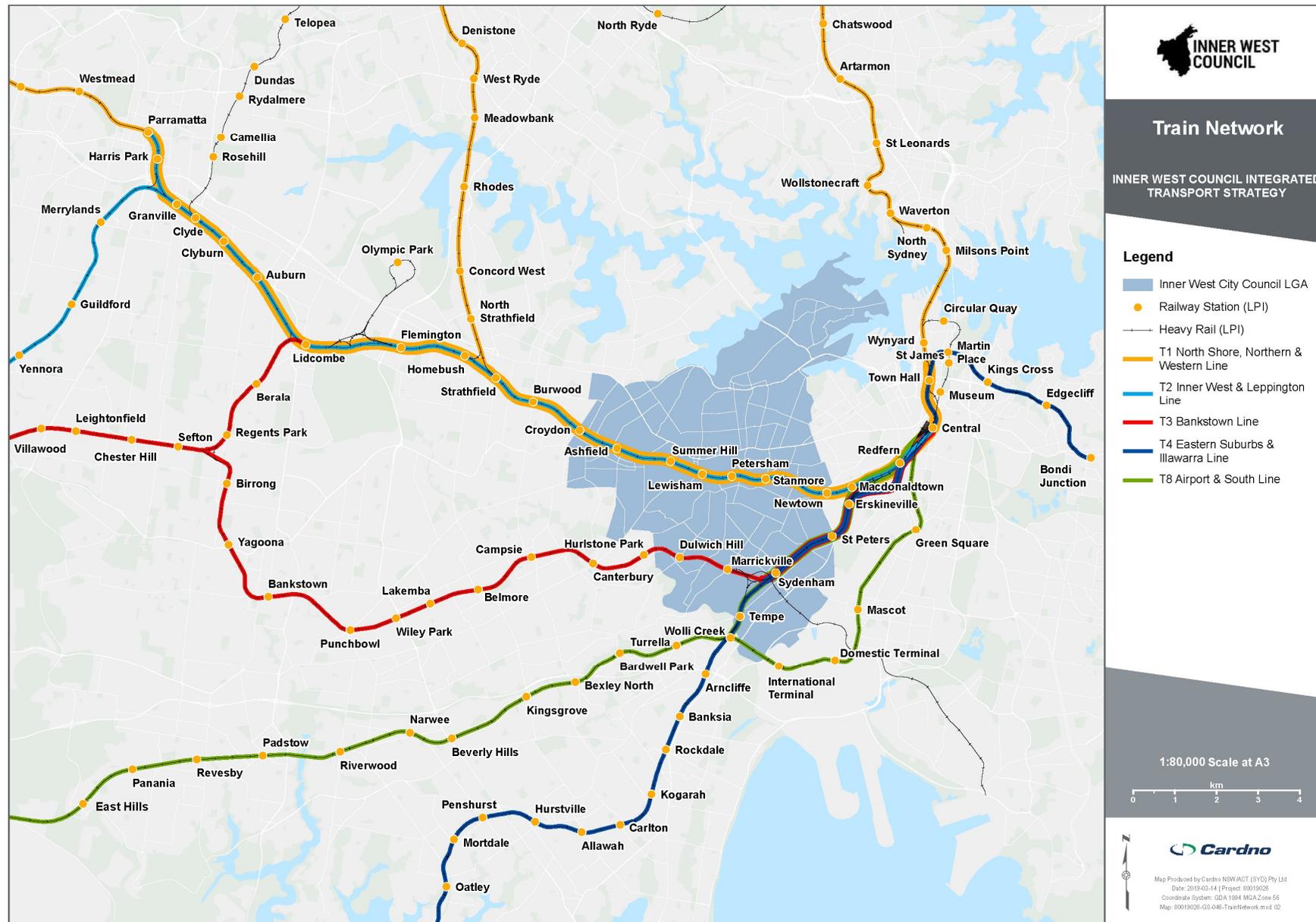
3.4.1.3 Connection to other services

Interchange with bus stops is provided at each railway station in the Inner West, with bus stops located a few minutes walk from station entrances. Interchange with light rail is also possible at Dulwich Hill, with Dulwich Hill Light Rail Stop, located at a three minute walk away. Heavy rail/light rail station integration is generally poor, with long transfer distances between the respective stations.

Train network - implications for IWC ITS

- > The train network provides a high people carrying capacity in east-west directions through the Inner West.
- > Bus-train linked journeys should be encouraged, particularly from the western and southern edges of the LGA.
- > Pedestrian and cycling networks around stations should be reviewed to encourage walking and cycling linked train journeys.
- > There is limited availability for additional train paths (services) during peak periods.

Figure 3-5 Train line coverage



3.4.2 Light rail

3.4.2.1 Capacity

Trams that run on the L1 line have a 100 per cent passenger capacity of 271 people⁷. At peak periods the timetable state trams run every 5 to 8 minutes, this is an hourly range of 2,030 to 3,250 people in each direction.

3.4.2.2 Routes and networks

The L1 Dulwich Hill line services 23 stops between Central Station and Dulwich Hill, shown in **Figure 3-6**. The 11 stops within the Inner West are:

- > Dulwich Hill;
- > Dulwich Grove;
- > Arlington;
- > Waratah Mills;
- > Lewisham West;
- > Taverners Hill;
- > Hawthorne;
- > Marion;
- > Leichhardt North;
- > Rozelle Bay; and
- > Lilyfield.

An end to end journey takes approximately 36 minutes.

Between Dulwich Hill and Central on weekdays, services operate every five to eight minutes between 6:30am and 8:50am, every eight to 12 minutes between 8:50am and 1:30am, every five to eight minutes between 2:30pm and 7:00pm and every 15 minutes between 7:40pm and 10:10pm.

Table 3-2 Light rail service frequency

Weekday	Saturday	Sunday
<ul style="list-style-type: none">▪ Every five to eight minutes between 6:30am and 8:30am▪ Every eight to 12 minutes between 8:50am and 1:50pm▪ Every five to eight minutes between 2:20 pm and 7:20pm▪ Every 15 minutes between 7:20pm and 10:50pm	<ul style="list-style-type: none">▪ Every 15 minutes between 6:00am and 10:15am▪ Every eight to 12 minutes between 10:50am and 7:15pm▪ Every 15 minutes between 7:15pm and 11:15pm	<ul style="list-style-type: none">▪ Every 15 minutes between 6:00am and 9:30am▪ Every eight to 12 minutes between 10:00am and 5:15pm▪ Every 15 minutes between 5:15pm and 11:00pm

Source: TfNSW

Government reports outline that infrastructure constraints (power supply and headway) limit further capacity on the light rail corridor⁸. Further, the construction of the light rail to Dulwich Hill with a single turnback platform has also been highlighted as a constraint. In the medium term, procurement of new light rail assets takes a number of years, and CBD light rail assets are not operable on the Inner West light rail line due to differences in design standards.

⁷ <https://www.caf.net/en/productos-servicios/proyectos/proyecto-detalle.php?p=248>

⁸ <https://www.scribd.com/document/386931640/Capacity-Constraint-Strategies>, accessed 5 March 2019

3.4.2.3 Connection to other services

Light rail stops at Dulwich Hill and Lewisham west are located within 300 metres of interchange points with heavy rail stations. Bus stops are provided at all light rail stops in the Inner West, except for Arlington and Waratah Mills, where the closest bus stops are located over 500 metres away.

Light rail customers alighting at Central Station can also transfer to bus and rail connections.

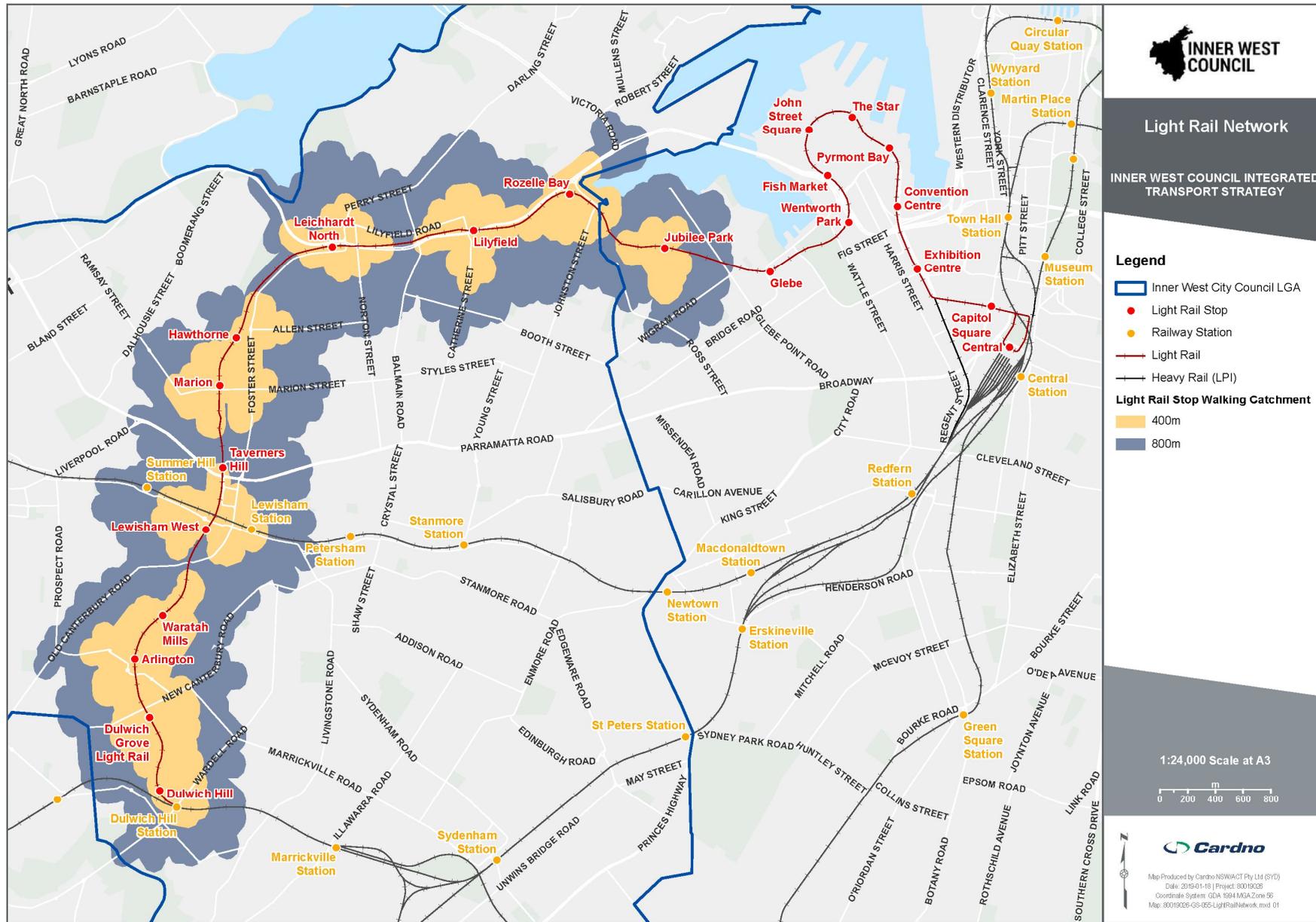
Light rail network - implications for IWC ITS

- > Light rail has limited capacity to cater for more journeys during peak periods⁹.
- > There is no interoperability between light rail infrastructure for the Inner West light rail and CBD south east light rail¹⁰.
- > Light rail extensions into the Bays Precinct are being considered.
- > There is generally poor connectivity between light rail and other modes of public transport (heavy rail and buses) within Inner West Council.

⁹ <https://www.caf.net/en/productos-servicios/proyectos/proyecto-detalle.php?p=248>

¹⁰ <https://www.scribd.com/document/386931640/Capacity-Constraint-Strategies>, accessed 5 March 2019

Figure 3-6 Light rail network



3.4.3 Ferry

3.4.3.1 Capacity

Sydney ferries generally have capacity for 400 people (First Fleet and Emerald class) and catamarans (RiverCat and SuperCat class) have capacities of 230 – 250 people.

3.4.3.2 Routes and networks

Three ferry wharves service the Inner West. They are:

- > Birchgrove;
- > Balmain; and
- > Balmain East.

These wharves are serviced by the F3 Parramatta River, F4 Cross Harbour and F8 Cockatoo Island ferry routes, shown in **Figure 3-7**. Other ferry services connecting to Circular Quay are the F1 Manly, F2 Taronga Zoo, F5 Neutral Bay, F6 Mosman Bay and F7 Double Bay services.

3.4.3.3 Connection to other services

Ferry wharves in the Inner West are not well connected with other public transport services. The closest bus stops to Birchgrove Ferry Wharf are located 715 metres away on Grove Street, where customers can access the 441 bus service. Similarly, the closest bus stops to Balmain Wharf are located on Darling Street, with a walking distance greater than 500 metres, where customers can access the 233, 442 and 445 bus routes. Two bicycle parking racks are provided at Balmain Wharf.

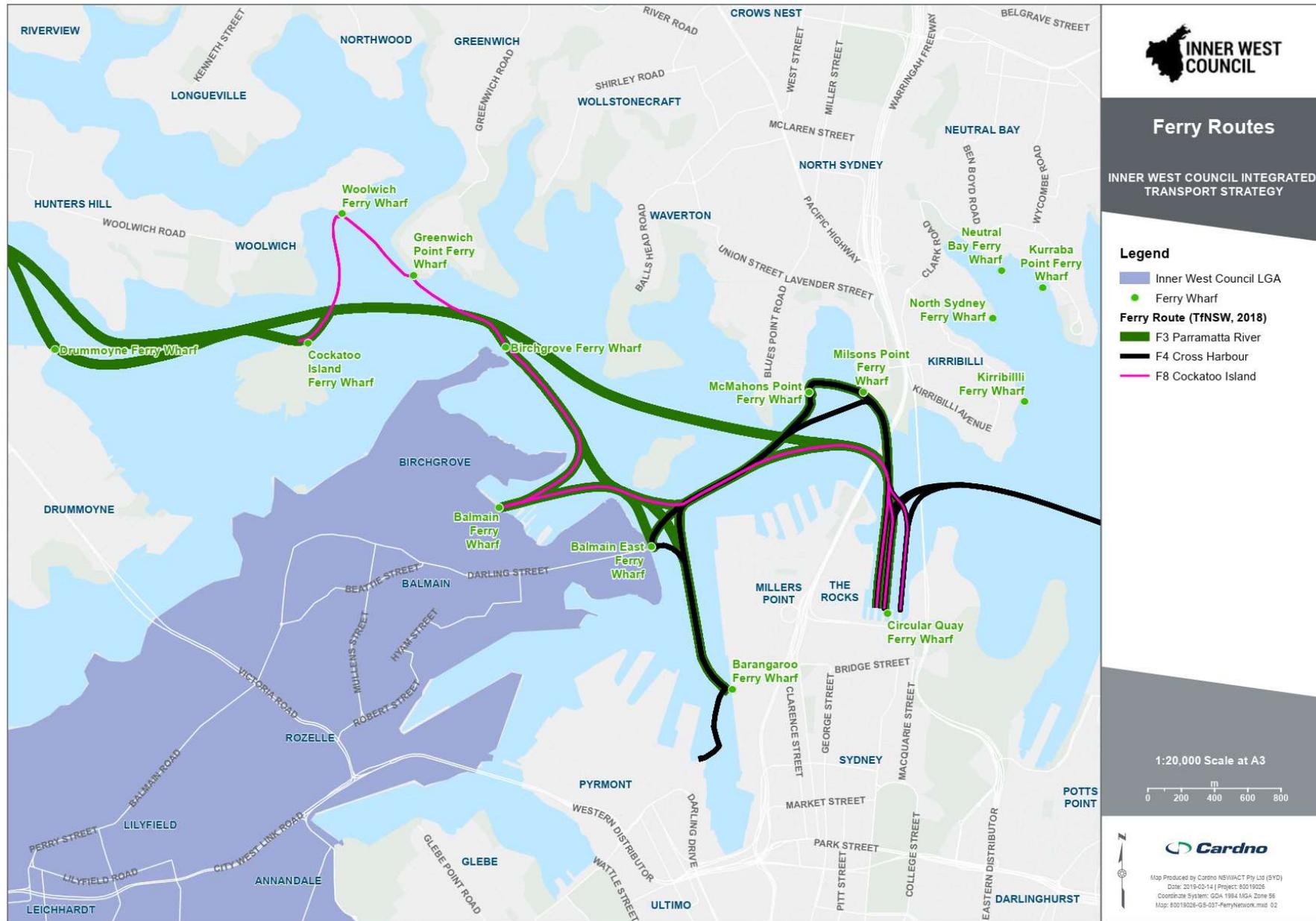
Bus stops are located at Balmain East Ferry Wharf, where customers can catch the 442 bus.

Ferry network - implications for IWC ITS

- > Infrastructure and public transport services supporting ferry linked journeys is generally poor.
- > The location of ferry wharves on tips of peninsulas means that parking provision is limited.
- > This generally will mean that people who catch ferries are within walking distance of the wharf, or are a vehicle passenger. This comment is supported by Sydney's ferry future access mode analysis¹¹
- > Sydney's ferry future also outlines 'preferred' ferry wharf locations at Johnstons Bay, Glebe Point and Birchgrove.

¹¹ <https://mysydneycbd.nsw.gov.au/sites/default/files/user-files/uploads/ferries-future-web.pdf>, pg 9, accessed 5 March 2019

Figure 3-7 Ferry network



3.4.4 Bus

3.4.4.1 Capacity

Bus fleet specifications from Transit Systems indicates buses that operate in the Inner West generally consist of:

- > 12.5 metre two-door buses with a combined seating and standing capacity of 60 people;
- > 18-metre articulated buses with a combined seating and standing capacity of 80 people; and
- > Articulated buses in other regions have capacities of 115 people.

At one minute headways, hourly bus person capacity along a corridor is 3,600, 4,800 and 6,900 people respectively.

3.4.4.2 Network and routes

The IWC LGA is serviced by 60 bus routes, including five express services, four metro bus services and five limited stops services. There are also 12 nightrider bus routes servicing the Inner West. Parramatta Road and Victoria Road are major bus corridors.

Parramatta Road has 11 bus routes and six night-rider bus routes, shown in **Table 3-3**.

Table 3-3 Parramatta Road bus routes

Route	Areas serviced
413	Campsie to City via Ashbury, Lewisham, Parramatta Road, University of Sydney and Railway Square.
436	Chiswick to Central via Russell Lea, Five Dock, Rodd Point, Haberfield, Leichhardt, Annandale, Camperdown, Forest Lodge, Glebe, Ultimo and Sydney CBD.
438/ L38	Abbotsford to City via Five Dock, Haberfield, Norton Street, Parramatta Road, University of Sydney and Railway Square. Route L38 operates Monday to Friday during peak periods and is a limited stops service.
439, L39	Mortlake to City via Concord, Canada Bay, Five Dock, Haberfield, Norton Street, Parramatta Road, University of Sydney and Railway Square. Route L39 operates Monday to Friday during peak periods and is a limited stops service.
440	Bondi Junction to Rozelle via Paddington, Darlinghurst, Surry Hills, Sydney CBD, Haymarket, Chippendale, Camperdown, Stanmore, Petersham, Leichhardt and Lilyfield.
461	Burwood to City via Parramatta Road, University of Sydney and Railway Square.
480	Strathfield to City via South Strathfield, Ashfield (Liverpool Road), Parramatta Road, University of Sydney and Railway Square.
483	Strathfield to City via South Strathfield, Ashfield (Liverpool Road), Parramatta Road, University of Sydney and Railway Square.
M10	Leichhardt to Maroubra Junction via Parramatta Road, University of Sydney, University of Technology, Broadway, City, Taylor Square, Anzac Parade and UNSW.

Victoria Road has 15 bus routes, described in **Table 3-4**.

Table 3-4 Victoria Road bus routes

Route	Areas serviced
433	Balmain Gladstone Park to Central Pitt Street via Balmain East, Rozelle, Annandale, Forest Lodge, Glebe, Ultimo and Sydney CBD.
500/ X00	Ryde to Circular Quay via Gladesville, Henley, Huntleys Point, Drummoyne, Rozelle and Sydney CBD.
501	West Ryde to Central Pitt Street via Pyrmont, Ultimo, Ryde, Gladesville, Henley, Huntleys Point, Drummoyne, Rozelle, Pyrmont and Sydney CBD.
502	Five Dock to City Town Hall via Concord, Canada Bay, Russell Lea, Drummoyne, Rozelle and Sydney CBD.
505	Woolwich to City Town Hall via Hunters Hill, Drummoyne, Rozelle and Sydney CBD.

Route	Areas serviced
506/ X06	Macquarie University to City Domain via East Ryde, Macquarie Park, North Ryde, East Ryde, Ryde, Gladesville, Hunters Hill, Drummoyne, Rozelle, Sydney CBD and Woolloomooloo.
507	Macquarie University to Circular Quay via Putney, Marsfield, Ryde, North Ryde, Meadowbank, Putney, Gladesville, Henley, Huntleys Point, Drummoyne, Rozelle and Sydney CBD.
508	Drummoyne to City Town Hall via Rozelle and Sydney CBD.
510	Ryde to City Town Hall via Gladesville, Henley, Huntleys Point, Drummoyne, Rozelle and Sydney CBD.
515/ X15	Eastwood to City Circular Quay via Denistone, Denistone East, Ryde, Gladesville, Henley, Huntleys Point, Drummoyne, Rozelle and Sydney CBD.
518/ X18	Macquarie University to City Circular Quay via Macquarie Park, Marsfield, Eastwood, Ryde, Gladesville, Henley, Huntleys Point, Drummoyne, Rozelle and Sydney CBD.
520	Parramatta to City Circular Quay via West Ryde, North Parramatta, Dundas, Rydalmere, Ermington, West Ryde, Denistone, Ryde, Gladesville, Henley, Huntleys Point, Drummoyne, Rozelle and Sydney CBD.
M50	Coogee to Drummoyne via Randwick, Kensington, Moore Park, Redfern, Surry Hills, Central, Haymarket, Sydney CBD and Rozelle.
M52	Parramatta to City Circular Quay via North Parramatta, Dundas, Rydalmere, Ermington, West Ryde, Ryde, Gladesville, Henley, Drummoyne, Rozelle and Sydney CBD.

