

Westmead Place-based Transport Strategy

October 2022



Acknowledgement of Country

Transport for NSW acknowledges the Traditional Owners of the land that includes Westmead, the Burramattagal people, and recognise their continuing connection to land, waters and culture. We pay our respects to their Elders past, present and emerging.

NSW Common Planning Assumptions

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

The Common Planning Assumptions represent a consistent baseline or a starting point and are developed based on current and past trends and agreed policies and plans. They are not targets nor scenarios.

This strategy and supporting analysis are based on the agreed Common Planning Assumptions as of April 2021. Details of the Common Planning Assumptions can be found on the NSW Treasury website:
<https://www.treasury.nsw.gov.au/information-public-entities/nsw-common-planning-assumptions>

Note on the timing of the Place-based Transport Strategy

This Place-based Transport Strategy was developed using the best available information at the time of writing. In 2021-22, the long-term impacts of the COVID-19 pandemic on customer behaviours and investment have not been fully understood. Despite this uncertainty, the strategic intent and long term (20-year planning horizon) vision presented within this Strategy are deemed suitable for planning purposes.

Travel data, including traffic volumes and pedestrian counts are based on surveys from 2019 or earlier and do not reflect the altered activity due to COVID-19. Photographs used in this report were taken during April 2021 when restrictions on trading activity and non-essential travel were not in effect in NSW; as such, are an acceptable representation of long-term post-COVID-19 levels of activity.

Table of Contents

Executive Summary	4		
1. The vision for Westmead	11	3. Challenges and opportunities	39
1.1 Vision	11	3.1 Challenges	40
1.2 A 'place-based' approach to planning.....	13	3.2 Opportunities.....	47
1.3 A commitment to collaboration.....	14	4. Realising the vision	52
1.4 Translating the vision to objectives.....	14	4.1 Ongoing and committed initiatives	52
2. Understanding Westmead	17	4.2 The future of connectivity within and beyond Westmead	53
2.1 Westmead as part of the three-city vision.....	17	4.3 Strategic directions and initiatives	55
2.2 Customers in Westmead.....	20	5. Implementing the transport strategy	77
2.3 Places in Westmead.....	22	5.1 Implementation plan	77
2.4 Journeys in Westmead	27	5.2 Measuring success.....	83
2.5 Movement and Place classifications.....	37	5.3 Next steps.....	83

Executive Summary

The NSW Government's vision is for Westmead to be Australia's premier health and innovation district by 2036. It will be an ecosystem for generating new discoveries, economic growth, and global recognition and will deliver exceptional place outcomes for the Central River City.

Transport for NSW has prepared this Place-based Transport Strategy to support the development of Westmead as a place that is well-connected, integrated, inclusive and has a sustainable transport system that enables customers to have safe and convenient journeys.

The Westmead Precinct

Westmead has been identified as a unique innovation cluster based around health, education and research institutions. The area is undergoing significant transformation, including the Westmead Hospital redevelopment, Parramatta Light Rail and Sydney Metro West. It is positioned to take advantage of its place within the Central River City to become a unique, innovative and vibrant place with significant growth in population and jobs, public transport accessibility and high-quality open space.

Nonetheless, Westmead faces several challenges, including a limited connectivity across barriers including major roads, rail lines and rivers. The road network is constrained, particularly during peak hours and school pick-up and drop-off times. The public transport network could be improved, particularly outside of the peak period and at night.

Without a change in course, key road sections, including Hawkesbury Road and Darcy Road are forecasted to be close to, or over, capacity for private vehicles by 2041.

Should the public and active transport infrastructure be delivered in accordance with the Future Transport Strategy, the public

transport mode share for trips to/from Westmead is forecast to be 24 per cent, and similarly 13 per cent for active transport. This would be double the current public transport mode share, and almost three times the existing walking and cycling share.

These forecasts establish the case for change, whereby transport can enable an even greater proportion of our customers to choose public and active transport to access places, health services, education services, and jobs in Westmead. A change in the way movement to, from, and within Westmead would leverage and capitalise on:

- More than \$14 billion in committed public transport investment serving Westmead.
- A health and innovation district focussed on job creation target of 50,000 or more, predominantly knowledge-based, jobs within Westmead by 2036.
- The proximity of customers who access Westmead, with 30 per cent of people travelling less than 5km and 50 per cent travelling less than 10km. This provides a significant opportunity to shape travel to other modes for sustainable growth.

The vision for transport

The transport strategy presents a transport vision for a well-connected, integrated, inclusive and sustainable transport system that enables customers in Westmead to have safe and convenient journeys and supports the development of great places.

Connectivity – Westmead has a well-connected multimodal transport system that is safe, efficient, direct, and convenient for moving people and goods.

Productivity – The growth of Westmead as Australia’s premier health and innovation district is enabled by efficient access for freight, delivery, service, and emergency service vehicles.

New jobs are created in Westmead, as excellent public transport services attract businesses, industry, health and educational institutions to set up or expand. Public transport services support street activation for a 24-hour economy.

Liveability – Streets are people-oriented to encourage healthy lifestyles and support vibrant, activated places that create a strong sense of community for people of all ages and abilities.

Sustainability – Cycling, walking and public transport are the transport modes of choice.

Networks are green, healthy, and safe.

Five strategic directions

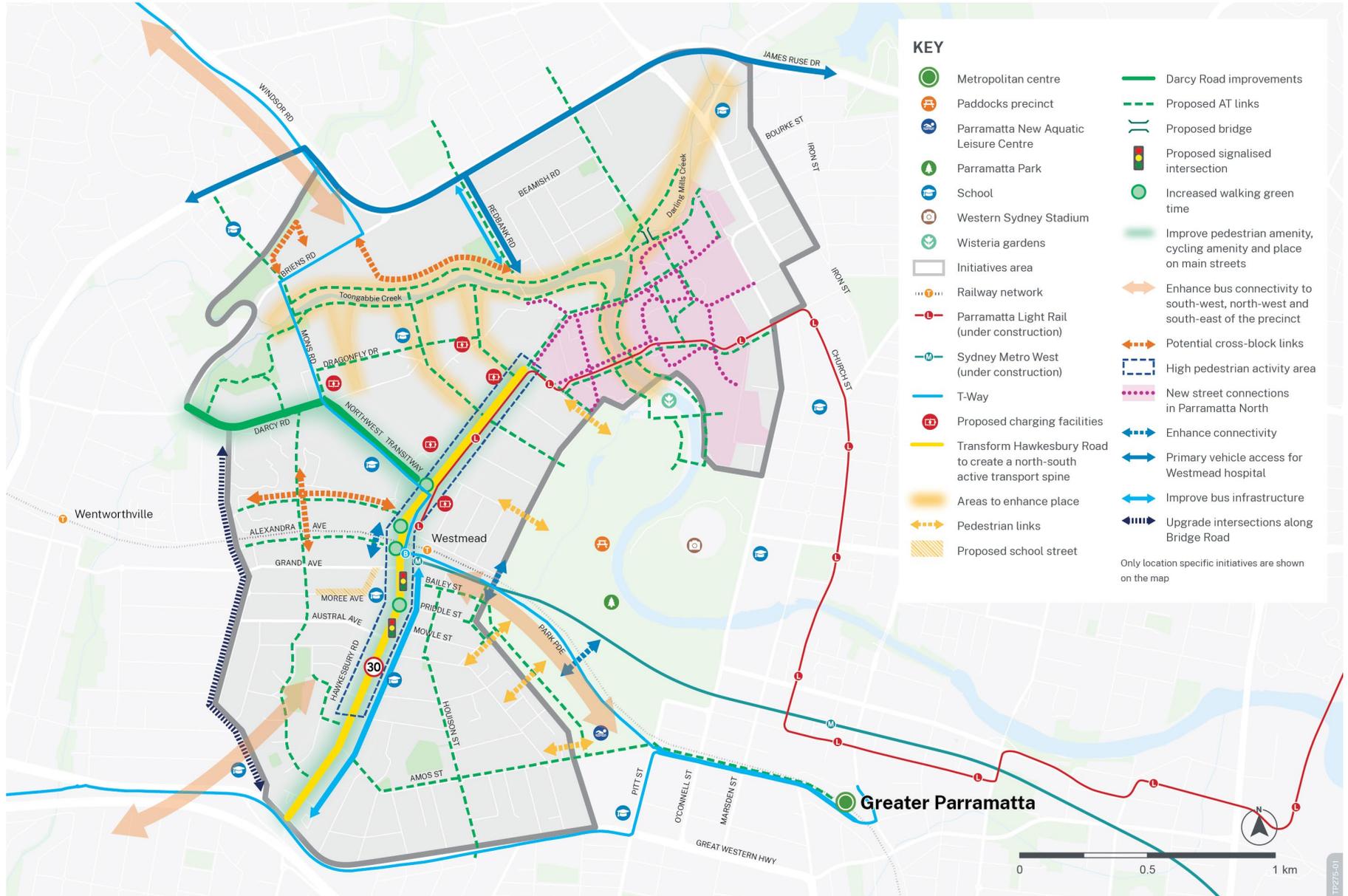
The transport strategy presents **43 transport initiatives** for further investigation, grouped into five strategic directions, based on a review of strategic land use and transport planning documents, assessing the existing and proposed