There are several bus routes that do not primarily operate along Victoria Road or Parramatta Road. Bus routes that do this are discussed in **Table 3-5**.

Table 3-5 Other services not servicing Parramatta Road or Victoria Road

Route	Route Description	Provides north-south link across Parramatta Road in the Inner West
308	Marrickville Metro to City via Redfern	No
348	Wolli Creek to Bondi Junction	No
352	Marrickville Metro to Bondi Junction	No
355	Marrickville Metro to Bondi Junction	No
370	Leichhardt Marketplace to Coogee	No
406	Five Dock to Hurlstone Park	Yes
412	Campsie to City (Martin Place) via Earlwood	No
413	Campsie to Martin Place	No
418	Kingsford to Burwood via Mascot, Sydenham and Dulwich Hill	No
422	Kogarah to Central (Pitt Street)	No
423	Kingsgrove to Martin Place	No
425	Tempe to Dulwich Hill	No
426	Dulwich Hill to Martin Place	No
428	Canterbury to Martin Place	No
436	Chiswick to Central	No
440	Bondi Junction to Rozelle	No
441	Birchgrove to City Art Gallery	No
442	Balmain East Wharf to City	No
444	Campsie to Balmain East Wharf	Yes
445	Campsie to Balmain via Leichhardt Marketplace	Yes

Route	Route Description	Provides north-south link across Parramatta Road in the Inner West
466	Cabarita Park to Ashfield	No
470	Lilyfield to Martin Place	No
490	Hurstville to Drummoyne	No
491	Hurstville to Five Dock	Yes
492	Rockdale to Drummoyne	No
504	Chiswick to City	No
L23	Kingsgrove to City	No
L28	Canterbury to Martin Place	No
L37	Haberfield to City	No
M30	Sydenham to Taronga Zoo	No
X04	City Domain to Chiswick	No

3.4.4.3 Connection to other services

Bus stops are provided at all train stations for interchange with the rail network. Interchange with buses is not provided Waratah Mills Light Rail Stop, Arlington Light Rail Stop, Balmain Ferry Wharf or Birchgrove Ferry Wharf. Several major bus stops allow interchange between bus services as well.

3.4.4.4 Bus stop catchment

The Inner West is generally well serviced by bus stops. There are however, a few areas that lie outside of a 400 metre walking distance to a bus stop, including in areas in Marrickville South, Dulwich Hill, Haberfield and Lilyfield. These areas are shown in **Figure 3-9**.

3.4.4.5 Community buses

The Leichhardt Local Link is a free community bus (funded by Council) connecting local services such as Leichhardt Park Aquatic Centre, health services, transport services, community facilities, hopping precincts and high streets. The bus runs between 8:30am and 2:45pm on Mondays and Thursdays.

The community bus route is shown in **Figure 3-9**.

3.4.4.6 On demand buses

On demand buses are operating within the Inner West by Transit Systems, with services connecting between Rhodes, Concord, Mortlake, Breakfast Point, Cabarita, Canada Bay, Burwood and Strathfield. Bookings can be made through the Bridj mobile app.

On-demand buses are generally provided in localities with lower demands. They are smaller than standard buses which make them more maneuverable and reduces their operating cost. They are estimated to have a capacity of approximately 15 to 20 people. An on-demand bus is shown in **Figure 3-8**.

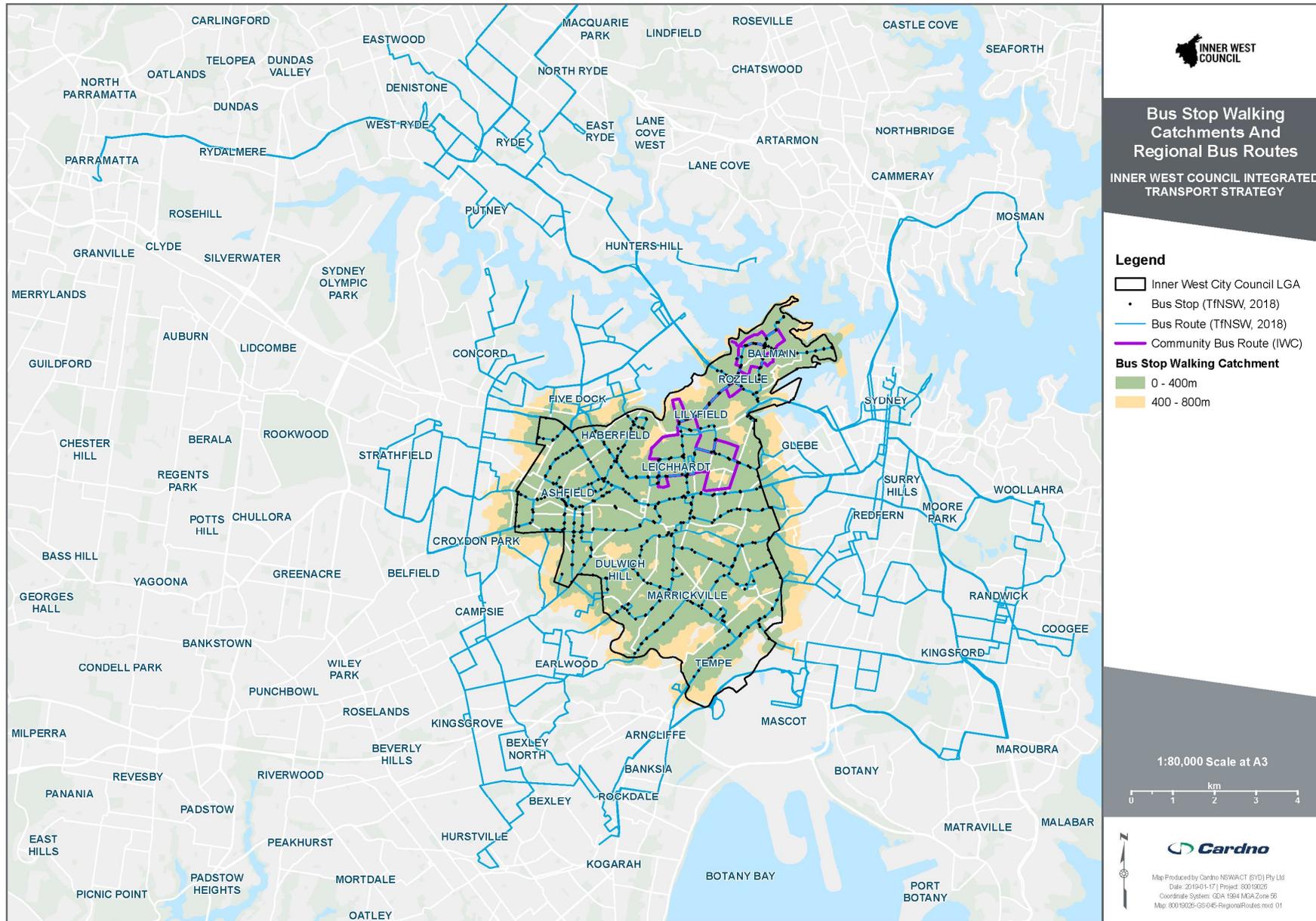
Figure 3-8 On-demand bus at Cabarita wharf



Bus network - implications for IWC ITS

- > There are a high number of bus routes that operate throughout Inner West. This adds to the complexity and reduces the legibility of the network.
- > Given the number of routes, there is likely to be an opportunity for the state government to simplify the network and more effectively use the existing resources.
- > Buses provide a good level of capacity for lower demand routes and provide efficient use of road space in comparison to private vehicles.
- > Reliability of buses is affected by underlying traffic conditions on the road network.
- > Network coverage in the Inner West should be assessed to complete coverage and access.
- > A grid network may be considered to enhance the efficiency of the bus network.
- > Buses have a perceived lower level of attractiveness compared to light rail and heavy rail.
- > Bus lanes being extended on Parramatta Road alongside delivery of WestConnex.
- > Providing enhanced opportunities for intermodal journeys and coordinate bus-train timetabling.

Figure 3-9 Bus stop walking catchment and bus routes



3.5 Parking

The parking 'system' is defined to be all public and private parking, designed for the use of employees, residents or visitors and located on-street or off-street. Through a range of mechanisms, Council has direct control or influence on all aspects of this system.

Public on-street and off-street parking is provided by Council for the benefit of the community, and managed to support specific land uses or functions. The form of management used includes supply restrictions by time, duration or type, as well as demand reduction measures such as paid parking.

Private parking provision is governed by the Council's statutory parking policies. These regulate the supply of parking to meet the broader land use and transport goals for individual Precincts and areas.

2016 Census data for Inner West Council shows that each household owns, on average, 1.21 vehicles. Within the data, it is shown that there are 11,931 households which own 0 vehicles, 33,604 households which own one vehicle, and 1,165 households which own more than 4 vehicles.

3.5.1 Public On-Street Parking

Publically accessible car parking is provided throughout the Inner West Council of on- and off-street locations.

On key roads, parking is restricted at peak times through clearway management to facilitate additional traffic capacity. Outside of these key corridors, on-street parking is either uncontrolled or managed through short-stay duration restrictions during business hours.

On-street paid parking has been implemented along Norton Street in Leichhardt Town Centre and Darling Street in Balmain to assist with parking demand management. Outside of these two Town Centre precincts, parking is managed exclusively through timing and duration restrictions.

Many on-street locations allow residents to ignore restrictions, reflecting concessions towards heritage dwellings constructed without on-site car parking. In particular, the Narrow Streets Program allows residents to park on the footpath to enable cars to pass in the narrow streets of the Balmain Peninsula.

3.5.2 Development parking rates

New development in the Inner West generally require some provision of on-site parking facilities.

Precincts within IWC operate under a range of different statutory requirements, resulting from specific regional factors, and legacy policies. These statutory requirements are anticipated to be rationalised through the preparation of the new LEP and DCP.

A comparison of Development Control Plan (DCP) and Local Environment Plan (LEP) parking rates was undertaken to assess the difference in DCP's applicable in IWC and in comparison to the adjacent City of Sydney rates.

Documents reviewed as part of this comparison include:

- > Inner West Comprehensive DCP 2016 for Ashbury, Ashfield, Croydon, Croydon Park, Haberfield, Hurlstone Park and Summer Hill (former Ashfield LGA);
- > Leichhardt DCP 2013 (Amendment No. 11);
- > Marrickville DCP 2011;
- > Sydney DCP 2012; and
- > Sydney LEP 2012.

Car parking rates are generally specified in the relevant DCP (City of Sydney maximum rates are specified in their LEP).

3.5.3 Development parking rate commentary

Location based rates

Marrickville and Sydney nominate varying car parking supply rates based the location of development. The rates generally reflect the distance to high quality (frequency, capacity, service span) public transport links and the associated opportunities for alternative transport.

The reduction in car parking demand associated with the availability of alternative transport infrastructure is not uniform across all land types. Trips to and from employment are the most likely to shift to sustainable transport, while trips to retail and restaurant destinations are more inelastic. This impacts the requirements for car parking associated with these land uses.

There is a corresponding effect in mixed-use neighbourhoods where residential and activity density are both high. Residents are very likely to walk to local retail, restaurant and entertainment destinations (internal trip capture), which again reduces the requirements for car parking.

The location based rates used in Marrickville and Sydney conflate these two effects, but a more general policy which varies statutory car parking requirements by location may need to consider the types of Centres when determining

It is understood that Council's traffic engineering team are generally supportive of the Marrickville rates and consider these appropriate for the areas where they apply.

Bicycle parking

Bicycle parking encourages the participation in the mode contributing to sustainability.

Bicycle parking is separated into a resident/ employee provision and a visitor/customer provision. DCP's generally provided guidance and requirements for location, accessibility and end of trip facilities employees.

Ideally, bicycle parking requirements would meet or exceed the target mode share. Ashfield and Leichhardt rates support a maximum 5% cycling mode share, while Marrickville rates (at least for office employees) support a cycling mode share of 8-12%.

Motorcycle/ scooter parking

Motorcycles and scooters are a space efficient form of transport. More than this, in the absence of motorcycle bays, these vehicles consume car parking spaces.

Provisions are generally based on the number of car spaces provided without nominating separation between residents/ employees and visitors. It is assumed the intentions is that motorcycle parking is a shared provision. The exception is the Ashfield, which has multi-unit residential and visitor rates nominated.

Accessible car spaces

Accessible parking contributes to social equity.

The Leichhardt DCP reproduces rates set out in the Building Code Australia (BCA). While not specified in other DCP's these still apply to all new development.

Accessible visitor car spaces

Accessible visitor spaces are bundled in with the overall supply of accessible car parking requirements in the BCA. Sydney DCP nominates rates above the BCA.

Car share

Car share can help to reduce the need of people to own their own vehicle contributing to more effective use of space. The upfront payment of car use creates a stronger incentive for users to consider the real need to use a car or other modes.

Leichhardt DCP nominates rates for residential uses. The Sydney DCP nominates varying rates depending on location. Where nominated, it is generally for larger developments. IWC evidence suggests on-street car-share spaces on average are used 25% more than spaces within developments.

Leichhardt allows a reduction in the total quantum of car parking by providing car share space(s). Marrickville DCP suggests a reduction can be considered. Car share is included in the maximum allowable provision in the Sydney DCP.

Electric vehicle charging infrastructure

None of the DCPs specify any requirement for charging infrastructure for electric vehicles of any type. Marrickville DCP suggests providing charging infrastructure adjacent to electric vehicle parking spaces.

Electrical infrastructure should be considered for electric bicycles, scooters and cars. As sustainable energy and electrical storage technologies improve, electrically propelled vehicles are expected to become a dominant proportion of the private vehicle fleet.

Travel Plan

Only Leichhardt suggests travel plans for residential land uses, while Marrickville DCP indicates this can be used to justify lower parking rates. For shop and office uses, all developments over a certain size are required to have a travel plan outside of Marrickville. Sydney does not provide a metric and only specifies that a travel plan is needed for non-residential land uses.

Loading and servicing

Ashfield DCP states that loading and unloading facilities are required where regular deliveries of goods are made. This DCP considers each land use of its requirement as opposed to set rates. Leichhardt refers to Roads and Maritime and Australian Standard documentation. Marrickville and Sydney DCP's specify rates for various land uses.

Car space visitor

Visitor car parking is generally required for new residential developments, however the statutory requirement varies significantly across the IWC, a minimum of 1 per 10 units in Marrickville up to 1 per 4 units in Leichhardt. Visitor parking requirements are one of the primary determining factors in the viability of residential development as these bays are managed and maintained by the strata body. The cost is therefore passed on to the property owners through higher strata fees, rather than at the point of sale.

No visitor parking provision is required in locations of high public transport accessibility in Marrickville or Sydney DCP.

It is generally assumed that the majority of visitor parking takes place on public on-street facilities, irrespective of the statutory private supply.

Car spaces residential

Sydney nominates maximum car parking rates in the LEP.

Leichhardt nominates minimum and maximum provisions in the DCP. Generally, the parking rate is tied to the number of bedrooms in a residential unit with the exception of the IWC comprehensive DCP that nominates a minimum of one per dwelling.

Where parking rates are less than one per dwelling, it is expected that one will be allocated to a residential unit and that some residential units will not have an allocated car space. This allocation may be 'stapled' to the Lot title or unbundled and purchased or leased through a development parking ownership pool.

There is an expectation that an occupier without an allocated parking bay will not own a car. Low rates of private vehicle ownership are the greatest determining factor for residential private vehicle trip generation.

Low rates of residential parking also lower the cost of development, which is passed on to consumers through a lower purchase price for units.

However, the provision of free on-street residential parking, particularly where this is supported through residential permits, undermines the effectiveness of residential parking supply restriction as a travel management tool. The burden of vehicle storage is passed onto the Council, along with a significant opportunity cost – on-street parking bays cannot be efficiently used for other types of parking, or improved local amenity (street trees, improved pedestrian facilities etc.)

Car space shop/ office

Sydney nominates maximum car parking rates based on the development size in the LEP. Parking rates are also based on the size of development in IWC areas, total requirements are shared with employees and visitors.

Car parking rate summary

Overall, low parking rates and requirements for sustainable parking provisions help to contribute to a higher level of sustainability within the Inner West. It is expected a consistent approach to parking controls will be implemented with the creation of the new Inner West DCP.

An approach that varies rates based on access to other transport provisions as per the Marrickville and Sydney controls seems like a logic approach which could be considered for Inner West Council.

3.5.4 Publically accessible private parking management

Where private parking is maintained for public use, it is generally managed through restrictions to time, fees, vehicle/ movement type and permit schemes.

Parking restrictions have been established over a long time period and implementation varies significantly between facilities according to their individual needs and ideology.

Some paid locations have the option of a free period (15 or 30 minutes) to accommodate short-stay trips.

3.5.4.1 Accessible parking

Residents can apply for an accessible parking space outside of their residential address.

<https://www.innerwest.nsw.gov.au/live/information-for-residents/parking/accessible-parking>

3.5.4.2 Taxi zones

Inner West Council does not have a taxi zone policy.

On-street taxi zones are provided on an as needs basis near land uses and precincts that generate a notable demand. The NSW Taxi Council maintains a database for taxi ranks which includes the

3.5.4.3 Permit parking

Council offers a large range of permit parking schemes specific to individual areas and Precincts. These are generally provided in localities where there are high and competing parking demands.

Residential parking schemes are provided to protect parking encroachment from surrounding land uses and is provided for developments approved prior to January 2001.

Parking permits include:

- > Resident/ Visitors/ Pensioners;
- > Business;
- > Care worker;
- > Trades.

In general, permits are provided for free or at nominal cost, and restricted to one or two permits per Lot/unit. Permit parking is constrained to a specific area in the vicinity of the property and defined in the *Residential Parking Permit Scheme*.

Holders of Australian Mobility Parking Scheme (MPS) permits are not required to apply for parking permits.

3.5.4.4 Loading zones

Inner West Council does not have a publically accessible on-street loading zone policy.

New developments that have significant service and delivery requirements are generally required to provide an onsite loading bay or bays sufficient for the needs of the land use.

On-street loading zones are provided in locations that service legacy developments and precincts that do not have on-site loading facilities.

On-street loading zones contribute to economic activity, however there can be conflicts between pedestrians and the movement of goods between vehicles and the serviced land use. On-street loading zones also provide the opportunity for vehicles to service several nearby properties, thereby potentially reducing vehicle movements and reducing the environmental impact freight movements.

3.5.4.5 No parking

NSW Road Rule 168 stipulates the conditions of no parking zones. Drivers are generally permitted to stop in a no parking zone for 2 minutes (unless signed otherwise) and the driver must be within 3 metres of the vehicle at all times.

'No parking' zones provide the opportunity for drop-off and pick-up movements. They can support taxi's, ride share and private vehicles, improving safety by reducing the occurrences of undertaking illegal drop-off/ pick-up movements in no stopping zones or on a through lane disrupting traffic.

It is anticipated the need for no parking areas is likely to increase in line with the increasing popularity of ride share and eventually autonomous vehicles.

3.5.4.6 Kiss and Ride

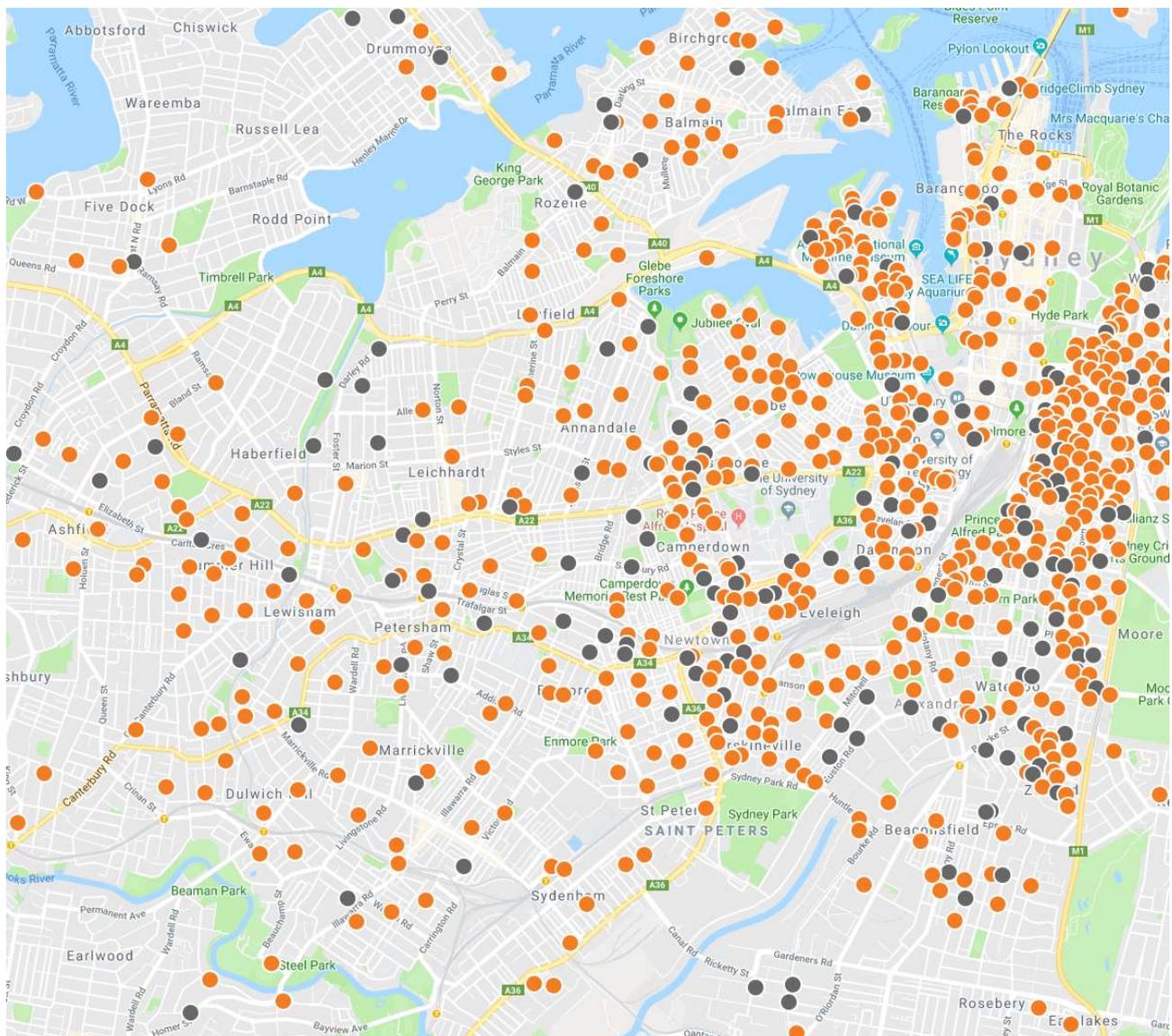
Kiss and Ride zones are located at Ashfield Station and Summer Hill Station. They operate under the same rules as 'no parking' zones, but are specifically intended to serve a passenger interchange function. Kiss and Ride zones are generally provided near train stations which help to facilitate safer access to public transport.