Movement and Place context, analysis of the challenges and opportunities and a co-design process with the Stakeholders.

These initiatives have been grouped into five overarching strategic directions, which are shown below.

	Strategic direction	Description	No. initiatives
1	 Support Westmead’s transformation into a truly integrated innovation district	Covers initiatives to adapt transport and land use in Westmead to better align with global future trends and the impact of investment in current land use and transport plans and projects.	8
2	 Create vibrant and safe places, leveraging the major movement corridors, parklands and creeks	Covers initiatives that will enhance the character and form of local places in the Westmead Precinct by ensuring that public places and streets have good amenity and are vibrant and safe.	8
3	 Develop sustainable travel networks that are permeable and attractive	Covers initiatives that focus on prioritising sustainable travel options throughout the Westmead Precinct -focussing on improving the availability and supporting infrastructure of active, shared and public transportation.	9
4	 Deliver better public and active transport options for customers of all ages and abilities	Covers initiatives that help create seamless and accessible journeys for all that access the Westmead Precinct, including people of all ages, socioeconomic backgrounds and those living with disabilities.	8
5	 Enhance the transport network to optimise and balance movement	Covers initiatives that seek to ensure there is reliable and efficient movement of people and goods within, to and from the Westmead Precinct in line with the Movement and Place approach.	10

Transport initiatives



TP275-01

Priority initiatives to achieve the vision for transport

Create a sense of arrival with the Sydney Metro masterplan

Sydney Metro West project is an exciting opportunity to not only improve accessibility to and from Westmead, but also to improve urban design and create a station with seamless interchange and a sense of arrival into the Westmead Precinct.



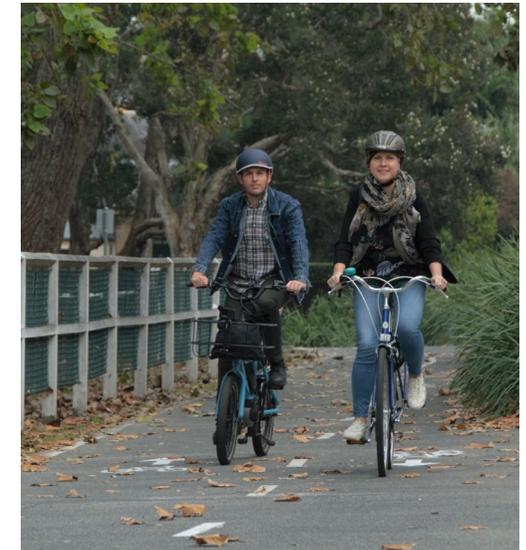
Re-imagine Hawkesbury Road

The development of a concept design for a re-imagined Hawkesbury Road, between Darcy Road and the Great Western Highway, to incorporate elements such as widened footpaths, tree planting and lower speeds presents an opportunity to transform the customer experience, place outcomes and amenity in Westmead.