Kiss and Ride zones reduce the parking demand in the surrounding area by providing an efficient proximal location for very short-term parking needs.

3.5.5 Car share

Dedicated on-street car share spaces are often referred to as pods. These are located throughout the Inner West and are subject to policies of each former Council. While there are a few different operators, GoGet is the most prominent. This is displayed in **Figure 3-10**. It shows that there is a tapering of pods east of Annandale (roughly along the Council boundary), with more pods located along the rail corridor.

Figure 3-10 GoGet locations



Source: <https://app.goget.com.au/bookings/calendar>, accessed 7 March 2019 – Grey dots indicate cars which were in use at the time of map viewing at 5:30pm

Car share decreases the need for some people to own a car and can therefore reduce parking demand and traffic generation. They can generally reduce traffic generation as a price signal is enforced. Car share pods differ from traditional car hire in that cars can be used in half-hour increments, and are generally located near to where people live and work.

Car share systems include companies that offer and manage the service to the general public, peer to peer services for individual owners to rent out their own vehicles or strata corporations for use by an individual development.

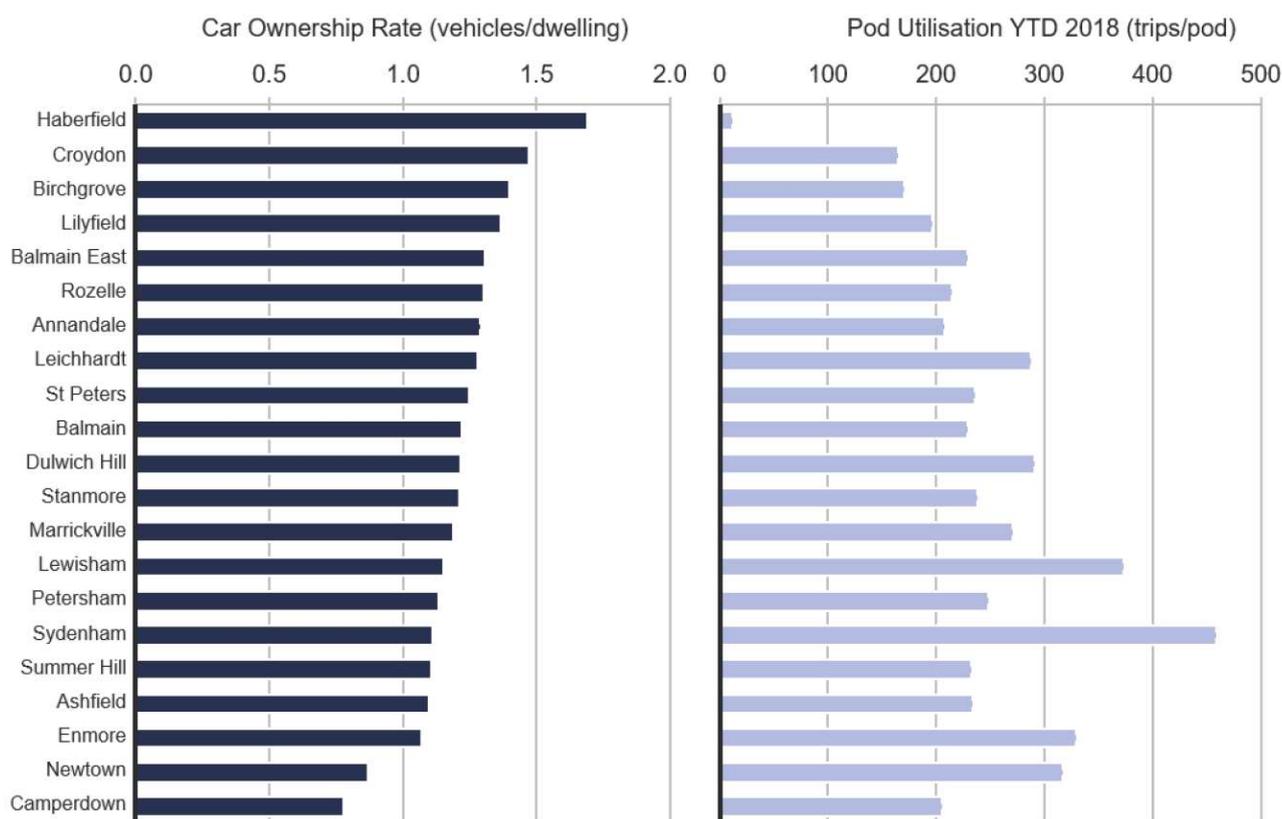
Popular car share services include:

- > Go Get;
- > Flexicar;
- > Popcar; and
- > Car Next Door (peer to peer).

Go Get and Car Next Door are the only operators within the Inner West and there are nearly 190 GoGet car share pods in the Inner West. There is limited peer-to-peer car sharing through services such as car next door.

Over the past ten years, car share usage in the Inner West has grown by an average rate of over 35 per cent per year (Kinesis, 2018).

Figure 3-11 Relationship between car ownership and car share pod utilisation



Source: Inner West Council – A Pathway to net zero emissions, Kinesis

Parking - implications for IWC ITS

- > Maximum parking rates are generally more efficient at capping traffic generation and reducing car ownership.
- > Maximum parking rates should only be implemented where there are sufficient alternatives available.
- > Car ownership is generally lower in suburbs closer to the CBD and at suburbs with train stations.
- > Parking supply is a highly emotive topic, given there is a prevalence of some of the housing stock not having off-street parking.
- > A kerbside parking plan should be adopted for commercial and residential areas.

3.6 Freight

The freight network within the Inner West consists of primary, secondary and tertiary routes. The Metropolitan Road Freight Hierarchy on the State Road Network document describes the routes as the following¹²:

- > Primary freight routes serve the needs of freight for access interstate and to strategically important ports, airports, industrial areas, freight terminals, intermodal terminals and hubs within Sydney. These roads carry typically high volumes of heavy freight vehicles (>4,000 heavy vehicle AADT).
- > Secondary freight routes provide links within regions for significant flows of freight. These roads can carry medium volumes of heavy vehicles (1,000-5,000 AADT).
- > Tertiary freight routes provide connections from the local road network, serving numerous major business and freight origins and destinations. These roads carry lower volumes of heavy vehicles (<2,000 heavy vehicle AADT).

3.6.1.1 Designated freight routes

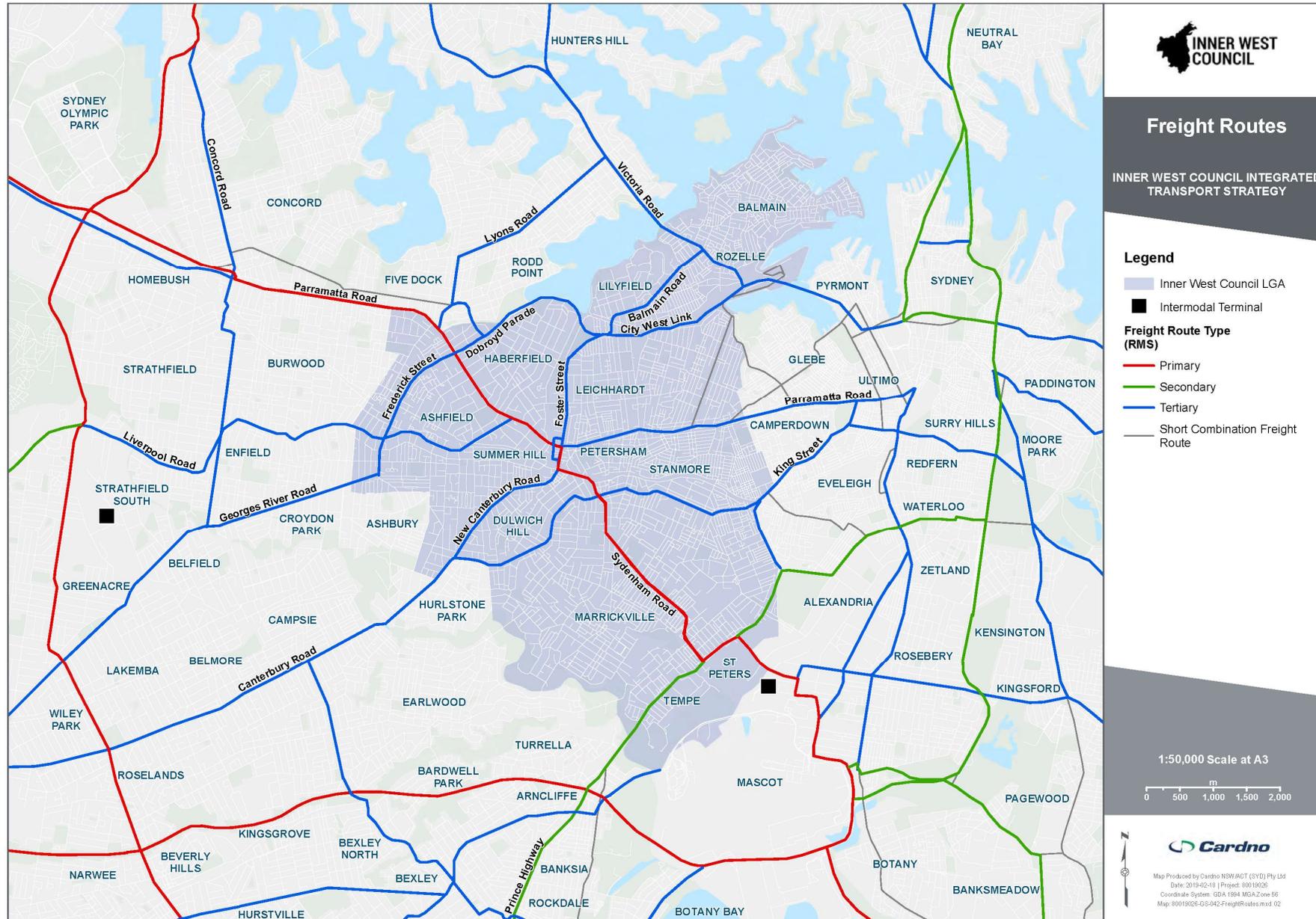
Local intermodal terminals are located in Strathfield South (Enfield) and St Peters. Freight routes within the Inner West are shown in **Figure 3-12**.

Freight network - implications for IWC ITS

- > There is limited heavy industry in the IWC LGA.
- > There will be considerable heavy vehicle pressure to the road network in the medium term as a number of infrastructure projects are progressed.
- > Heavy vehicles to be generally restricted to arterial roads, except for local access.
- > Investigate opportunities for innovation in the first and last mile logistics/delivery.
- > Routing for heavy vehicles will likely evolve as infrastructure projects are completed.
- > While projects such as WestConnex may divert some freight movement, dangerous goods will continue to be transported on surface roads.

¹² Metropolitan Road Freight Hierarchy on the State Road Network Practice Note, NSW Government, 2011

Figure 3-12 Freight routes



4 Inner West population travel behaviour

4.1 Household Travel Survey

The Household Travel Survey (HTS) collated by the Transport Performance and Analytics (TPA) division of Transport for NSW provides indicative travel behaviour information from dwellings across the Sydney Greater Metropolitan Area (GMA). Samples of residents provide detailed travel information over a typical weekday. The data is up-scaled to provide a snapshot of travel patterns of LGAs.

The Inner West is home to over 190,000 people, living in more than 74,000 dwellings with an average household size of 2.4 people. An average household owns 1.3 private vehicles which is less than the Sydney average and reflects lower dependency on cars for residents to complete daily activities. The population density in the Inner West is also significantly higher (over 14 times higher) than the Sydney average as there are many terrace style houses and apartment complexes.

Demographic data for the IWC LGA is presented in **Table 4-1**¹³. A comparison to the Sydney Greater Metropolitan Area (GMA) is also provided.

Table 4-1 HTS data for Inner West Council LGA (2016/ 2017)

	Inner West Council LGA	Sydney GMA
Estimated Residential Population (2017)	194,600	5,131,300
HTS estimated population (2016 – 2017)	185,150	5,877,400
Trips per typical weekday	717,000	22,101,600
Households	74,000	2,185,140
Number vehicles	87,200	3,650,900
Area (km ²)	35	26,779
Average people per household	2.5	2.7
Population density (people per km ²)	5,290	219
Average vehicles per household	1.2	1.7
Average vehicles per person	0.5	0.6

Source: HTS 2016/17 / Inner West LGA Estimated Resident Population from ID Profile

A trip summary by various transport modes for the IWC LGA and Sydney GMA is given in **Table 4-2**. A summary of mode share for the LGA is also provided in **Figure 4-1**. Approximately half of all trips made by residents in the LGA are either as a vehicle driver or passenger, which is much lower than approximately 70 per cent of Sydney GMA trips. The mode share for bus and train is slightly higher than the Sydney GMA average, and the mode share for walking is almost doubled. Journeys taken by 'other' mode (typically cycling and light rail) are more than doubled in the IWC LGA compared to the Sydney GMA.

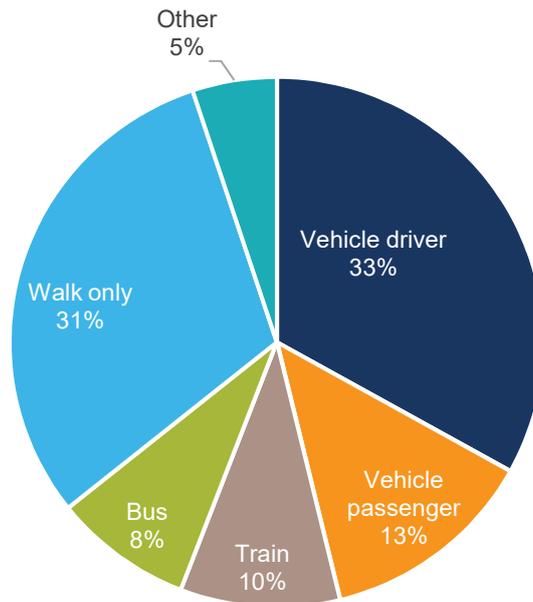
¹³ HTS data accessed from: <https://www.transport.nsw.gov.au/data-and-research/passenger-travel/surveys/household-travel-survey-hts>

Table 4-2 HTS mode share for residents in the LGA (2016/17)

IWC LGA [Sydney GMA]	Number of trips	% of total trips	Trip distance (km)	% of Total Distance	Average distance (km)
Vehicle driver	233,890 [8,915,318]	33 [48]	1,791,452 [83,929,771]	53 [56]	8 [9.4]
Vehicle passenger	92,646 [3,989,461]	13 [21]	435,428 [31,564,571]	13 [21]	5 [7.9]
Train	68,462 [1,060,647]	10 [6]	549,053 [18,456,902]	16 [12]	8 [17.4]
Bus	59,408 [1,152,121]	8 [6]	263,596 [9,589,560]	8 [6]	4 [8.3]
Walk only	216,482 [3,223,176]	31 [17]	156,643 [2,585,787]	5 [2]	1 [0.8]
Other	36,097 [337,984]	5 [2]	199,670 [2,465,295]	6 [2]	6 [7.3]
Total	706,985 [18,678,707]		3,395,842 [148,591,886]		

Source: HTS 2016/17

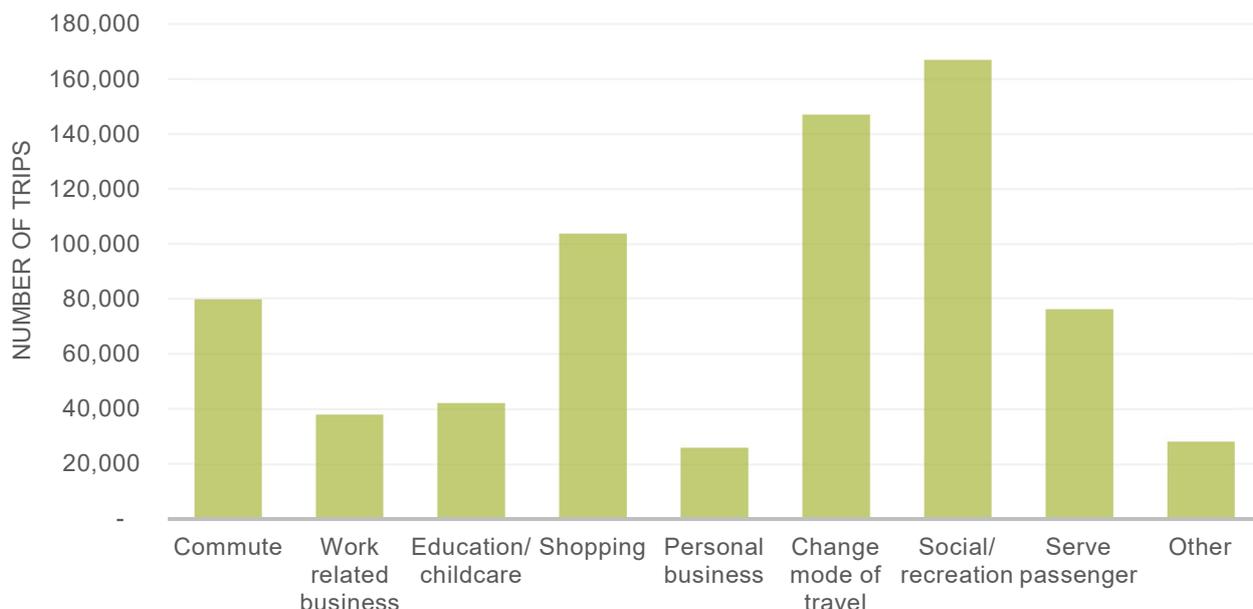
Figure 4-1 HTS mode share for residents in the LGA (2016/17)



Source: HTS mode share

A summary of the purpose of trips in the IWC LGA is shown in **Figure 4-2**. On average, trips made for commuting are generally shorter in length than equivalent trips made in the Sydney GMA.

Figure 4-2 HTS travel purpose for residents in the LGA



Source: HTS 2016/17

4.1.2 Local trips

With local centres, schools, open space and transport facilities spread across the Inner West, many trips that residents make start and finish either within the LGA (or within close proximity to the boundary of the LGA). Of the 62,354 people employed in the Inner West, approximately one third also live in the LGA, equating to 19,543 people (id.community). Trip distances for various trip types also support that on average, journey distances are comparatively small.

4.2 Travel to Work

Journey to Work is representative of approximately 11% of all daily trips (Commute). As a large portion of these occur in a small time span contributing to high transport network demands for relatively short periods of time.

For residents of the Inner West, using public transport to access places of work is growing in popularity. Train customers have grown by 63 per cent and tram and ferry customers have grown by 120 per cent since 2006.

While private vehicle driver mode share is steadily increasing as the population increases, so too are active transport modes such as walking and cycling, which have increased by ten per cent and 84 per cent respectively.

The number of Inner West residents who are working from home in 2016 has increased by 32 per cent since 2006, reflecting changes in communications that allows more and more people to work remotely.

Of the 60,162 people who work in the Inner West, more than half (53 per cent) use a private vehicle to access their place of work in 2016. Very few people indicated that they use the light rail or ferry services, and six per cent indicated that they walked.

Mode share for residents and workers of the Inner West varies throughout as shown in **Figure 4-3** and **Figure 4-4**.

The provision of a rail line has a high influence of train use to travel to work, but it could also influence the decision to live nearby. In the northern half of Inner West, where there is no rail services, there is a higher reliance on buses to travel to work. It is also noted that many people who work in the Inner West travel by car to work.