A connected active transport network

Walking and cycling have a major role to play in achieving the transport vision in the Westmead Precinct. The delivery of a dedicated, high quality active transport network to complement the existing links, can help to improve customer outcomes and make the precinct more walkable and liveable.



Priority initiatives to achieve the vision for transport

Implement smart infrastructure and services

Leveraging innovative data and communication technologies to help inform better decision making can help achieve Westmead's goals and make it into a "smart place". Sensors deployed across the precinct could help track environmental conditions such as air quality, customer behaviour such as pedestrian volumes, or to improve public services through wayfinding kiosks, streetlight dimming and improved traffic signal priority for buses and emergency vehicles.



Support electric mobility uptake

Emerging electric technology will offer greater choices in transport vehicles/devices and provide sustainability, environmental and urban amenity benefits. New infrastructure and developments in Westmead should support this trend by futureproofing electric vehicle charging in new developments, including charging in new hospital carparks and providing micro-mobility battery charging in end-of-trip facilities across Westmead.



Night-time on demand transport trial

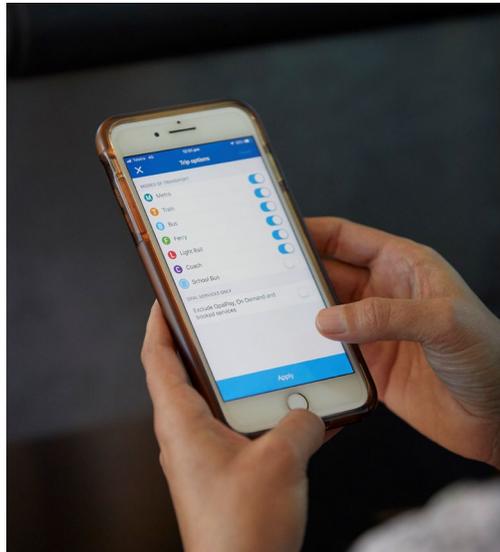
An on-demand transport service running at night can overcome barriers to public transportation usage for late shift workers. This could be a 12-month trial connecting between the hospital and the homes of shift workers to provide a safe, dedicated transport service, reducing their dependency on private vehicles and car parking to access their place of work.



Priority initiatives to achieve the vision for transport

Expand the TfNSW travel behaviour change program

TfNSW's travel behaviour change program deploys an established approach to reduce transport demand with potential benefits in reducing congestion, improved flexibility and choices for employees, reducing parking demand. Westmead is an ideal location to rollout the program with institutions that consist of large employee networks.



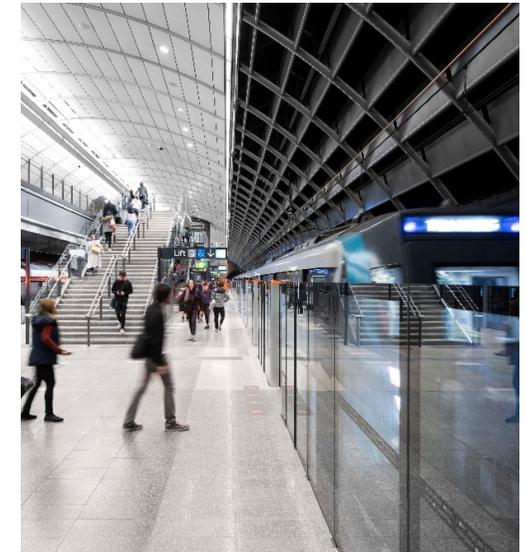
Deliver the T-way to T-way Link

A T-way to T-way link could connect the Liverpool-Parramatta T-way to the North-West T-way on Hawkesbury Road. This would enable increased bus accessibility to Westmead from the south-west, as well as enabling new dedicated services travelling between south-west and north-west Sydney via Westmead. It could be supported by the redesign of Hawkesbury Road with improved customer experience and amenity for Westmead.