Figure 4-3 Mode share for residents of the Inner West (ABS Census JTW, 2016)

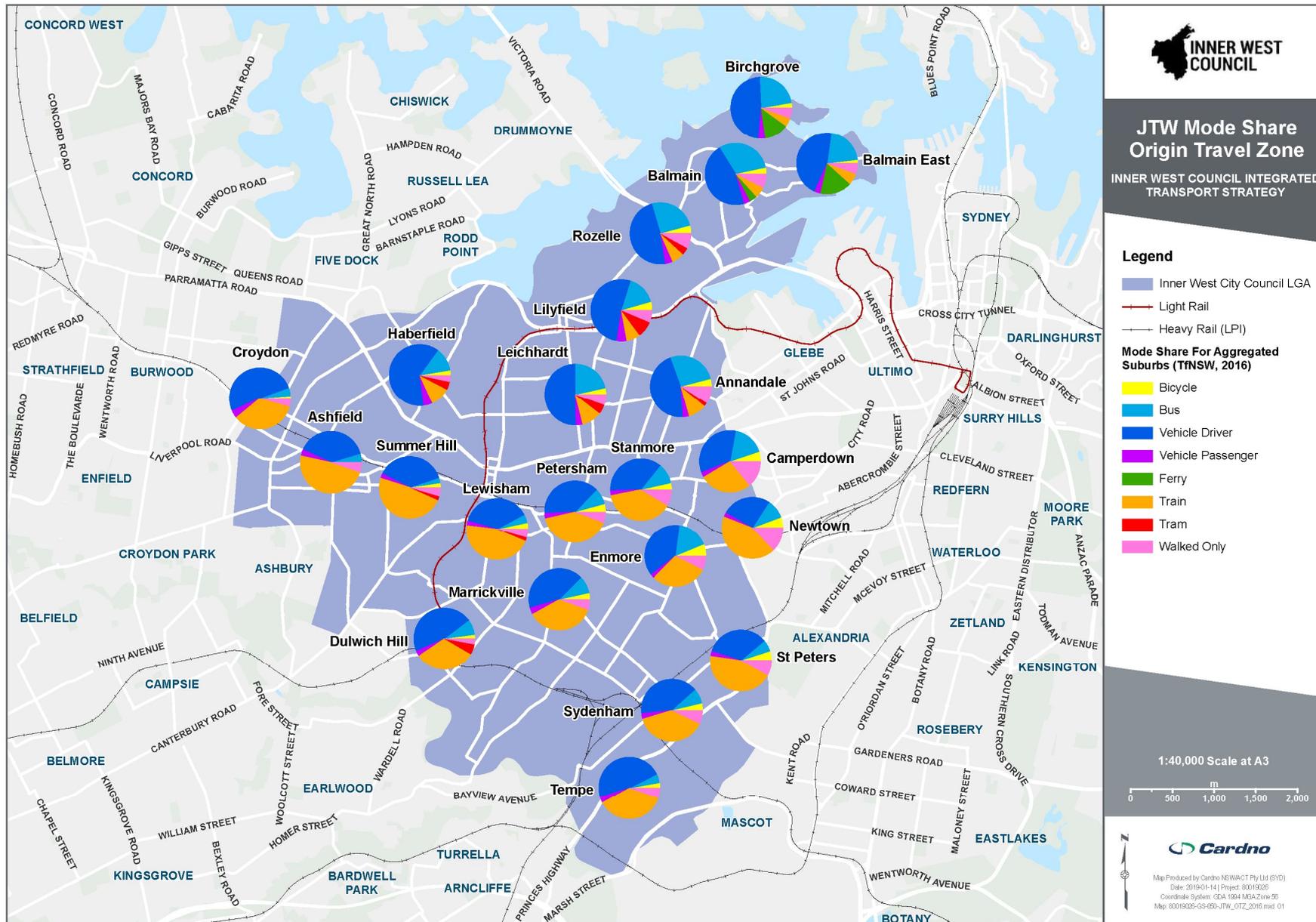
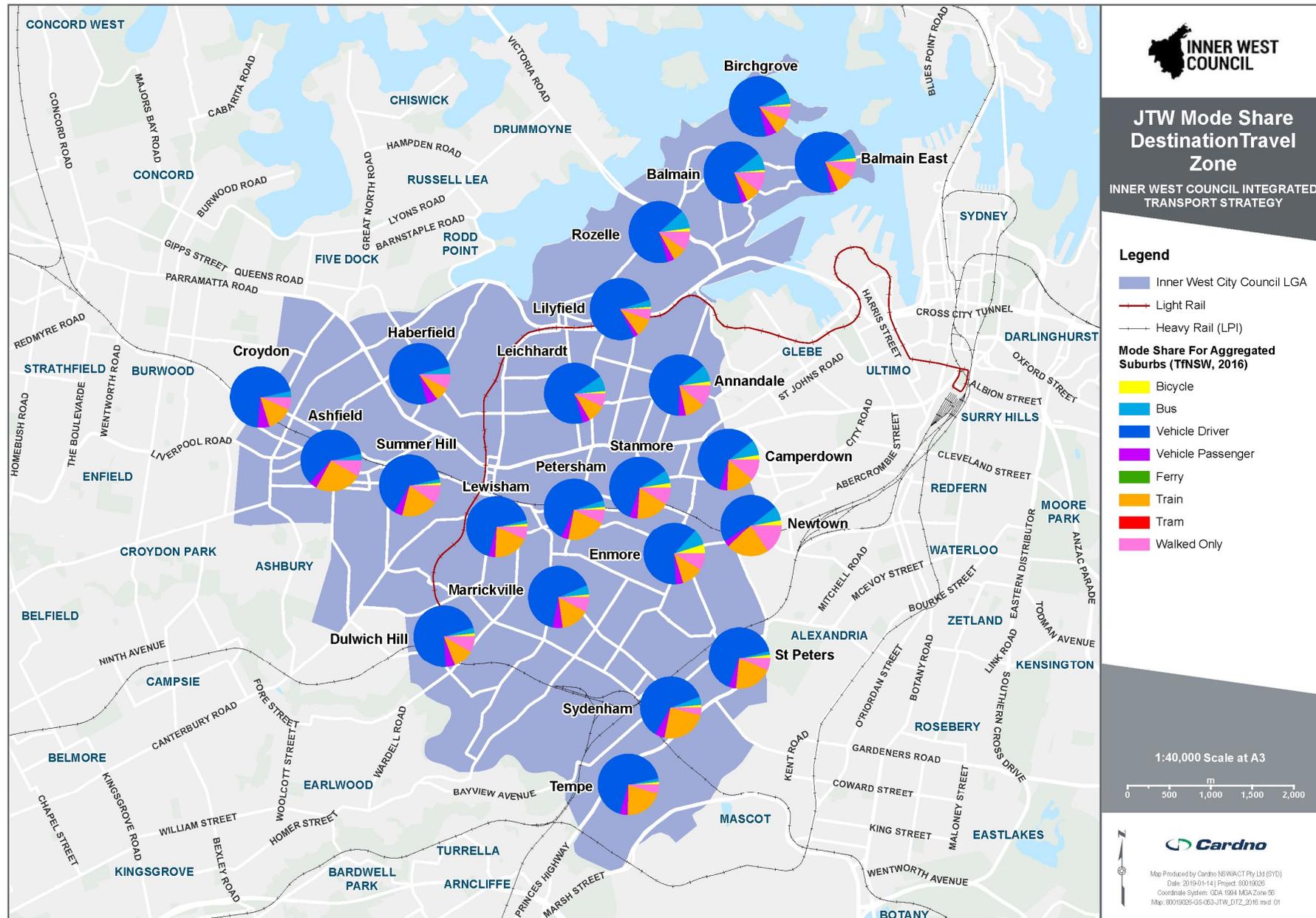


Figure 4-4 Mode share for workers of the Inner West (ABS Census JTW, 2016)



4.3 Public transport daily patronage

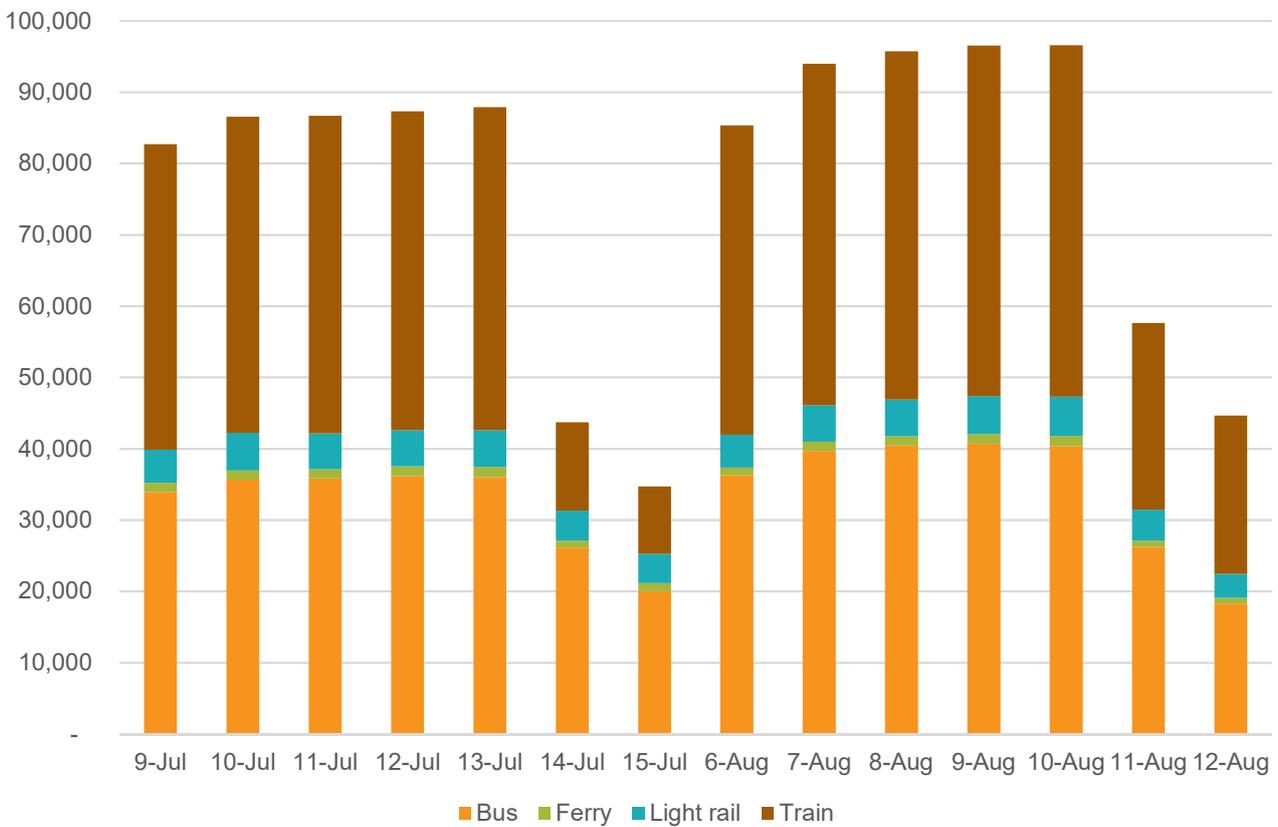
TfNSW tap on and tap off Opal data from stops located in the Inner West with the additional of all light rail stops and Newtown Station were assessed. These additional stops were included as it is assumed they serve a large number of Inner West residents and visitors. Two periods were assessed, these being Monday July 9 to Sunday July 15, and Monday August 6 to Sunday August 12 in 2018. These are dates both in and out of The University of Sydney (USYD) semester timetable.

Data is analysed for the following periods:

- > AM peak – 6:00am – 10:00am;
- > Inter peak – 10:00am – 3:00pm;
- > PM peak – 3:00pm – 7:00pm; and
- > Off-peak – 7:00pm – 6:00am.

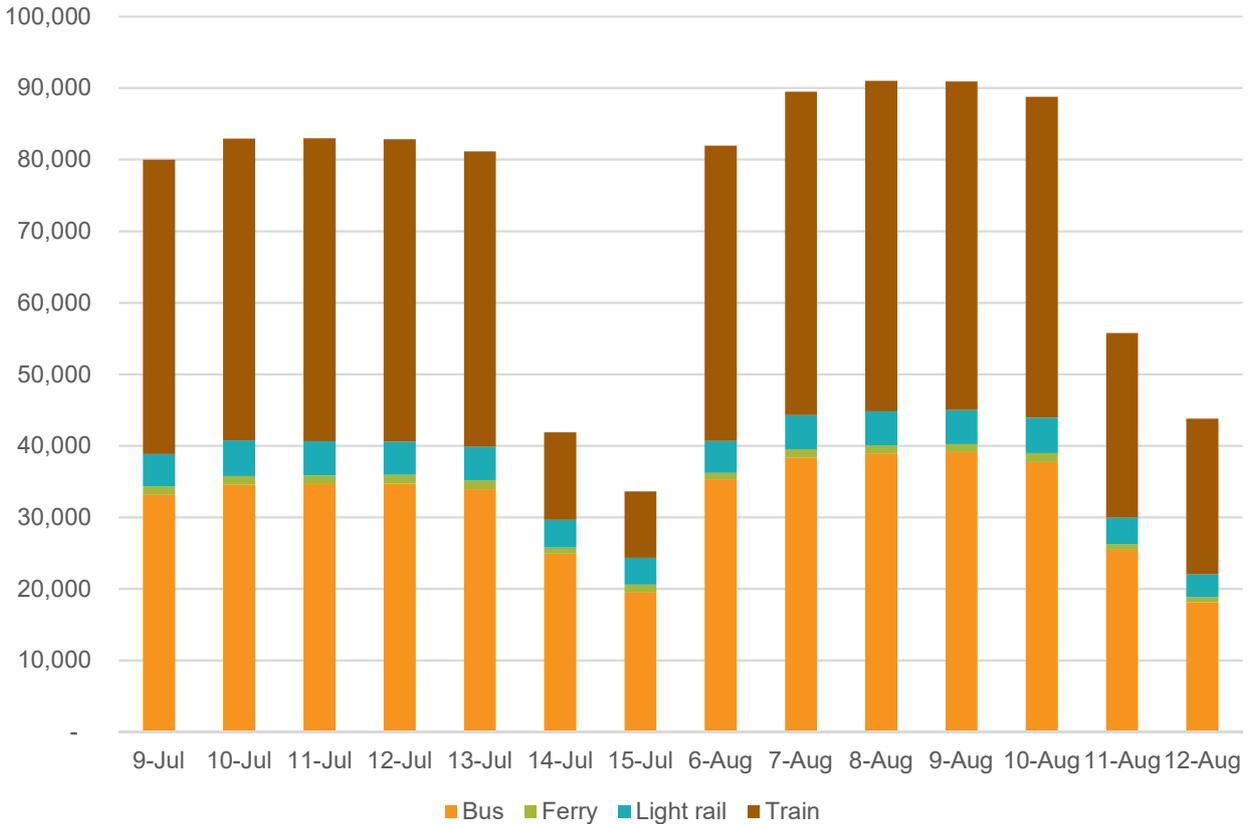
The total tap on and tap off's for each mode for all dates are shown in **Figure 4-5** and **Figure 4-6**.

Figure 4-5 Total tap on summary



Source: TfNSW Opal data, 2018

Figure 4-6 Total tap off summary



Source: TfNSW Opal data, 2018

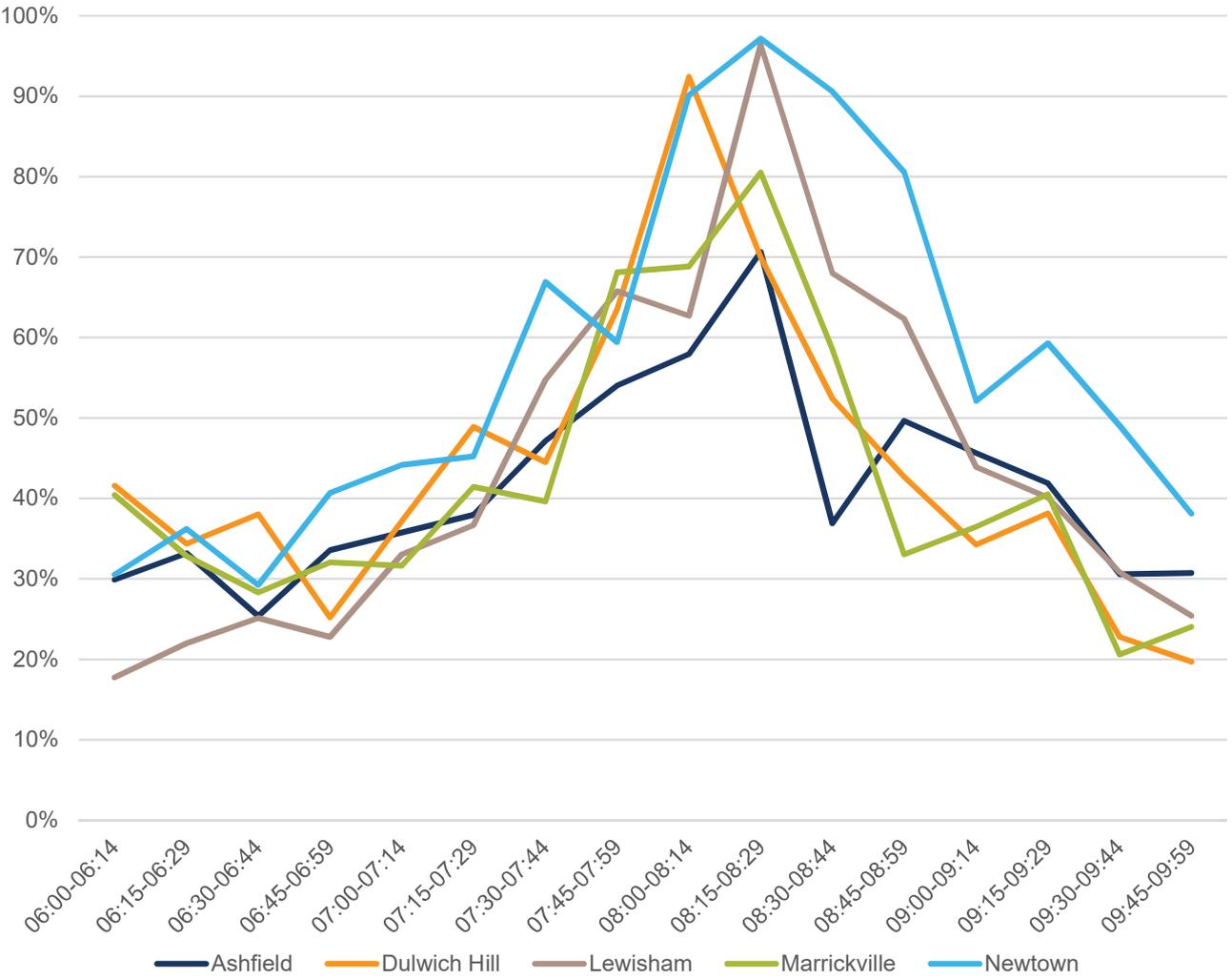
4.3.2 Train service AM peak utilisation

Train service loading analysis has been undertaken. It is generally understood that trains are in high demand during AM and PM peak periods.

Rail Opal Assignment Model (ROAM) data indicates that 14 per cent of train services operating in the AM weekday peak periods are leaving stations in the Inner West with greater than 100 per cent train capacity filled, during a week in August 2018. Newtown Station had the highest share of trains that were leaving with high capacity. The most common time slot for trains to be over capacity in the Inner West was between 8.00am and 8.30am on weekday mornings.

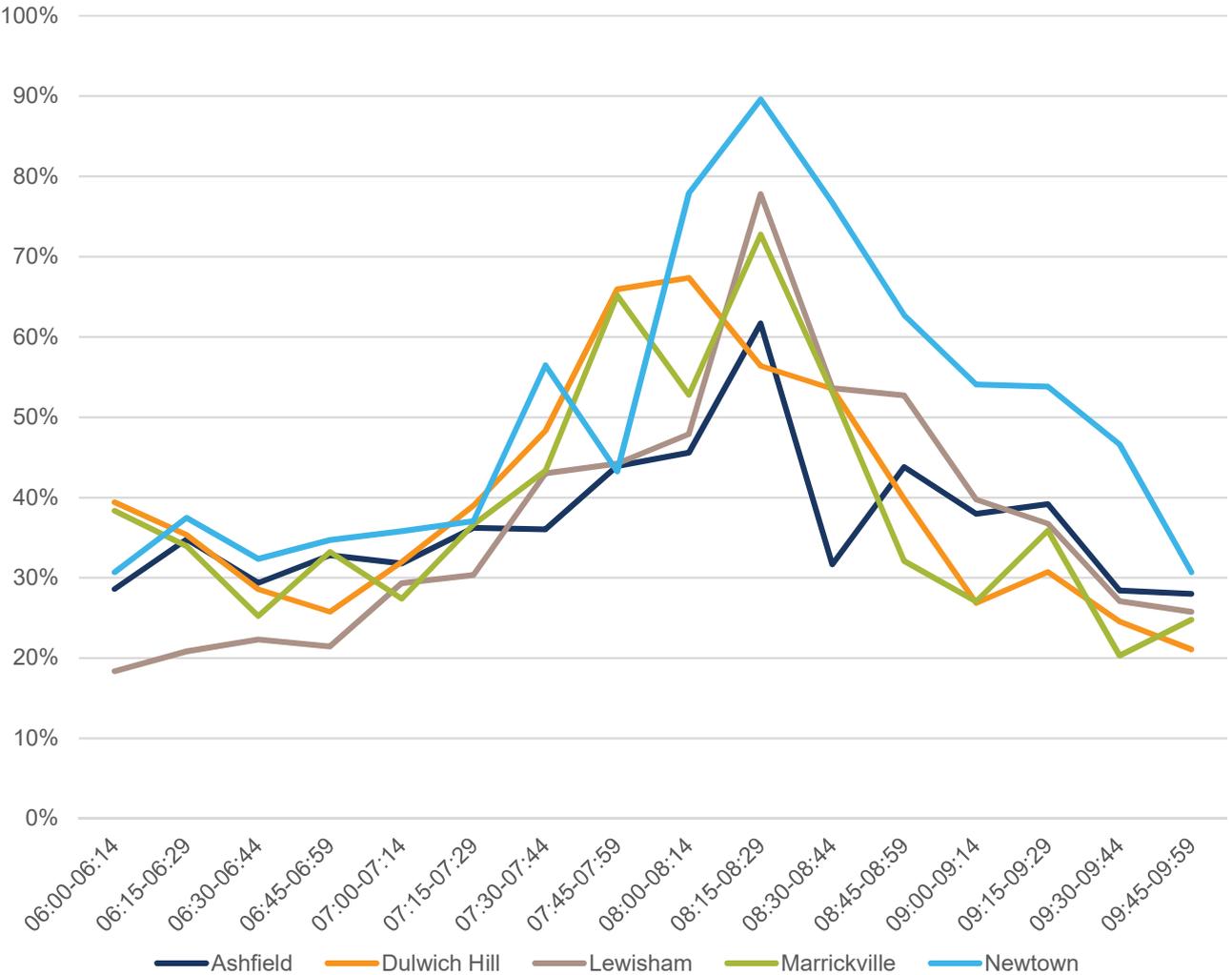
The average train occupancy during AM peak periods for a week in July (outside of USYD semester time) and August (inside USYD semester time) is shown in **Figure 4-7** and **Figure 4-8**.

Figure 4-7 Average train service capacity between 6.00am and 10.00am between Monday 6 August and Friday 10 August



Source: Rail Opal Assignment Model data, TfNSW

Figure 4-8 Average train service capacity between 6.00am and 10.00am between Monday 9 July and Friday 13 July



Source: Rail Opal Assignment Model data, TfNSW

4.3.3 Light rail

It is understood that light rail demand reaches capacity in AM peak periods. Data was not available for analysis to identify the extent of this.

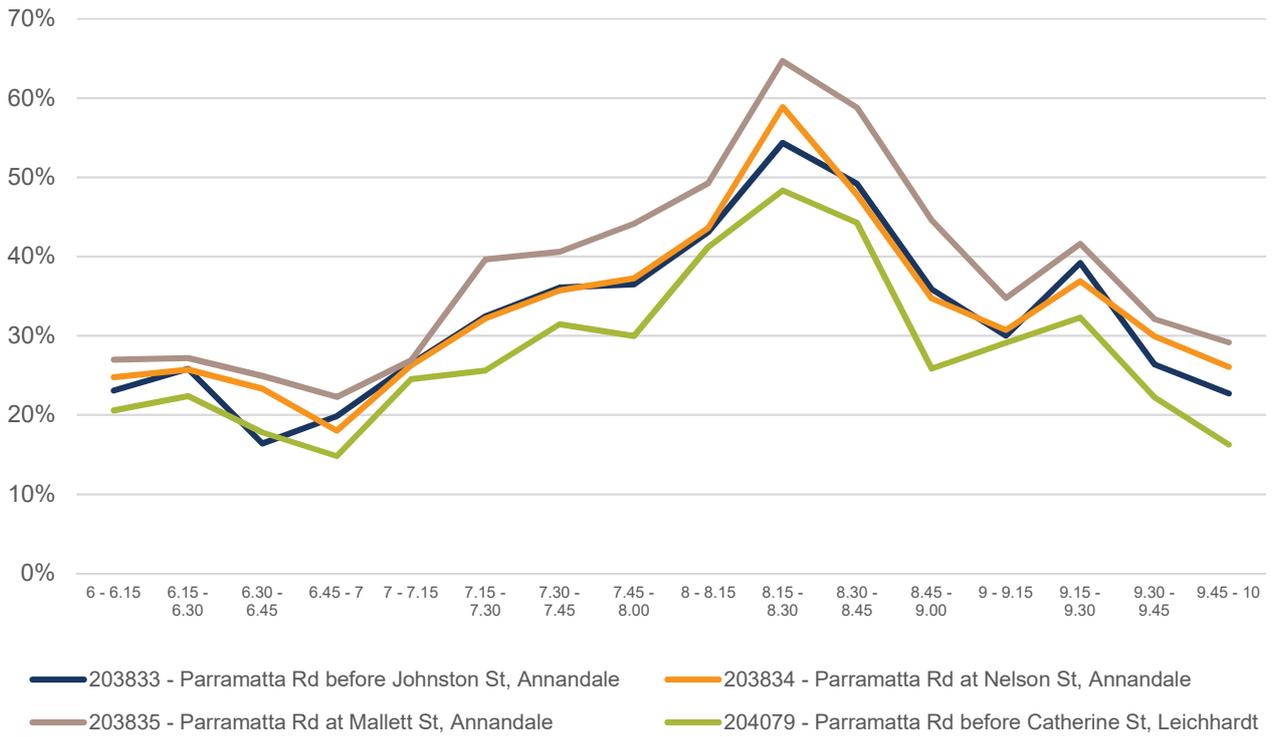
4.3.4 Bus service

Analysis has been undertaken to determine utilisation of buses at locations where buses are reported to be at capacity. Anecdotal evidences suggest some services are at capacity and passengers cannot access some services.

Parramatta Road

The L38 bus route was consistently high, particularly between 8:00am and 8:30am, shown in **Figure 4-9**.

Figure 4-9 Average patronage of bus services at bus stops on Parramatta Road between 6.00am and 10.00am between Monday 6 August and Friday 10 August 2018

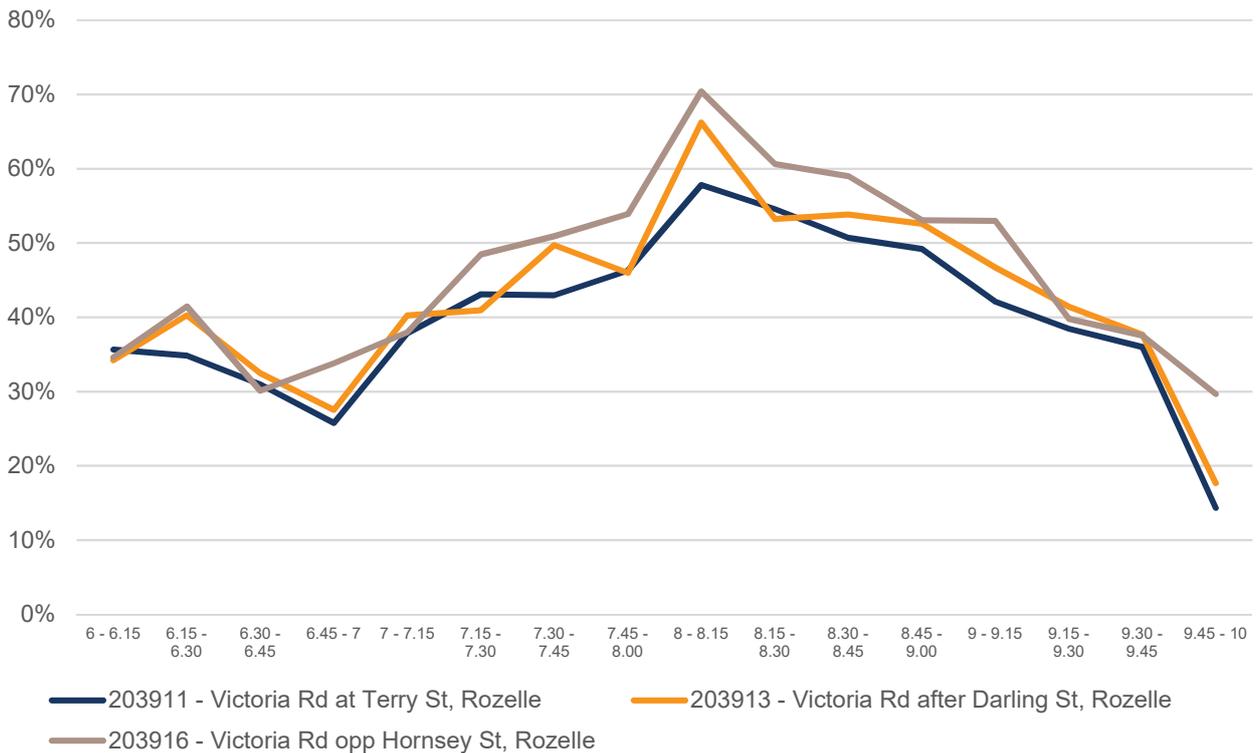


Source: Bus Opal Assignment Model data, TfNSW 2018

Victoria Road

Three bus stops were analysed on Victoria Road, shown in **Figure 4-10**. The M52 bus service has consistently high patronage between 8.00am and 8.45am.

Figure 4-10 Average patronage of bus services at bus stops on Victoria Road between 6.00am and 10.00am between Monday 6 August and Friday 10 August



The analysis indicates overall, there is spare capacity on the bus network. The anecdotal evidence that some services are at 100% capacity and data analytics would suggest that some services would have significant spare capacity.

4.4 Roads

During road network peak periods, it is generally well understood that key roads are highly utilised by private vehicles. Google Maps typical traffic viewer confirms that vehicle speeds slow down during peak periods, which is one indicator of congestion.

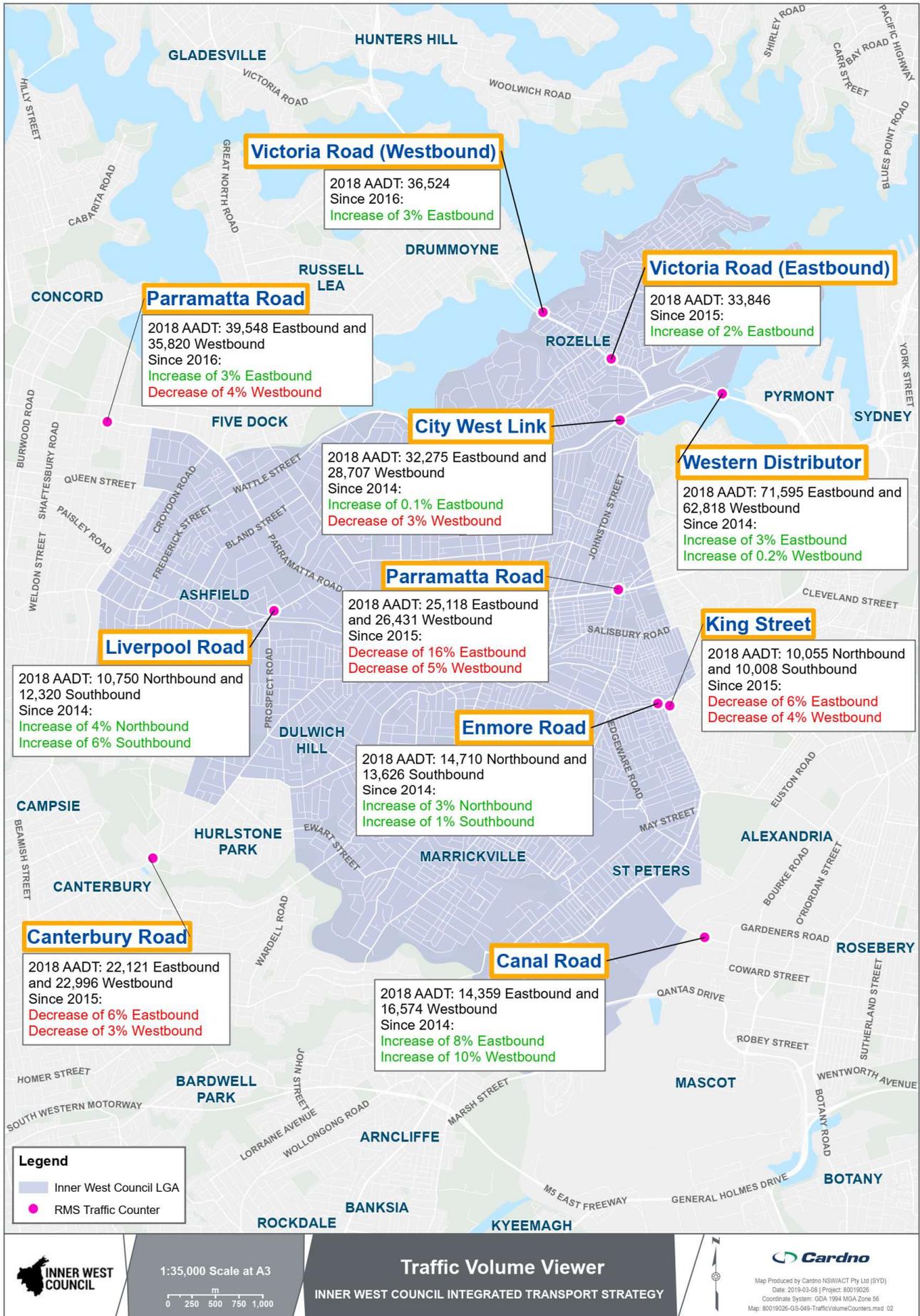
RMS Traffic Volume Viewer data was used to strategically assess vehicle volumes over the past five years within the LGA. Vehicle counters are located on the Western Distributor, Liverpool Road and Enmore Road, and vehicle classifiers are located on Victoria Road, City West Link and Canal Road.

The highest increases of traffic volume occurred on Canal Road, and on Parramatta Road eastbound.

Traffic volumes recorded on Liverpool Road (80 metres east of Elizabeth Street) decreased by four per cent in the northbound direction, and by five per cent in the south bound direction between 2016 and 2018. The westbound volume on Parramatta Road (50 metres west of Cheltenham Road) also decreased by four per cent.

A comparison of traffic volumes in the past three years (2016 – 2018) is shown in **Figure 4-11** below

Figure 4-11 Historic traffic volumes – RMS traffic volumes



5 The Future Transport Network

5.1.1 Growth in people and jobs

Growth in people, jobs and freight will result in increasing demands to the transport network.

The Inner West is steadily growing with regards to residents and the number of dwellings. Surrounding LGAs populations however are growing at a quicker rate such as the City of Sydney, City of Canada Bay and City of Canterbury Bankstown growing at an annual per cent change of 2.2 per cent, 1.7 per cent and 1.6 per cent respectively, compared to the Inner West annual growth rate of 1.0 per cent. ABS statistics indicate that between 2006 and 2016, the number of families with children have grown by 21 per cent.

In the next 20 years, the population of the Inner West will grow by 22 per cent to 232,100 residents. Similarly, the number of dwellings in the Inner West will grow by 30 per cent, with an increase of approximately 1,000 new dwellings per year over 20 years. Population projections from the Department of Planning and Environment are given in **Table 5-1**.

Table 5-1 Inner West population projection

	2011	2016	2021	2026	2031	2036
Total Population	180,300	190,500	201,950	210,700	221,700	232,100
Total Households	76,000	80,250	85,000	88,950	93,850	98,750
Average Household Size	2.31	2.31	2.31	2.30	2.29	2.27

Source: Department of Planning and Environment population projections

Major investment in improvements to the transport system is underway across Sydney, with new city-shaping rail projects, motorway links and on-road public transport priority projects all planned to move Sydney's people and goods more efficiently. Several city or district-level projects directly affect the Inner West, summarised in **Table 5-2**, along with local transport projects in planning or under construction.

Table 5-2 Future transport projects and initiatives

Transport project	Source / status & timing	Location	Key details	Transport outcomes for the Inner West	Inner West position
Public transport projects					
Sydney Metro City & Southwest	Sydney Metro, NSW Government, Infrastructure Australia supported. <i>Under construction (2018-2024)</i>	Chatswood to Bankstown	Conversion of the existing T3 Bankstown Line to single-deck operations as part of Sydney's Metro network. The Metro is stated to have an ultimate capacity of 40,000 people per hour in each direction. Opening peak capacity (4 minute headways) is expected to be approximately 20,000 people per hour.	Increasing frequency, speed and reliability of services for southern suburbs to Sydney CBD and Bankstown. Free up capacity constraints on the Inner West T2 line.	Council recognises that upgrading of the T3 heavy rail line between Sydenham and Bankstown line to a metro standard will increase frequency and connectivity. However, preference should be given to the provision of a new service and alignment which would cater for areas currently deficient in public transport accessibility.
Sydney Metro West	Sydney Metro, NSW Government, Future Transport 2056. Infrastructure Australia supported (5-10 years) <i>In planning, subject to final business case and funding Committed (0-10 years)</i>	Parramatta to Sydney CBD	A new metro line between Parramatta and the Sydney CBD, with stations likely at Westmead, Parramatta, Sydney Olympic Park, The Bays and the Sydney CBD. Hourly capacity is expected to be up to 40,000 people in each direction.	Increasing frequency, speed and reliability of services for northern suburbs to the Sydney CBD and Greater Parramatta. Providing opportunity for new land uses in the Bays Precinct.	Council support the location of a Metro West Station at Bays precinct and Kings Bay. This will provide a good interchange with the Parramatta Road GETs and service the new development envisaged under PRCUTS.
Public transport improvements for Parramatta Road and Victoria Road	Recommendation 47 and 61, SIS 2018 Eastern City District Plan (ECDP), Future Transport 2056, GSC Parramatta Road Urban Transformation Strategy, <i>Committed (0-10 years)</i>	Parramatta Road and Victoria Road	On-road rapid transit and priority infrastructure that caters for buses and high efficiency vehicles	More priority for buses and high-efficiency vehicles on these major arterial routes.	Supportive, innovative mass transit along Parramatta Road is essential, see following point.

Transport project	Source / status & timing	Location	Key details	Transport outcomes for the Inner West	Inner West position
Mass Transit for Parramatta Road	IWC: Parramatta Road Public Transport Opportunities Study <i>Council proposal</i>	Parramatta Road Corridor, could in time also be applied to Victoria Road and elsewhere.	Guided Electric Transit System (GETS) proposal for track-less trams. These would have a capacity of 150 people per vehicle. Indicatively, running these at 3 minute headways would provide capacity for 3,000 people/ hour.	High quality mass transit would help connect the future renewal precincts along Parramatta Road and improve its Place function.	Council initiative to support expected urban intensification and increased movements along the corridor.
Transport Access Program	Future Transport 2056, GSC <i>Committed (0-10 years)</i>	Details to be confirmed, but should improve various locations in the IWC and across Sydney.	Accessibility upgrades at train stations and ferries to meet DDA standards.	Improved access to train stations and ferry wharves for all customers.	Supportive of equitable access to transport.
More Trains, More Services	More Trains, More Services (June 2018), Transport for NSW State Infrastructure Strategy (2018), Infrastructure NSW: Recommendation 52. <i>Currently underway, (full-program of works to be completed within 0-10 years)</i>	Sydney Trains Network, particularly the T4 Eastern Suburbs and Illawarra Lines and the T8 Airport Line. Ultimately affects the IWC, City of Sydney, Bayside Council and Waverley Council.	This three-stage 'More Trains, More Services' strategy hopes to deliver extra capacity to central Sydney's rail network with rail upgrades and employing automated systems to more cost-effectively improve train control on the T4 and T8 Lines (Stages 1&2). Deploying automation would allow for the separation of inner-urban and intercity services along the T1 Western and Northern lines, as well as the T4 Eastern Suburbs and Illawarra lines. After Stage 3 is complete the full process of upgrades across the central Sydney network will relieve constraints on the City Circle and the delivery of additional capacity can occur across the broader Sydney Trains network.	Improved efficiencies and access to the existing rail network will allow network-wide efficiency gains that will also enhance capacity of the T4, T3 and T2 lines across the IWC area. INSW recommends Transport for NSW to complete the business cases for Stage 1 and Stage 2 by the end of 2018-19 and enable delivery of this program earlier to provide much-needed capacity upgrades by 2021.	Supportive of increased services and frequency.

Transport project	Source / status & timing	Location	Key details	Transport outcomes for the Inner West	Inner West position
Light rail extension to The Bays	Eastern City District Plan, Future Transport 2056, State Infrastructure Strategy 2018. <i>Initiative for investigation, (10-20-year timeframe).</i>	Investigation will focus on the land between Lilyfield LR stop and the Bays Precinct to Pyrmont.	A light rail link between Pyrmont and Rozelle Bay.	Expands the existing light rail network to a future renewal hub (The Bays) and offers a potential interchange point with Sydney Metro West.	Supportive
Eastern Suburbs to Inner West Rapid Bus Links	Future Transport 2056, Eastern City District Plan, <i>For investigation (0-10 years).</i>	Key Inner West arterials (Victoria Road, Parramatta Road, etc.) linked by rapid bus (or similar) with the Eastern Suburbs.	Rapid bus routes would provide high-frequency direct connections, linking Randwick and Sydney University to the Bays Precinct, and from Maroubra Junction to Sydney Airport and Marrickville.	Would help provide better bus access to jobs between the IWC and other parts of the city, in a way that compliments existing public transport with higher frequency options.	Supportive
Shuttle service to Camperdown/ Ultimo Health and Education Precinct from The Bays	University of Sydney position.	Future Bays Metro Station (White Bay or another) and road link to Camperdown. Affects IWC and City of Sydney.	The bus would shuttle students and workers between the future innovation precincts of Camperdown and White Bay. It would require a reliable high frequency loop service with buses originating from the Sydney Metro West Bays Precinct station.	Improved access between Sydney University	Supportive
Bays Precinct ferry services	Sydney Ferries Future (2013). Transport for NSW, UrbanGrowth NSW 2015. <i>Opportunities under review, nothing public facing yet.</i>	Aims to improve commuting times across the Bays Precinct and its surrounding suburbs to the Sydney CBD.	Would involve a number of additional ferry services in and around The Bays. Glebe point and Johnstons Bay (Jacksons Landing) were favoured following investigations for possible additions to the F4 Darling Harbour service in the 2013 strategy. Other possible additions considered since then are the Sydney Fish Market, White Bay Power Station, Annandale, west Birchgrove and Barangaroo Headland Park.	This could improve travel times for commuters compared to bus services which may get impacted by traffic congestion.	Support in principle

Transport project	Source / status & timing	Location	Key details	Transport outcomes for the Inner West	Inner West position
Bus network review	Inner West hosted a workshop to discuss the bus network and network simplification projects occurring around the world.	Inner West.	It was recommended to investigate a simpler grid network that operates with higher frequency services to aid interchange movements and provide lower overall trip times from origin to destination.	More legible bus network that is used more.	Under consideration.
Major road projects					

Transport project	Source / status & timing	Location	Key details	Transport outcomes for the Inner West	Inner West position
WestConnex	<p>Future Transport 2056, Sydney Motorways Corporation (SMC) / NSW Government.</p> <p><i>Currently under construction; expected completion by 2024.</i></p>	<p>Links western Sydney (M4) with the Anzac Bridge and south-western Sydney (M5) via new tunnels that run beneath the Inner West</p>	<p>This is an approved 33-kilometre motorway that is being produced in various stages:</p> <ul style="list-style-type: none"> ▪ Stage 1 – Widening the M4; ▪ Stage 2 – M5 tunnel Duplication + St Peters Interchange and M4 East tunnel; ▪ Stage 3A – M4-M5 Link; a tunnel that runs beneath the IWC. ▪ Stage 3B - The Rozelle Interchange; linking M4-M5 Link with Drummoyne, the Anzac Bridge, Balmain and the City West Link. <p>Three main interchanges are associated with Stages 3A and 3B.</p> <p>Condition B34 of the WestConnex approval states, <i>“Consistent with the modelling contained in the documents referred to in condition A2(b), the Sydney CBD to Parramatta Strategic Transport Plan (Transport for NSW, 2015, or as updated) and in consultation with Transport for NSW, at least two lanes of Parramatta Road, from Burwood Road to Haberfield, are to be solely dedicated for the use of public transport unless an alternative dedicated public transport route that provides an improved public transport outcome for the area, when compared to two dedicated public transport lanes on Parramatta Road, is approved by the Secretary¹⁴.”</i></p>	<p>Construction: Involves major operational facilities such as tunnel dive-sites, motor operation complexes and ventilation facilities, being built and will lead to increased heavy vehicle movements.</p> <p>The project is expected to reduce traffic volumes along Parramatta Road in the Inner West.</p> <p>Traffic entering and exiting the interchanges may affect the surrounding local road network at surface level at Parramatta Road, Wattle Street, Rozelle Bay and St Peters interchange.</p>	<p>Strategically opposed.</p>

Transport project	Source / status & timing	Location	Key details	Transport outcomes for the Inner West	Inner West position
Sydney Gateway	Roads and Maritime Services (RMS) / Australian Rail Track Corporation (ARTC). <i>Committed (0-5 years) planning stage, SEARs issued</i>	Between the M5 Motorway Junction at St Peters, Sydney Airport (Domestic and International Terminals) and Port Botany. Affects Bayside Council, IWC & City of Sydney.	Details accessible online ¹⁵ <ul style="list-style-type: none"> Improved access to the airport for over height vehicles (up to 4.6m). Reduces congestion and caters for forecast growth. Will improve travel times to airport terminals and Port Botany. Requires new connections to improve local transport routes. Takes trucks and cars off local roads in Botany and Mascot. 	Provides direct access from WestConnex to the airport for oversized vehicles and general traffic. It duplicates the Port Botany Freight Line which currently bottlenecks at Mascot limiting the movement of containers to and from intermodal terminals in western Sydney by rail. Streamlining both road and rail connections to the airport and port greatly reduces the need for heavy surface freight on Inner West roads.	Strategically opposed.
Western Harbour Tunnel and Beaches Link	Future Transport 2056, Roads and Maritime Services. <i>Committed (0-10 years subject to final business case and funding), planning stage, SEARs issued.</i>	Starts in Rozelle travels under Balmain and Birchgrove, the Harbour, Waverton and surfaces near Cammeray before diving again and resurfacing in Balgowlah. Project directly affects IWC, North Sydney Council, Willoughby Council and Northern Beaches Council.	Connects WestConnex by a new harbour tunnel to the north shore by extending the Rozelle Interchange stub tunnels under the Balmain Peninsula to an interchange at the M2 in Cammeray. This will provide further access to Balgowlah bypassing the Spit Bridge. Widespread road expansions will be required around every surface portal.	Major construction impacts on local roads around Rozelle and the Bays Precinct expected. Pollution will intensify at Rozelle Interchange, however the project should reduce traffic demand for the Anzac Bridge and Victoria Road in this area once finished.	Strategically opposed, however if it is built, there should be dedicated of space to public transport.