Future mass transit station in the Westmead Health and Innovation District

A future mass transit station in the heart of the Westmead Health and Innovation District should be safeguarded to enable the delivery of city-shaping infrastructure and increase public transport accessibility in the future as the network develops.



Implementation and next steps

Westmead presents an exciting opportunity for various levels of government to work together with institutions and industry to deliver the integrated vision for the precinct.

The strategy enables TfNSW, councils, major landowners, and others, to implement and deliver the vision for transport in Westmead.

The 43 transport initiatives are supported by an Implementation Plan, which identifies the next step for each initiative, the responsible entities to progress the initiative, and the likely timeframe for the initiative to be delivered, completed or put into effect. Implementation of the strategy will be a shared responsibility.

In conjunction with the Implementation Plan, a Monitoring Program has been developed to support the realisation of the strategic goals. The Monitoring Program includes a suite of Key Performance Indicators that align with existing strategic measures from the Greater Cities Commission and the NSW Movement and Place Framework.

The successful implementation of this Place-based Transport Strategy will allow more than twice the number of people and more than five times the number of jobs to be accessible from Westmead within a 30-minute public transport

journey. This significant increase in connectivity to jobs and people will support Westmead's role as an attractive and accessible place to live, work and visit.

The next steps for the Westmead Place-based Transport Strategy are:

- Identification or creation of governance structures to ensure decision-making is coordinated and considered by the relevant areas within NSW Government.
 - Preparation of a strategic validation and feasibility study along with strategic business cases for capital-intensive transport initiatives, such as new rail crossings, new bridges, major arterial road upgrades, or new public transit infrastructure. This would confirm any funding allocation decisions are well timed, offer value for money, consider and mitigate risks, and are consistent with NSW Government priorities and objectives.
 - Implementation of funding mechanisms through the planning system, such as Regional Infrastructure Contributions and local contribution plans, to manage the costs of new infrastructure required to respond to growth. This would apportion infrastructure costs appropriately between the private and public sectors.
- Where required, the preservation and progressive acquisition of land over time to ensure that future transport infrastructure can be feasibly delivered, with minimal disruption and impact on the community of the time. Planning authorities should consider the use of planning incentives to facilitate land dedication as sites redevelop over time.

1. The vision for Westmead

1.1 Vision

The Westmead Precinct, as shown in Figure 1-1, is being transformed by significant government and institutional investment in city-shaping projects, including the Parramatta Light Rail Stage 1, Sydney Metro West, the Westmead Health and Innovation District (WHID) and urban renewal of Parramatta North.

The *Westmead Place Strategy (2022)*, prepared by the Department of Planning and Environment (DPE), provides a strategic framework to capitalise on the opportunities created by significant NSW Government investment, with more than \$14 billion committed for the Parramatta Light Rail and Sydney Metro West projects. It establishes a shared vision for **Westmead to be Australia's premier health and innovation district.**

In response, this Place-based Transport Strategy (the 'Transport Strategy') has been prepared by Transport for NSW (TfNSW) to enable and support delivery of this shared vision. For TfNSW to play its part in delivering the shared vision, a vision for transport has been established to guide and validate planned infrastructure and land use changes in the area.

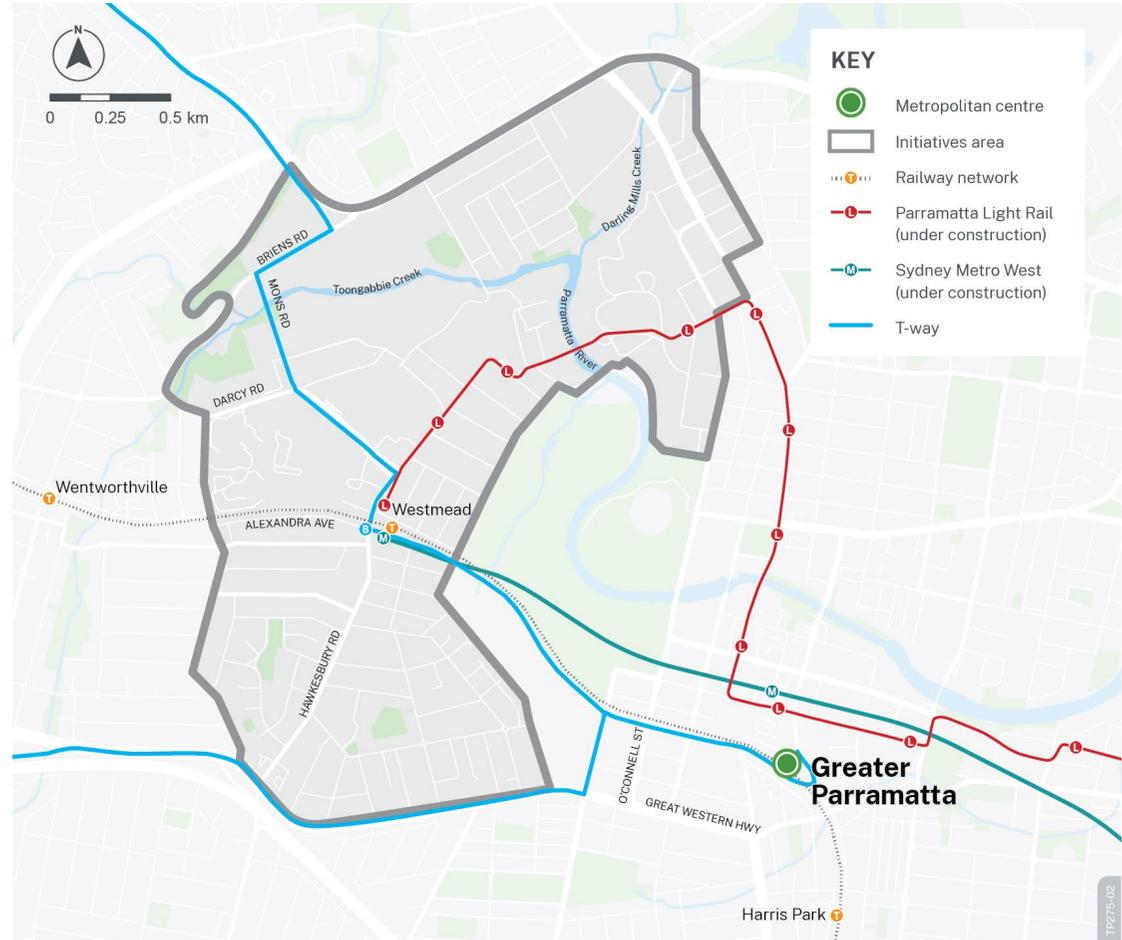


Figure 1-1 The extent of the Westmead Precinct

The overall strategic vision for the future of transport in Westmead aligns with four place-based goals that will guide the growth of the precinct over time: Connectivity, Productivity, Liveability and Sustainability.

The vision was co-developed with stakeholders, who also provided local background, expert advice and feedback throughout the project. This approach, supported by case studies of similar successful places to provide benchmarks, allowed for a holistic consideration of the strategic context. The vision was then iteratively reviewed as issues, opportunities and initiatives were identified and refined throughout the development of this Transport Strategy.



The vision for transport in Westmead is:

Connectivity

Westmead has a well-connected multimodal transport system that is safe, efficient, direct, and convenient for moving people and goods.

Productivity

Growth of Westmead as Australia's premier health and innovation district is enabled by efficient access for freight, delivery, service, and emergency service vehicles.

New jobs are created in Westmead, as excellent public transport services attract businesses, industry, health and educational institutions to set up or expand.

Public transport services support street activation for a 24-hour economy.

Liveability

Streets are people-oriented to encourage healthy lifestyles and support vibrant, activated places that create a strong sense of community for people of all ages and abilities.

Sustainability

Cycling, walking and public transport are the transport modes of choice. Networks are green, healthy, and safe.