¹⁴<https://majorprojects.accelo.com/public/ef54d46f64c468f0fb5f20043057790/M4%20East%20MOD%205%20Consolidated%20Instrument%20of%20Approval.pdf>, pg. 18-19, accessed 6 March 2019

¹⁵ <https://www.rms.nsw.gov.au/documents/projects/sydney-south/sydney-gateway/sydney-gateway-community-update-2018.pdf>

Transport project	Source / status & timing	Location	Key details	Transport outcomes for the Inner West	Inner West position
F6 Extension - Stage 1	Future Transport 2056, Roads and Maritime Services, <i>Committed initiative (0-10 years subject to final business case and funding), planning stage, proponent reviewing submissions.</i>	Stage 1 spans from the New M5 (beneath Arncliffe) to President Avenue, Rockdale. Affects Bayside Council, Canterbury-Bankstown Council and IWC.	Stage 1 is the beginning of a planned three-stage tunnel-extension to the WestConnex motorway which will ultimately link the existing M5 duplication with Sutherland.	Stage 1 has the ability to greatly reduce heavy truck movements along the Princes Highway from St Peters to Rockdale. This could allow for the reallocation of surface road space for safe on-road cycling corridors, improved street amenities and additional plantings around Tempe and Sydenham.	Project is outside of Council boundary. Some residents are concerned about potential impacts to the local area.
Local road projects					
WestConnex Local Area Improvement Strategy	WestConnex Local Area Improvement Strategy (2018), IWC. <i>(To be complete by 2024)</i>	The strategy covers five areas affected by WestConnex: Ashfield, Haberfield, Leichhardt West, Johnston Street and St Peters	Traffic calming measures in each surface PRC precinct that WestConnex bypasses	Improved road safety, streetscape amenity plus enhanced pedestrian and cyclist connectivity	Supportive of LATM to the extent they strategically oppose the WestConnex project.
King Street Gateway	A joint venture between Roads and Maritime (RMS) ¹⁶ , IWC and the City of Sydney. Will ensure delivery of the best possible concept design for this project. <i>Nothing officially released as yet community consultation is soon to begin (complete 2024)</i>	Involves St Peters, Newtown-Enmore, Sydney Park and Alexandria. Affects the City of Sydney and IWC.	RMS is responsible for developing and delivering the King Street Gateway concept plan. The New M5 local roads upgrade will allow amenity improvements on Princes Highway and Sydney Park Road.	Potential to traffic calm the King Street precinct and improve access between St Peters Station, Sydney Park and King Street.	Under consideration.
Walking and cycling projects					

¹⁶ https://www.westconnex.com.au/sites/default/files/ST%20PETERS%20OVERVIEW_FINAL_HIGH%20RES.pdf

Transport project	Source / status & timing	Location	Key details	Transport outcomes for the Inner West	Inner West position
Inner Sydney Regional Bike Network	City of Sydney and Future Transport 2056 <i>Initiatives for Investigation (0-10 years). Listed as a priority initiative by Infrastructure Australia (0-5 years).</i>	Inner Sydney LGAs.	A plan to build 284 kilometres of inner Sydney radial and cross regional separated bike corridors or shared paths. FT56 focuses on a ten kilometre radius around the Eastern Harbour CBD.	Has strategic and regional significance for cycling. Allows safer access to the CBD from the neighbouring LGAs and supports the concept of the 30-minute city using active transport.	Supportive insofar as impacts are managed.
GreenWay	IWC: GreenWay Master Plan – Cooks River to Iron Cove (2018), Sydenham to Bankstown Corridor Urban Renewal Strategy, Eastern City District Plan. <i>Currently under construction, expected completion by 2020.</i>	Runs parallel to the Inner West light rail line. Offers a north-south link from Iron Cove (at Lilyfield) to the Cooks River Reserve (at Earlwood). Affects IWC, Canterbury Bankstown and Bayside, LGAs. Benefits regional neighbours as well.	Community initiative, now properly funded. Completes major 'missing links' in the committed 5.8 kilometre active shared path and nature corridor. Funding also commits to improving green space and local east-west linkages along the route.	Allows cross-regional active transport and it links the Inner West neighbourhoods and, centres with green space. Also connects regional cycling routes and public transport services. Reduces local and regional car dependence by improving active safety. Greenway also doubles as a pedestrian corridor.	Council initiative. Supportive.
Greenway SouthWest	Part of Sydenham to Bankstown Corridor Urban Renewal Strategy. <i>(Strategy deferred at present). Interest still remains from local governments which might benefit.</i>	Runs within and along the T3 rail corridor's reservation (Metro South West). This is the part between Dulwich Hill and Bankstown Affects IWC and Canterbury- Bankstown Council LGAs.	Surplus lands within the existing rail corridor would be converted into a second off-road Greenway, running east-west alongside the operational tracks. This would also be an active link between all future precincts and with all open spaces along the route.	Links with other active regional green corridors such as the Cooks River cycle route and the Bankstown to Salt Pan Creek cycle route. Holds active cross-regional benefits, improved safety and green space.	Supportive. NB: The cycleway originally proposed beside the Metro line has been altered to include more on-street links and makes less use of separated cycle pathways within the rail corridor itself.
CityWest Cycle Link	Initial proposal (2011) presented by Bike Sydney, BicycleNSW & EcoTransit Sydney <i>The focus of ongoing investigations by IWC. No committed timeframe.</i>	Hawthorn Canal to Bays Precinct. Benefits IWC, Canada Bay, Burwood Council and City of Sydney.	This concept extends the off-road active transit component of the GreenWay by modestly widening the rail cutting between Hawthorn Canal with Lilyfield's light rail stop to create an off-road cycleway.	Would greatly improve the appeal of cycling across the IWC as a radial mode of choice to the CBD or Bays Precinct. It would bypass traffic and hills along Lilyfield Road and the CityWest Link and the Victoria Road crossing points.	Council initiative. Supportive.

Transport project	Source / status & timing	Location	Key details	Transport outcomes for the Inner West	Inner West position
Parramatta Road separated cycleway	Investigation recommendation of this study.	Parramatta Road, Ashfield to Sydney CBD.	Separated cycleway to be implemented in conjunction with a high mass transit solution on Parramatta Road providing a direct east-west link.	Form a key east-west regional link through the Inner West, linking up with the Greenway.	Supportive.
New pedestrian cycle bridge between Carrington Road and Fraser Park.	Part of the Sydenham to Bankstown Corridor Urban Renewal Strategy <i>(Strategy shelved for now)</i> .	Marrickville / Sydenham. Affects IWC and neighbouring councils.	Potential new pedestrian and cycle bridge link between Carrington Road and Fraser Park	Would provide a direct link to Sydenham Station and Unwins Bridge Road from Marrickville South. Also links to Sydney Park and Campbell Street in St Peters, which would greatly promote active transit both locally and for commuting.	Supportive.
Formal bikeshare scheme	Inner Sydney Councils initiative, Project Feasibility Report written by OPUS (2017) ¹⁷ – <i>Investigation now paused until reliable data emerges regarding the introduction of dockless bikeshare schemes which co-incided with the writing of this report. No formal commitment as yet.</i>	Inner Sydney LGAs, including IWC.	A feasibility study has been conducted that co-incided with the introduction of dockless bike-share schemes in Sydney. Initially these schemes lost money to vandals and two out of four service providers have since failed. A third has started up offering better quality e-bikes. Councils have paused their decisions until reliable market data can emerge regarding the dockless sharebike experience.	Uncertain how effective a formal share scheme would be given the improving dockless sharebike schemes. Lime e-bikes offer the option of electric assistance up hills which has proven appealing and could transform cycling across the IWC.	Supportive subject to appropriate scheme management and benefits for the local community.
At grade crossing of light rail line between Dulwich Hill and Dulwich Grove light rail stops.	Sydenham to Bankstown Corridor Urban Renewal Strategy <i>(Strategy shelved for now)</i> . <i>Interest remains from IWC.</i>	Between Dulwich Hill and Dulwich Grove light rail stop.	At grade crossing of the light rail line between Dulwich Hill and Dulwich Grove light rail stations.	Better active transit connections, less need for cars.	Supportive.

¹⁷ http://cdn.sydneycycleways.net/wp-content/uploads/2014/12/28212910/2018-069529-Bike-Share-Feasibility-Recommendations-Report_Final1.pdf

Transport project	Source / status & timing	Location	Key details	Transport outcomes for the Inner West	Inner West position
Cycling connections to strategic centres	Future Transport 2056, Eastern City District Plan. <i>For investigation (0-10 years).</i>	Sydney wide, despite no strategic centres within IWC, there are some outside the periphery of IWC which still fall within 5 kilometres of specific IWC areas.	Would see investment in cycling connections within five kilometre radials of all strategic centres. These connections should be delivered in partnership with local government and integrate with the GSC's Green Grid concept.	Better cycling connections between Ashfield, Haberfield and Summer Hill to Burwood. From south Tempe and Marrickville to Kogarah. From Rozelle, Leichhardt and Dulwich Hill to Green Square / Mascot. From Balmain East, Lilyfield, Stanmore and Marrickville to Sydney CBD.	Supportive of most initiatives to improve active transport.
Glebe Bridge active transport connection	IWC and City of Sydney advocacy. Bays Urban Transformation Project, UrbanGrowth NSW <i>(In-principled support from UGNSW – no timeframe)</i>	Between Glebe Island and Pyrmont, runs parallel to ANZAC Bridge.	Restore and re-purpose the Glebe Bridge (built in 1903) for pedestrian, cycle and potential public transport movements. Provides a strategic link from the IWC to City of Sydney.	May improve the appeal of active and public transport as commuter modes to the CBD. Helps remove steep grades and noise pollution associated with the Anzac Bridge and obviates any need for cyclists and pedestrians to travel alongside busy traffic. Could greatly reduce travel times for active transit commuters, especially from Balmain.	Advocate.

Transport project	Source / status & timing	Location	Key details	Transport outcomes for the Inner West	Inner West position
Parramatta Road Urban Amenity Improvement Plan (PRCUTS UAIP)	Sub-plan from the Parramatta Road Corridor Urban Transformation Strategy produced by UGNSW (now Landcom) <i>(Construction underway – to be completed by 2023)</i>	Parramatta Road Corridor (PRC); Works involves Taverners Hill, Leichhardt and Camperdown Precincts. Affects traffic flows and active transport between IWC, City of Sydney and Canada Bay Councils.	<ul style="list-style-type: none"> ▪ New Greenway connection under Parramatta Road ▪ New Greenway connection under Longport Street, Lewisham West ▪ New public domain improvements to key north-south streets that run perpendicular to Parramatta Road in Leichhardt ▪ New cycle connection along Dot Lane between Norton Street and Hay Street, Leichhardt. ▪ Conversion of Petersham Street to pocket park between Parramatta Road and Queen Street, ▪ New north-south pedestrian and cycle link along Johnsons Creek, Camperdown Precinct ▪ Public domain improvements and new cycle connections along Pyrmont Bridge Road. ▪ An east-west regional cycleway from Iron Cove's Bay Run to the M4 cycleway. 	Will help reduce conflict between active transit and traffic near the Greenway and will improve the appeal of active transit through Kings Bay, Taverners Hill, Leichhardt and Camperdown. Improved safety for active transit all round. Regional cycleway provides a continuous east-west link for cyclists between Iron Cove's Bay Run and the M4 cycleway.	Supportive of measures to improve amenity and vibrancy along Parramatta Road.
Emerging technologies and megatrends					
Kilometres based road user charging	<i>Online: Academic and business analysis only. No timeframe for delivery.</i>	Sydney-wide potentially.	Users would be charged for the time they use the road network and the distance they cover, rather than only paying for the use of toll roads only.	Uncertain, as it is dependent on the model adopted and this may clash with the toll revenues contracted through WestConnex.	No public position

Transport project	Source / status & timing	Location	Key details	Transport outcomes for the Inner West	Inner West position
Track-free trams or Autonomous Rail Transit (ART) ¹⁸	IWC – aspirational. <i>No committed timeframe and dependent on State Government funding assistance.</i>	Global Interest, already running in China and parts of Europe.	ART is essentially a long electric bus shaped like a modern light rail vehicle. It can run autonomously with laser guided precision along a set path on normal roads. Control can be assumed by human intervention if required, usually to help divert it from its normal passage during disruption. ART vehicles are designed to run at 70 kilometres an hour, at high frequency and their standard capacity is about 300 passengers per vehicle.	Researchers at Curtin University have begun to warm to this technology as a real potential substitute for trams. It has similar benefits but far lower costs for implementation. This can be done relatively quickly compared to the construction timeframes now expected for light rail. This is significant and may make ART far more appealing to State Government when establishing high capacity transit services on Victoria Road and Parramatta Road.	Advocate.
E-bikes	Online	Global.	Bicycles with batteries and electric motors to assist when pedaling is not desirable.	Will overcome terrain barriers for some users. Can increase the attractiveness of cycling, particularly for older people. Advances in technology are making these vehicles cheaper and more accessible to all.	Generally supportive subject to appropriate management.
E-scooters	Online	Global.	Scooters with batteries and electric motors to assist when desirable.	Currently illegal to ride on footpaths and roads in NSW. Nonetheless, a change in policy would allow E scooters to become a convenient tool for short local trips to shops and transit nodes. Scooters also take up less space than bicycles when parked on footpaths.	Generally supportive subject to appropriate management.
Electric buses	Online	Global. Transit System trial to begin mid 2019	Buses with electric motors, either powered by batteries or wired charging infrastructure along route.	Quieter public transport movements with cleaner air and lower running costs.	Supportive of zero-emission vehicles.

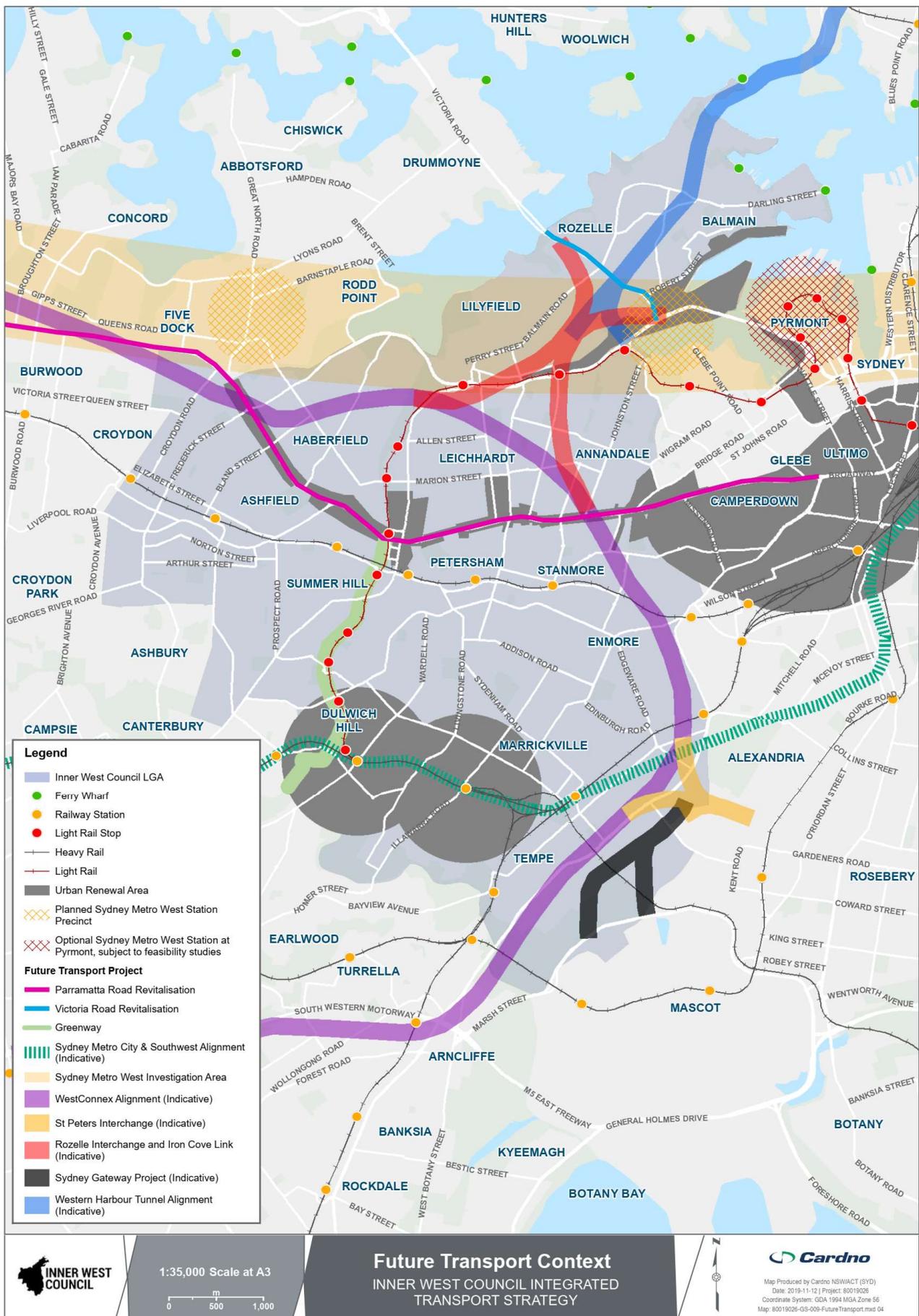
¹⁸ <https://theconversation.com/why-trackless-trams-are-ready-to-replace-light-rail-103690>

Transport project	Source / status & timing	Location	Key details	Transport outcomes for the Inner West	Inner West position
Electric vehicles	Electric and Hybrid Vehicle Plan (2019), NSW Government. Future Transport 2056. <i>Initiatives for Investigation (0-10 years).</i>	Global.	Embraces the growing availability of electric and hybrid vehicles. Roll-out of electric vehicle charge points as necessary to facilitate the future of electric vehicle use.	Opportunities to trial charging points in local centres and in new developments. Cleaner neighbourhoods and potentially less carbon production if they can be powered by renewables.	Supportive of zero-emission vehicles but less use of private vehicles.
Smart shuttles	Trials underway by TfNSW at Sydney Olympic Park.	Global.	Vehicles carry up to 14 people and follow variable route corridors with the ability to react to customer needs.	This may prove useful to fill public transport service gaps.	Supportive.
On demand public transport	Trials underway by TfNSW in the Northern Beaches, Wollongong and elsewhere.	Global.	Buses and Rideshare made available by online bookings, mostly to reach local transit nodes as a 'last mile' service.	This may prove useful to fill public transport service gaps.	Supportive.
Connected and autonomous vehicles	Connected and Automated Vehicles Plan 2019 by NSW Government	Global.	Artificial intelligence will drive vehicles for us, pre-empt changes in traffic and tune in to the movements of all around them. It is quite possible that private ownership of cars will become a thing of the past, replaced by rideshare fleet memberships. This could cause great disruption to government revenue streams.	It would likely allow for a far more efficient use of existing road space and improve road safety by removing human error.	The needs to be managed to prevent continued road congestion and should supplement access to mass transit.
Automated freight delivery methods	Connected and Automated Vehicles Plan 2019 by NSW Government	Global.	Artificial intelligence will drive vehicles for us, pre-empt changes in traffic and tune into the movements of all else around them.	More efficient use of road space if multiple deliveries are undertaken with one vehicle.	Any negative impacts need to be mitigated. Footpaths are for people.
Intelligent transport systems	Connected and Automated Vehicles Plan 2019 by NSW Government.	Global.	Delivering the M4 Smart Motorway Upgrade – relies on intelligent traffic technology, this is the first smart motorway in NSW - (due for completion by 2020).	Possible indirect benefits to Parramatta Road by improving flows of traffic overtime on the M4.	No public position.