1.2 A 'place-based' approach to planning

A 'place-based' planning approach has been embedded within this strategy. This way of planning is central to the Movement and Place Framework, adopted in the Future Transport Strategy as a principle for planning and managing the transport network.

Movement & Place is a collaborative method of examining the complexity of the city by viewing it as a mosaic of different places, each with unique potential and characteristics. It focusses on building relationships and collaboration to deliver a shared vision and solutions that respond to the potential of a place.

The overview of the planning process undertaken in this strategy is provided in Figure 1-2.

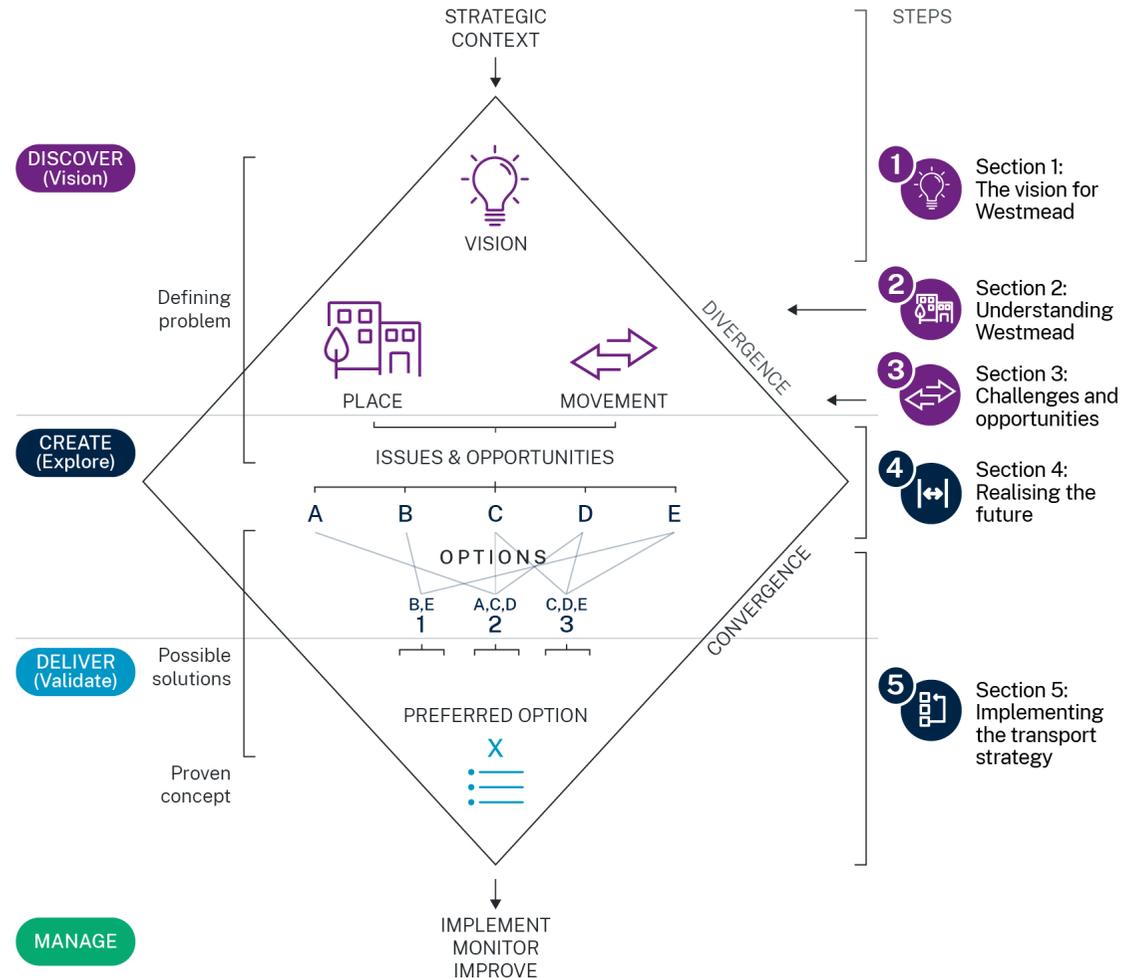


Figure 1-2 Movement and Place process, adapted from the Practitioner's Guide to Movement and Place (2020)

1.3 A commitment to collaboration

This Place-based Transport Strategy was collaboratively developed using a co-design approach that involved many stakeholders from the outset of the planning process.