Transport project	Source / status & timing	Location	Key details	Transport outcomes for the Inner West	Inner West position
Mobility as a Service (MaaS)	Discussed in Future Transport 2056. <i>No official policy as yet.</i>	Global.	Application-based services would market and integrate transport modes including, rideshare, car share or public transport.	Easier to use transport network.	Supportive of technology initiative to improve access for all abilities and the environment.

Key initiative from **Table 5-2** are shown in **Figure 5-1**.

Figure 5-1 Future ransport context



5.1.2 Core pedestrian network

The core pedestrian network forms the structure of a high quality and accessible pedestrian network connected through the Inner West. It is anticipated as part of a PAMP and/ or Active Transport Plan, a Core Pedestrian network be developed as high quality, accessible and connected network throughout Inner West linking centres and key transport hubs. The core network would link to all key centres and be located near to everyone in Inner West. It is anticipated this would be supported by Wayfinding signage.

Key features should include:

- > Paths equal to or greater than 1.8 metres wide clear path of travel free from utilities, bus shelters/ advertising or other barriers;
- > A smooth surface that receives regular maintenance, including vegetation trimming;
- > Constructed with environmentally friendly materials;
- > Provides step free access including DDA compliant kerb-ramps or tactile ground surface indicators (where there is no level change) at all road crossings;
- > Prioritise links that are less steep;
- > A clear and straight (where possible) shoreline (property boundary) for vision impaired people;
- > Wayfinding signage;
- > Shared zones or pedestrian priority at minor road crossings;
- > Crossing opportunities targeted for every 200 metres or less;
- > Incremental arrow markings to encourage users to keep left;
- > Signalised or raised crossings at major roads with ample waiting area;
- > Lit with energy efficient lighting;
- > Tree canopy cover and addition cover facilitated with sub-surface root separation;
- > Is separated from high volume/ speed traffic with vegetation, parking lanes; and
- > Amenity provisions at regular intervals along or nearby, including drinking fountains, seating, toilets and weather shelter refuges.

Indicatively, a core walking network concept for consideration and refinement is shown in **Figure 5-2**.

5.1.3 Core cycling network

A core cycling network seeks to link local centres, key train stations and provide through links to support local and regional cycling journeys. It provides a focus to provide a network that is near to most people in the Inner West. It is anticipated this would be identified in the Bike Plan/ Active Transport Plan.

It is envisioned to provide separation for large speed differentiated modes, such as people where possible and vehicles. This can be achieved through provision of separated cycle paths, mixed traffic with 30 kilometre per hour limits and if shared paths are unavoidable, these should be wide (3.5+ metres) shared paths on both sides of the road.

Key features should include:

- > Separate facilities where possible, with bi-directional cycleways standard width of 3.0 metres;
- > If shared paths are to be used they should be at least 3.5 metres wide, these should be on both sides of the carriageway to facilitate one-way cycle movement on each side of the carriageway. Different pavement treatment or linemarking should be used to differentiate the pedestrian and cyclist zones.
- > Mixed cycle and vehicular traffic routes with vehicular speed limits of 30 kilometres per hour or less.
- > A smooth surface that receives regular maintenance, including vegetation trimming;
- > Have a high priority at intersections;
- > Separated facilities and lanterns at signalised intersections;
- > Well lit with energy efficient lighting.
- > Bicycle maintenance facilities at key points,
- > Wayfinding signage;

The core network is broadly envisioned to draw on the routes which would be included within the Inner Sydney Regional Bicycle Network.

Key east-west routes include:

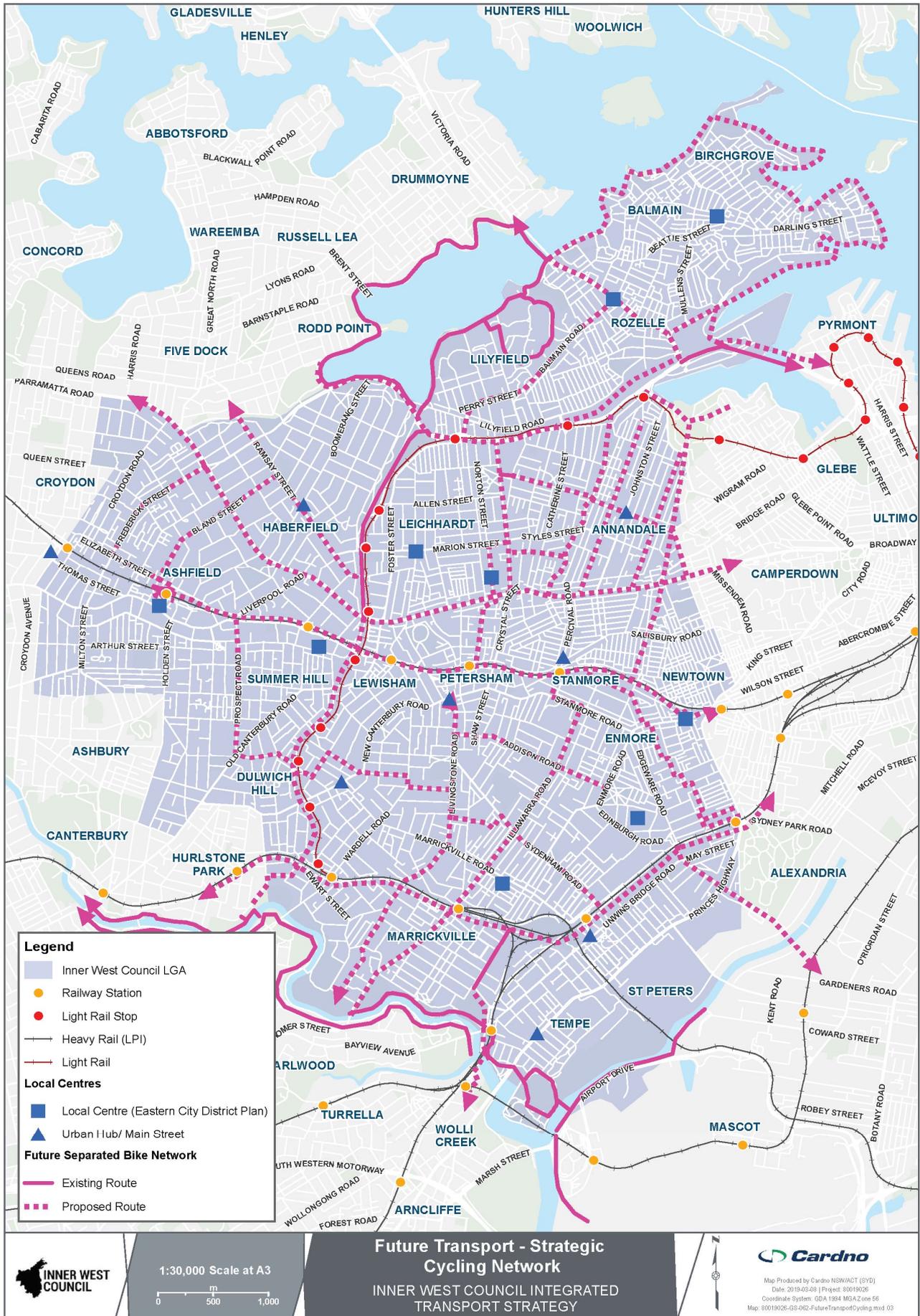
- > City West Link towards ANZAC Bridge,
- > Parramatta Road, and,
- > Sydenham to Bankstown cycling corridor.

Key north-south links include:

- > Iron Cove to Cooks River (Greenway),
- > Victoria Road,
- > Balmain Road,
- > Link parallel to Inner West Line,
- > Livingstone Road,
- > Johnstons Creek, and
- > Dobroyd Canal to Ashfield.

An indicative core network is shown in **Figure 5-3**.

Figure 5-3 Core cycling network



5.1.4 Future bus network concept

There is an opportunity to re-order the bus network and allow the potential redeployment of bus assets for other news routes. Buses are generally best suited at moving moderate numbers of people over a moderate distance (in comparison, trains are effective at moving large numbers of people long distances). Bus routes would ideally feed into mass transport options of heavy rail.

Bus service development should be focussed on a grid of north-south and east-west routes at a high frequency to ensure good access to frequent service and an improved ability to use public transport to get anywhere in the LGA and other major destinations. Some bus services may use a combination of east-west and north-south routes to get to their destinations. Other trips might involve a change of buses (as not every service can go everywhere), but with high frequency services on a grid, this would improve accessibility overall. Ideally, all bus stops would be provided with shelters. Council would also investigate new shelter designs at bus stops that can be configured on narrower streets for added customer comfort while waiting between services.

While intermodal and interchange planning in Australia has historically been poor, international experience has shown that customers are more accepting if services are coordinated and seamless. It is difficult to provide seamless interchange, this can be resolved by providing high frequency services.

Frequencies should typically aim to be every 10 minutes or less during the day. The network should be supplemented by on-demand services in lower demand areas to provide access to/ from the network.

An indicative grid bus network is shown in **Figure 5-4**.

Figure 5-4 Future bus network concept



5.2 Innovative ideas for the future

This section provides innovative transport ideas for the future, supporting the Integrated Transport Strategy's vision of improving active and public transport for residents, visitors and workers of Inner West. It creates more reliable, high frequency north-south public and active transport connectivity, improving links between key existing and future economic centres and educational hubs including the Camperdown-Ultimo Health and Education Precinct, Sydney Airport, Green Square and the Bays Precinct. However, these ideas cannot be developed by Council alone and require institutional and financial partnership with State Government.

5.2.1 North-South Metro (or Inner Circle Line)

Sydney's existing and proposed future public transport network is critically missing north-south connectivity. This, combined with Sydney's historic hub and spoke rail network focusing on Sydney's CBD, means that rail travel from many areas requires an initial journey to Redfern or Central Stations prior to being able to travel in a North-South, or westerly direction. This counterintuitive movement acts as a significant deterrent for residents of Inner Sydney. Additionally, access to Sydney Airport is limited by the capacity of a line that only runs from the CBD to Wolli Creek, with limited connectivity to other areas.

All of the above engender a dependence on private car travel for many trips from Inner West and Inner South of Sydney.

Enhanced north-south rail connectivity could readily be achieved through the provision of an Inner Sydney Circle Metro. This line could potentially connect:

- > Sydney Airport (International and Domestic Terminals);
- > Sydenham Station (Metro Southwest, T8 Southern Line, T4 Illawarra and Cronulla Lines, as well as buses such as the 418,425 and M30);
- > Ashfield Station (T2 Inner West Line and Liverpool Road buses);
- > Five Dock Metro Station (Metro West, Parramatta Road services);
- > Drummoyne (Victoria Road services);
- > North west along Victoria Road toward Macquarie Park on the North-West Metro line or north east to Crows Nest Metro Station and/or Wollstonecraft Station on the North Shore Line; and
- > Potentially continue south towards Brighton-Le-Sands and beyond.

5.2.2 Metro West Station for Leichhardt

The proposed Metro West will provide high-speed, turn up and go, access between Sydney CBD and Parramatta, however its current configuration does not provide a station in Sydney's Inner West. The service's current alignment jumps from The Bays Precinct to Five Dock bypassing Rozelle, Lilyfield and Leichhardt. The proposed service also misses the opportunity to connect with the highly successful Inner West Light Rail Line.

A minor realignment of the currently proposed route would provide much-needed rapid transit opportunities for Inner West residents by connecting with Inner West Light Rail Line at either at Leichhardt North or Marion Street. Such a proposal would be on the basis of providing better connectivity for the public transport network, and not on the basis of substantially higher local population than already exists. Given that light rail stations already exist at these locations, the local population should not increase because new services pass the existing station.

In addition to providing enhanced access to Inner West Light Rail services this connectivity would provide opportunities for transfer between the two modes; permitting a quicker trip to the City (for passengers transferring from light rail to metro services) and reducing demand on the light rail, which is currently at or near capacity during peak periods. This reduced demand would particularly benefit downstream light rail patrons at stops such as Rozelle Bay, Jubilee Park, Glebe and Wentworth Park which are currently experiencing high demand.

5.2.3 Rapid public transport routes using future WestConnex and Western Harbour Tunnels

The State Government is planning two projects which will introduce road-based tunnels through Inner West Council:

- > Western Harbour Tunnel – a new tunnel from the Rozelle interchange, under Sydney Harbour to the Warringah Freeway in North Sydney

-
- > WestConnex - Stage 3 of the project will construct a tunnel linking the new M4 at Haberfield and M5 at St Peters, with stub tunnels to an interchange in Rozelle.

Sydney's public transport network generally lacks good north-south connectivity, and bus travel times between major centres are relatively slow. Currently, there are no or rapid public transport services that link the north shore and north-western Sydney directly with Inner West LGA.

There is opportunity to utilise the future road based tunnels for rapid public transport to improve connections between:

- > North Sydney, Rozelle and Haberfield via the WestConnex and Western Harbour Tunnels; and
- > Drummoyne (Victoria Road) and St Peters via the WestConnex Tunnel.

It is envisaged that public transport could run in their own dedicated lanes (or shared lanes depending on hour of the day) to connect residents directly to key employment, leisure and transport destinations in northern Sydney and southern Sydney (including North Sydney CBD, Northern Beaches and Kingsford Smith Airport) and by-pass surface based traffic. Routes could run from places such as Sydenham, Mascot, St Peters Stations or the Airport, to destinations such as Ashfield, Crows Nest/Chatswood, Drummoyne, and beyond. They could be high quality vehicles running at high frequencies, similar to the B-Line to the Northern Beaches. Bus routes could all surface at the Rozelle Interchange, allowing a single-point interchange between these routes.

5.2.4 Pyrmont Peninsula Light rail bypass

Inner West Light Rail is a success story; it is well-utilised, carrying an hourly range of 2,050 to 3,250 passengers in each direction at peak periods. The light rail provides a critical north-south public transport route from Dulwich Hill to Central, servicing areas that previously lacked high-capacity and reliable public transport connections.

Journeys can be slow, particularly as the light rail travels around the Pyrmont peninsula. Services could be faster for passengers travelling to and from Central if there was an optional Pyrmont peninsula bypass. This would provide a direct link between Wentworth Park and Exhibition light rail stops bypassing five stops. This could provide potential time savings of approximately seven to eight minutes per journey.

5.2.5 Bays Precinct to Green Square Transit Link

In addition to the growth anticipated in the Bays Precinct, Camperdown Collaboration Precinct and Green Square, a readily growing synergy of use is envisaged between biomedical, hi-tech and research uses in these areas (and the Australian Technology Park). In order to effectively foster these synergies it is essential to provide safe, friendly and efficient connectivity. In response to this the Strategy proposes a mass transit link, connecting The Bays Precinct Metro West Station with Green Square, via Camperdown and Eveleigh/Australian Technology Park. This service would also provide an interface with trackless trams along Parramatta Road, thus providing a clean simple connection to the CBD as well as point-to-point travel between these major knowledge hubs. This is supported by the Eastern City District Plan.

5.2.6 GreenWays and the Green Grid

The Iron Cove to Cooks River GreenWay, even though only partially completed, is proving to be one of Sydney's most successful active transport projects. Not only does the GreenWay provide a safe, friendly active transport path, it offers opportunities for public art, place making, education and bush care within a significant environmental/biodiversity corridor.

Capitalising on the success of the Iron Cove to Cooks River Greenway, it is proposed to extend the GreenWay's reach; through the creation of new greenways, enhancement of existing green links and the building of a network of Green Streets.

This proposal is in keeping with the State Government's Sydney Green Grid Project and new greenways proposed include:

- > Dobroyd Canal/Iron Cove Creek – between The Bay Run and Ashfield Aquatic Centre;
- > The City West Cycle Link – between The Bay Run and CBD, via Blackmore Oval, Inner West Light Rail Corridor, Rozelle Railyards Linear Park, a reinstated Glebe Island Bridge and Pyrmont Bridge (for active transport);
- > South-West GreenWay – between Sydenham Station and Bankstown, within the new Metro Southwest Corridor;
- > Alexandra Canal – between Cooks River and Sydney Park; and

-
- > Foreshore GreenWay – along the Sydney Harbour Foreshore between The Bay Run and Pyrmont, using foreshore paths and quiet local streets, including the Bays Precinct Foreshore, and connecting to the City West Cycle Link at Rozelle Railyards Linear Park.

Enhanced and extended green cycle and pedestrian links which would include:

- > Johnston's Creek – between Jubilee Park and Parramatta Road; and
- > White's Creek – between Rozelle Railyards Linear Park and Salisbury Road.

All of these routes would be connected by a network of Green Streets with:

- > Clearly defined active transport priority in which cars are treated as “visitors” and people are prioritised;
- > Reduced traffic speeds and volumes; and
- > Enhanced street planting and incorporating Water Sensitive Urban Design, with rain gardens, planted medians, increased tree canopies, minimised hard surfaces, rest places, public art and place making initiatives.

Innovative transport ideas are shown in **Figure 5-5**.

6 Transport actions

6.1 Principles and key actions

Table 6-1 Principles and key actions

No.	Principles	Key actions
A	Plan land use to support active and sustainable transport for reduced travel times and distances.	<p>Develop an LEP and DCP that allow a mix of compatible land uses as part of new developments and redevelopments.</p> <p>Encourage and incentivise co-working spaces in local centres and urban hubs.</p> <p>Revise the Local Environmental Plan / Development Control Plan to require major new developments to provide through-site links for public access on foot and bicycle.</p> <p>Developments to have a sustainable transport plan.</p> <p>Develop a Section 7.11 / 7.12 Contributions Plan that supports more active transport links.</p> <p>Ensure the DCP includes controls that require 'end of trip' facilities in commercial and industrial developments of a certain size.</p> <p>Achieve quality public domain, streetscapes and new links through the planning and redevelopment process, to support increased active travel.</p>
B	Improve safety, personal security, and provide equitable access for full community participation.	<p>Develop an Inner West Pedestrian Access and Mobility Plan (PAMP).</p> <p>Investigate locations for slower speed streets and advocate State Government for 30km/h speeds in some locations. Also review urban design treatments to achieve slow speed streets.</p> <p>Review, and upgrade where required, street lighting and active / passive surveillance across the footpath and cycleway networks.</p> <p>Advocate for accessible station access including Lewisham, Petersham, Summer Hill. Bring forward upgrades to Dulwich Hill.</p> <p>Review of community bus services to expand network coverage and frequency, and its potential incorporation / integration with Mobility as a Service (MAAS).</p> <p>Kerb ramp upgrade/ renewal program for LGA wide DDA compliance.</p>
C	Prioritise people in centres and main streets and revitalise key roads.	<p>Public Domain Masterplans for main streets (to be coordinated with Place based studies).</p> <p>Embed place-responsive creative infrastructure and artwork into the Council framework for public domain planning in key streets and centres.</p> <p>Review provision and quality of awnings, seating, water fountains, street trees, public toilets, and pocket parks and upgrade across the footpath network and at bus stops.</p> <p>Provide pedestrian priority in centres, urban hubs and main streets through longer crossing times, shorter waiting times, more crossing opportunities, increased road space and slower vehicle speeds.</p> <p>DCP provisions that reduce the provision of new vehicular crossings on main streets.</p>

No.	Principles	Key actions
		<p>Allocate road space to active and sustainable transport, resulting from State Government programs, to revitalise corridors and rebalance modal priority (including Parramatta Road and Victoria Road).</p> <p>Work with state government to declassify high pedestrian activity streets such as King Street and Enmore Road.</p> <p>Work with state government to provide more timed pedestrian crossings at key intersections.</p>
D	Progress active transport infrastructure, services and programs.	<p>Active transport plan that supports a capital works program.</p> <p>Reinforce minimum bicycle parking provisions in the DCP for new developments.</p> <p>Continue to provide more bicycle parking at key locations.</p> <p>Develop separated cycle route network including City West Link (via light rail yard), Parramatta Road and Victoria Road.</p> <p>Integrate the local pedestrian and bike network with shared path plans for the Greenway, Greenway southwest and develop a 'Green Grid' network.</p> <p>Develop a street tree masterplan to support key active transport routes and 10 minute walkable neighbourhoods.</p> <p>Investigate active transport link from Pyrmont to Bays Precinct via Glebe Island bridge.</p> <p>Develop and support behavioural awareness and change programmes that increase safety for pedestrians and cyclists while promoting active transport.</p> <p>Secure additional active transport infrastructure funds by leveraging off major new development precincts, infrastructure projects and development contributions (e.g. State Infrastructure Contributions).</p>
E	Encourage shift to public transport and shared transport from private vehicles by providing attractive alternatives, and reduce the impact of congestion and parking.	<p>Develop a public transport position statement that includes Public Transport Accessibility Analysis.</p> <p>Investigate new shelter designs at bus stops that can be configured on narrow streets..</p> <p>Advocate for improved mass transit on Parramatta Road.</p> <p>Encourage the State Government to provide a grid bus network.</p> <p>Advocate for increased capacity on the light rail line in peak periods.</p> <p>Advocate for Inner West access and interchange with the proposed Bays Precinct metro station.</p> <p>Investigate the feasibility of providing car-free streets in certain periods of the week, such as Sunday active travel events.</p> <p>Reduce parking in new development (provide maximum rates) within close proximity to public transport and centres.</p> <p>Develop an adaptive and responsive parking provision regime that considers demand, location access to alternative transport for DCP inclusion.</p> <p>Increase late night buses servicing Newtown/ Enmore.</p> <p>Inner West parking plan.</p>
F	Manage an efficient freight and goods delivery network to enhance Inner West livability.	<p>Transport Management Plans for proposed major developments.</p> <p>Investigate options for efficient 'last mile' deliveries including courier centres and bicycle couriers and autonomous deliveries.</p> <p>Examine opportunities to restrict loading times to minimise conflict with pedestrians in shopping areas.</p> <p>Ensure major new developments are accessible and serviceable off the street frontage.</p> <p>Balance local deliveries with business parking.</p>

No.	Principles	Key actions
G	Harness technology to improve information, safety, travel choices and environmental outcomes.	Partnering with companies to provide EV charging points in publically accessible locations and new development. Support technology advances that provide real-time information and/ or lead to a reduction in single occupancy vehicle movements. Support trials of on-demand bus services to fill gaps in public transport network (i.e. Marrickville South). Renew Council's vehicle fleet to electric. Innovative mass transit on Parramatta Road.

6.2 All actions

To address the transport issues and opportunities, align with the Inner West transport vision and objectives, and deliver on the transport principles, 129 transport actions are recommended. These actions are grouped into categories like transport modes, safety, technology, and travel demand management, and the type of action is also nominated:

- > Plans and studies actions (**PS**).
- > Infrastructure and operations actions (**IO**).
- > Policy and land development actions (**PL**).
- > Advocacy actions (**A**).
- > Communication and behaviour change actions (**CB**).

Transport integration actions							
Action #	Title	Action type	Core value(s)	Principle(s)	CSP Outcome(s)	Responsibility	Funding
TI1	Form working groups with neighbouring Councils to plan and implement regional policies and transport plans.	PL	All	All	2.1, 2.5, 5.2	Council	Council
TI2	Advocate for a regional transport planning study to address regional connectivity, land use change and transport integration.	A	All	All	2.5, 2.6, 5.2	Council (advocate), State Government	State Government
TI3	Develop a MCA to review and prioritise investment in transport infrastructure according to the modal hierarchy.	PL	All	All	2.1, 2.3, 2.5, 2.6, 5.3	Council	Council

Safety actions							
Action #	Title	Action type	Core values(s)	Principle(s)	CSP Outcome(s)	Responsibility	Funding
S1	Prepare a Road Safety Action Plan, including: <ul style="list-style-type: none"> – Review of crash clusters. – Investigate locations for slower speed streets including in local centres, urban hubs and main streets. – Advocacy for 30km/h speeds in some locations. – Review urban design treatments to achieve slow speed streets. 	PS (+A)	S	B, C, D, G	2.3, 2.6, 3.5, 4.1, 4.3	Council, Council advocacy	Council and State Government

Community transport actions							
Action #	Title	Action type	Core values(s)	Principle(s)	CSP Outcome(s)	Responsibility	Funding
CT1	Prepare a Community Transport Plan, including: <ul style="list-style-type: none"> – Co-ordinated approach for efficient use of the community transport bus services. – Provide information targeted to older persons needs on transport options. – Trial an on-demand bus / smart shuttles / taxi service for people with limited mobility and to fill the gap in the public transport network. 	PS, IO, CB	All	A, B, E, G	1.1, 2.5, 2.6, 4.1, 4.3, 4.4, 5.2, 5.3	Council, State Government, and relevant asset holders	Council, State and Federal Government, transport operators

Active transport actions							
Action #	Title	Action type	Core values	Principle	CSP Outcome	Responsibility	Funding
AT1	Prepare an Inner West Active Transport Plan, including: <ul style="list-style-type: none"> – Integration of the local pedestrian and bike network with the Green Grid and waterways, and develop local Green Grid network. – Pursue construction of key regional cycling routes. – Active Transport Plan to support capital works program. 	PS, IO, A	All	B, D	1.1,1.4, 2.3, 2.6, 3.3 3.5, 4.1,4.3,4.4, 5.3	Council	Council and State Government
AT2	Prepare a Wayfinding Plan.	PS	All	A, D	1.1, 2.3, 2.6, 4.4.	Council	Council and State Government
AT3	Prepare a detailed behavioural change and promotional campaign strategy to encourage increased riding and walking, including: <ul style="list-style-type: none"> – Walking and cycling confidence courses for senior residents. – An Active Travel to Schools program. – Communicating footpath and cycleway etiquette. – Incentivise and encourage cycling for short, local trips. 	CB	All	A, B, D	1.1, 1.4, 2.6, 4.1, 4.3, 4.4, 5.2, 5.3	Council	Council, State and Federal Government

AT4	Revise the LEP/ DCP to require major new developments to provide through-site links for public access on foot and bicycle, and all new developments to prioritise active transport over vehicle access and parking.	PL	All	A, B, D.	1.1, 1.4, 2.1, 2.3, 2.6, 3.5, 4.1, 4.3, 4.4	Council	Council and State Government
AT5	Construct the missing links in the local pedestrian and bike network, identifying sources of funding for improvements to the active transport network.	IO	All	B, D	1.1, 1.4, 2.3, 2.6, 3.5, 4.1, 4.3, 4.4, 5.2	Council and State Government	Council, State and Federal Government
AT6	Review and improve public transport integration with the active transport network, including: <ul style="list-style-type: none"> – Light rail interchange with the Greenway. – Providing bike lockers at key train stations, bus and light rail stops. 	IO, A	All	A, B, D, E	1.1, 1.4, 2.1, 2.3, 2.5, 2.6, 4.3, 4.4	Council and State Government	Council and State Government
AT7	Advocate for positive provision of active transport facilities as part of all transport infrastructure projects.	A	All	D	1.1, 1.4, 2.1, 2.5, 2.6, 4.3	Council (advocate), State Government	State Government
AT8	Connect the LGA's walking and cycling networks to the active transport facilities provided as part of major projects.	IO	All	A, D		Council	Council and developers (private and public)
AT9	Review, and upgrade where required, street lighting and active / passive surveillance across the footpath and cycleway networks.	IO	All	A, B, C, D, E, G	1.1, 1.4, 2.1, 2.3, 2.6, 3.5, 4.1, 4.3	Council	Council
AT10	Improve the ease of implementing shared zones in local centres, urban hubs and main streets.	A	All	A, B, C, D,	1.1, 1.4, 2.3, 2.6, 3.5.	Council (advocate), State Government	Council and State Government

Walking actions							
Action #	Title	Action type	Core values	Principle(s)	CSP Outcome(s)	Responsibility	Funding
W1	Develop Neighbourhood Movement Plans for 15 minute 'walkable neighbourhoods' including identifying opportunities to extend footpaths across intersections in residential streets and high pedestrian areas.	PS	S, J, T, Cl, Co	B, C, D	1.1, 2.3, 2.6	Council	Council
W2	Prepare a Pedestrian Access and Mobility Plan (PAMP) including a kerb ramp upgrade/ renewal program for LGA wide DDA compliance.	PS	S, J, T, Cl, Co	B, C, D	1.1, 2.3, 2.6, 3.5, 4.4	Council	Council and State Government
W3	Provide pedestrian priority in centres, urban hubs and main streets through: <ul style="list-style-type: none"> – Longer crossing times. – Shorter waiting times. – More crossing opportunities. – Increased road space. – Shared zones or pedestrian priority at marked road crossings. 	IO	All	A, B, C, D	1.1, 2.3, 2.6, 3.5	Council and State Government	Council and State Government
W4	Increase the number of pedestrian crossing opportunities along major roads.	IO	All	B, C, D	1.1, 2.6	Council and State Government	Council and State Government

Bicycle and micro-mobility actions							
Action #	Title	Action type	Core values	Principle(s)	CSP Outcome(s)	Responsibility	Funding
BMM1	Prepare a Bike Plan (to be part of Active Transport Plan) including: <ul style="list-style-type: none"> – Develop separated cycle route network including City West Link (via light rail yard), Parramatta Road and Victoria Road. – Support for well-managed bike share schemes. – More bicycle parking at key locations. – Plans for bike kiosks in centres and urban hubs with maintenance stations, and bike pumps across the bike network. – Plans for travel info app (bike kiosks/maintenance stations, bike routes, bike pumps and bike parking). 	PS	All	B, D	1.1, 1.4, 2.6, 4.3		Council and State Government
BMM2	Prepare a Micro-mobility Plan addressing: <ul style="list-style-type: none"> – Planning footpaths, cycleways and parking and charging infrastructure that accommodates e-scooters and e-bikes. – Advocating for legal right-of-way on footpaths for e-scooters. 	PS, IO, A	All	B, C, D, G	1.1, 1.4, 2.6		Council
BMM3	Advocate for better data on cycling safety and accidents.	A	S, V	B, D, G	2.6, 4.3		State Government
BMM4	Encourage the State Government to accommodate bikes on public transport.	A	Cl, Co, V	D, E	2.6		State Government

Public transport actions							
Action #	Title	Action type	Core values	Principle(s)	CSP Outcome(s)	Responsibility	Funding
PT1	<p>Work with the State Government to identify gaps in the existing public transport network and advocate for:</p> <ul style="list-style-type: none"> – A grid bus network with improved north-south public transport connectivity. – Review of the bus network, routes and services for improved coverage, direct connections to destinations and better interchange opportunities. – Better public transport connections for South Marrickville, and to connect Sydenham to northern destinations. – A new mass transit link via Glebe Island Bridge to Glebe Island (including active transport link from Pyrmont to Bays Precinct via Glebe Island bridge). – Access and interchange with the proposed Bays Precinct metro station and other Metro West stations in or near the Inner West. 	A	All	B, E	2.5	Council (Advocate), State Government, transport operators	State Government
PT2	<p>Advocate for improved bus schedule to improve services across all times of the day, including:</p> <ul style="list-style-type: none"> – More daytime off peak connections to local centres, urban hubs and main streets. – More late night bus services servicing Newtown, Enmore, and other entertainment districts. 	A	All	B, E	2.5, 4.4	Council (Advocate), State Government, transport operators	State Government
PT3	<p>Advocate for more Dulwich Hill Light Rail services across the day, including during peak periods.</p>	A	All	E	2.5	Council (Advocate), State Government, Transdev	State Government
PT4	<p>Advocate for high capacity and frequent trackless tram service along Parramatta Road between Central Station and Burwood.</p>	A	All	A, B, E, G	2.5	Council (Advocate), State Government	State Government
PT5	<p>Advocate for improved public transport priority including:</p> <ul style="list-style-type: none"> – On Parramatta Road, Enmore Road/ King Street and Victoria Road in peak periods. – In-lane bus stopping (on roads other than those designated State Roads). – At intersections. 	A	All	A, E	2.5	Council (Advocate), State Government	State Government

Public transport actions							
Action #	Title	Action type	Core values	Principle(s)	CSP Outcome(s)	Responsibility	Funding
PT6	Develop a public transport position statement that includes Public Transport Accessibility Analysis to identify access improvements to public transport nodes including train stations and light rail stops, and better interchange between buses and ferries. In particular, advocate for accessible station access including at Lewisham, Petersham, Summer Hill. Bring forward upgrades to Dulwich Hill.	PS, A, IO	All	A, B, E	2.5, 4.4	Council, State Government	State Government
PT7	Investigate locations and implementation of 'SuperStops' in local centres and urban hubs.	IO	All	A, B, E	2.5	Council, State Government	State Government

Road network actions							
Action #	Title	Action type	Core values	Principle(s)	CSP Outcome(s)	Responsibility	Funding
R1	Undertake a movement and place assessment for key road corridors.	PS	S, J, T, Co, V	A, B, C, D	2.3, 2.6, 3.3, 3.5	Council, State Government	Council and State Government
R2	Prepare road network capacity studies for all areas with significant additional housing planned.	PS	Co	A, F	2.6, 5.3	Council, State Government, developers	Developers
R3	Prepare a Laneways Plan.	PS	S, Co	B, C, D, F	2.3, 2.6, 3.3, 3.5, 5.3	Council	Council
R4	Reallocate spare road capacity, resulting from State Government programs, to revitalise corridors and rebalance modal priority (including Parramatta Road and Victoria Road).	IO	S, Co, V	A, C, D	2.3, 2.6, 3.5, 5.3	Council, State Government, developers	Developers
R5	Update the LEP to remove all road widening reservations that have not already been taken up by Roads and Maritime.	PL	S, Co, V	A, C, D	2.3, 5.3	Council, State Government	Council
R6	New DCP provisions to reduce the provision of new vehicle crossings of footpaths on main streets and ensure major new developments are accessible and serviceable off the street frontage.	PL	S, J, T, Co, V	C, F	2.1, 2.6, 3.5, 5.3	Council	Council
R7	Work with State Government to declassify high pedestrian activity streets such as King Street and Enmore Road.	A	S, Co, V	B, C, D	2.3, 2.6, 3.3, 3.5	Council, State Government	Council and State Government

Rideshare, taxis, carshare actions							
Action #	Title	Action type	Core values	Principle(s)	CSP Outcome(s)	Responsibility	Funding
RTC1	Prepare a Ridesharing Policy.	PL	T, Co, V	B, E, G	1.1, 1.5	Council	Council
RTC2	Prepare a Carsharing Policy.	PL	T, Co, Cl, V	E, G	1.1, 1.5	Council	Council
RTC3	Prepare a Shared Transport Plan including support for a diversity of well-managed car share schemes.	PS	T, Co, Cl, V	E, G	1.5, 5.2	Council	Council
RTC4	Liaise with the NSW Taxi Council to examine the needs of taxis servicing the LGA.	PL	J, T, Co, V	B, E, G	1.5, 5.2	Council	Council

Delivery & services actions							
Action #	Title	Action type	Core values	Principle(s)	CSP Outcome(s)	Responsibility	Funding
DS1	Prepare a Freight Movement Plan including: <ul style="list-style-type: none"> – Review and definition of designated freight routes. – Opportunities to restrict loading times to minimise conflict with pedestrians in shopping areas. – Options for efficient 'last mile' deliveries including courier centres, bicycle couriers and autonomous deliveries. – Balance local deliveries with business parking. 	PS	S, Co, V	C, F	3.3, 3.5, 5.2, 5.3	Council	Council and State Government
DS2	Review and rationalise waste vehicle movements servicing the Inner West.	PL	S, Co, V	C, F	3.5, 5.2, 5.3	Council, waster service providers	Council
DS3	Maintain complementary land uses on main freight corridors.	PL	V	F	3.3, 5.3	Council	Council

Travel demand management actions							
Action #	Title	Action type	Core values	Principle(s)	CSP Outcome(s)	Responsibility	Funding
TDM1	Allow a mix of compatible land uses as part of new developments and redevelopments.	PL	Cl, Co	A, D	2.1, 2.6, 5.3	Council	Council
TDM2	Develop a Travel Behaviour Change Plan including: <ul style="list-style-type: none"> – Encouraging public transport use through behavioural change and awareness campaigns. – Developing an educational program that promotes the health, environmental and economic benefit of using sustainable transport. – Hold regular “Spare the Air” or “Greener is Greater” Days. – Requirement for new developments to prepare a Sustainable Transport Plans. 	CB	Cl, Co	A, C, D	1.1, 1.4, 2.6, 4.3	Council, developers	Council, developers
TDM3	Develop a Traffic and Transport Management Plan for each local centre with major employment.	PS	Co, V	B, D, F	1.1, 2.1, 2.3, 2.5, 2.6, 3.5, 4.4, 5.2, 5.3	Council	Council
TDM4	Require major developments to provide Transport Impact Assessments - pre and post.	PL	Co, V	B, D, F	1.1, 2.1, 2.3, 2.5, 2.6, 3.5, 4.4, 5.2, 5.3	Council, developers	Council, developers
TDM5	Require all major employers and proposed major developments to develop and implement a travel management plan or green travel plan.	PL	Cl, Co, V	A	1.1, 2.1, 2.3, 2.5, 2.6, 3.5, 4.4, 5.2, 5.3	Council, employers	Council, employers
TDM6	Encourage and incentivise co-working spaces in local centres and urban hubs.	PL	Cl, Co, V	A, G	1.5, 2.1	Council, developers	Council, developers

Urban design & environment actions							
Action #	Title	Action type	Core values	Principle(s)	CSP Outcome(s)	Responsibility	Funding
UE1	Build resilience into road design and transport projects, including redesign council car parks in a manner that reduced heat island impact through a combination of reduced hard stand and enhanced tree planting.	PL	S, Cl, Co	A	1.1, 1.4, 2.1	Council	Council
UE2	Require new developments to incorporate improvements to the streetscape including street furniture, shelter and landscaping.	PL	T, Co	A, B, C, D	2.1, 2.3, 3.5	Council, developers	Council
UE3	Review presence and quality of awnings, seating, water fountains, street trees, public toilets, and pocket parks and upgrade across the footpath network and at bus stops. Develop a street tree masterplan to support the key active transport routes and 10 minute walkable neighbourhoods.	IO	T, Co	B, C, D	2.1, 2.3, 3.5	Council	Council
UE4	Prepare Public Domain Masterplans for main streets (coordinated with place-based studies).	PS	Co	A, B, C, D	2.1, 2.3, 3.5	Council	Council
UE5	Embed place-responsive creative infrastructure and artwork into the Council framework for public domain planning in key streets and centres and prescribe a proportion of all infrastructure project budgets to be dedicated to public art/place making and environmental/sustainability measures.	PL	Cl, Co	C	2.1, 2.3, 3.5	Council	Council

Parking actions							
Action #	Title	Action type	Core values	Principle(s)	CSP Outcome(s)	Responsibility	Funding
PA1	Prepare a Parking Plan that addresses: <ul style="list-style-type: none"> – Parking availability vs perception. – Facilitate motorbike/scooter on-street parking. – DCP amendments (see PA3). – Incentives for reduced car ownership and reduced residential demand for on-street parking spaces. – Review of Council's parking permit scheme with a view to discouraging larger/less environmentally friendly vehicles. 	PS	J, T, Cl, Co	A, B, D, E	1.5, 2.1, 4.4	Council	Council
PA2	Review accessible parking including: <ul style="list-style-type: none"> – Audit the number and location of accessible parking spaces and plan for 1 to 10 ratio. – Review implementation of accessible parking permits. 	PL	J, Co	B	4.1, 4.4	Council	Council

Parking actions							
Action #	Title	Action type	Core values	Principle(s)	CSP Outcome(s)	Responsibility	Funding
PA3	Amend the LEP/DCP to reduce parking in new developments and develop an adaptive and responsive parking provision regime that considers demand, location access to alternative transport through: <ul style="list-style-type: none"> – Provision of on-site parking rates based on zones of public transport accessibility. – Providing maximum rates in new developments. – Increasing storage associated with apartments to reduce use of off street parking. – Allowing more flexible/adaptable parking or car access provisions and opportunities for uncoupled and unbundled parking in new developments – Providing minimum rates for provision of bicycle parking, motor scooters, motorcycles, bike share, scooter share, car share 	PL	Cl, Co, V	A, B, D, E, F	1.5, 2.1, 4.4, 5.3	Council	Council
PA4	Prepare parking studies for each local centre, urban hub and main streets.	PS	T, Co, V	A, B, D, E, F	1.5, 2.1, 4.4, 5.3	Council	Council
PA5	Investigate parking certificate scheme for residents of post-2001 developments.	PL	J, T	A, E	1.5, 2.1, 4.4, 5.3	Council	Council
PA6	Extend parking ranger operating hours to night periods.	IO	V	E	5.3	Council	Council
PA7	Increase loading and 'no parking' zones throughout the Inner West including P5 min and P10 zones in front of residential developments, to allow for drop off and delivery for people using car share and ride share services, and drop off zones and parking allocations for childcare centres.	IO, PL	J, Cl, V	E, F	1.5, 4.4, 5.3	Council	Council
PA8	Investigate opportunities for Opal cards to integrate with car parks.	A	Cl, V	E	1.5, 4.4, 5.3	Council, State Government, car park operators	Council and State Government

Technology actions							
Action #	Title	Action type	Core values	Principle(s)	CSP Outcome(s)	Responsibility	Funding
TE1	Prepare a Future Transport Technology Plan, including addressing development of technologies that support: <ul style="list-style-type: none"> – Real-time travel information. – Reduction in single occupancy vehicle movements. 	PS	Cl, Co	E, G	1.1, 1.4, 1.5, 2.5, 4.4	Council	Council
TE2	Prepare an Electric Vehicle Policy and Plan that: <ul style="list-style-type: none"> – Identifies locations to provide EV charging facilities in publically accessible locations including partnering with companies and developments. – Investigates options for smart poles that provide a range of services for people and electric vehicles. – Proposes renewal Council's vehicle fleet to electric. <ul style="list-style-type: none"> > Encourages and supports the use of zero emission vehicles. 	PS	Cl, Co	G	1.1, 1.4, 1.5, 2.5	Council	Council
TE3	Support the State Government's trials with CAVs in the Inner West.	A	S, T, Cl	B, F, G	1.1, 1.4, 1.5, 5.2	Council, State Government	Council and State Government
TE4	Trial MaaS opportunities in the Inner West.	IO	J, T, Co	B, E, G	1.1, 1.4, 1.5, 4.4, 5.2	Council, State Government	Council and State Government
TE5	Address privacy concerns associated with mapping / GPS software.	PL	S, T	G	5.2	Council	Council
TE6	Establish a comprehensive, meaningful systematic approach to the collection and analysis of transport patronage data.	A	T, V	E, G	5.2	Council, State Government	Council and State Government

7 Monitoring progress

The implementation, monitoring and review of the ITS actions and reporting against its objectives is a crucial part in delivering the Integrated Future Transport Network. The following sections set out the:

- > Approach to reviewing the Transport Action Plan;
- > Measuring performance against the transport objectives; and
- > Regular reviews and updates to the Integrated Transport Strategy.

7.1 Review of Transport Action Plan

The Transport Action Plan should be reviewed quarterly to track progress against implementation, and an Annual Progress Review Report prepared to review and provide feedback on progress against the transport objectives, and implementation of the transport actions, and achievement against the performance indicators. This review of the progress against the transport actions could be incorporated into Council's regular Integrated Planning and Reporting Framework to formalise the monitoring and reporting process.

1.1 Review of the ITS

To ensure the ITS remains current as the Inner West grows, transport projects are delivered, and new technologies are trialled and launched, it should be reviewed every three to five years. The review of the ITS should include:

- Review the most recent residential and worker population forecasts;
- Review updated travel behaviour and patronage data;
- Note changes to the transport network;
- Updated mapping to include new destinations, transport networks and analysis;
- Review of transport vision and transport objectives;
- Review each transport principle and related actions;
- Report against the performance indicators; and
- Consultant with stakeholders to understand changing needs and priorities.