The stakeholder group included a wide range of representatives from:

- City of Parramatta Council (CoPC)
- Cumberland City Council (CCC)
- Department of Education
- Department of Planning and Environment (DPE)
- Greater Cities Commission (GCC)
- Health Infrastructure
- Sydney Children’s Hospital Network
- Sydney Metro
- Transport for NSW (TfNSW)
- Western Sydney Local Health District

Four stakeholder workshops were undertaken to harness stakeholders’ local knowledge, expertise and understand the different places within Westmead as shown in Figure 1-3.

In addition to these workshops, individual consultation sessions were held with stakeholders to gather further feedback and advice as necessary.

1.4 Translating the vision to objectives

A total of 22 objectives have been identified to facilitate the successful implementation of the vision for Westmead. The list of objectives and their description is shown in Table 1-1.

The objectives were refined in collaboration with the stakeholders to ensure they address the local issues and opportunities, reflect the vision and are measurable and specific.



Figure 1-3 Overview of workshops that shaped the transport strategy.

Table 1-1 Vision and objectives for the Westmead Place-based Transport Strategy

Vision	Objective	Objective description
<p>Connectivity Westmead is accessed by a well-connected multimodal transport system that is safe, direct and convenient for the movement of people and goods.</p>	C.1 30-min city	The catchment for 30-minute access by public transport, cycling and walking to and from the Westmead precinct is expanded with comprehensive and reliable services.
	C.2 Expanded active travel network	The active travel network is expanded to enable all local and regional trips less than 10km to, from and within Westmead to be undertaken by walking, cycling and other personal mobility options.
	C.3 Road Safety	The transport network supports "toward zero" fatal and serious injuries by incorporating the safe systems approach across the network.
	C.4 Security at night	Night time security has broad coverage to ensure shift workers can access their workplaces safely and the public transport, cycling and walking options are secure all day and night for all users.
	C.5 Interchange	Interchange between modes and the surrounding places at Westmead Station, PLR stops, and local bus stop clusters, is seamless and attractive and supports the development of vibrant precincts.
	C.6 Public transport networks	Road space on the Main Roads and Streets in Westmead is allocated to optimise public and active transport journeys through, access to and within the precinct, supporting placemaking activities.
	C.7 Parking	Car parking provision within the precinct is effectively managed using a strategic precinct-wide approach that prioritises parking for important uses and promotes sustainable travel options.
<p>Productivity Growth of Westmead as Australia's premier health and innovation district is enabled by efficient access for freight, delivery, services, and emergency service vehicles.</p> <p>New jobs are created in Westmead, as excellent public transport services attract businesses, industry, health and educational institutions to set up or expand.</p> <p>Public transport services support the street activation for a 24-hour economy.</p>	P.1 Service new developments	New developments provide sufficient space on site to accommodate loading and servicing needs, supported by appropriate changes to the road network and local traffic management, with the aim of minimising the impact on street amenity.
	P.2 24-hour economy	Public transport service frequencies and active transport infrastructure meets the needs of the 24-hour economy.
	P.3 Global access to employment precincts	Strong transport connections –including public transport and freight servicing – to global leaders in health, education and innovation supports employment growth.
	P.4 Local access to employment precincts	The transport system facilitates safe, efficient and seamless connections within Westmead and between local health, education and innovation hubs to leverage local talent.
	P.5 Emergency vehicles	The Westmead street network provides prioritised access routes for emergency vehicles to/from the strategic road network.
	P.6 Congestion	Through traffic minimised to limit congestion within the precinct
	P.7 Travel Demand Management	The productivity of the precinct is supported by public transport, active transport and travel demand management.

Table 1-1 Vision and objectives for the Westmead Place-based Transport Strategy

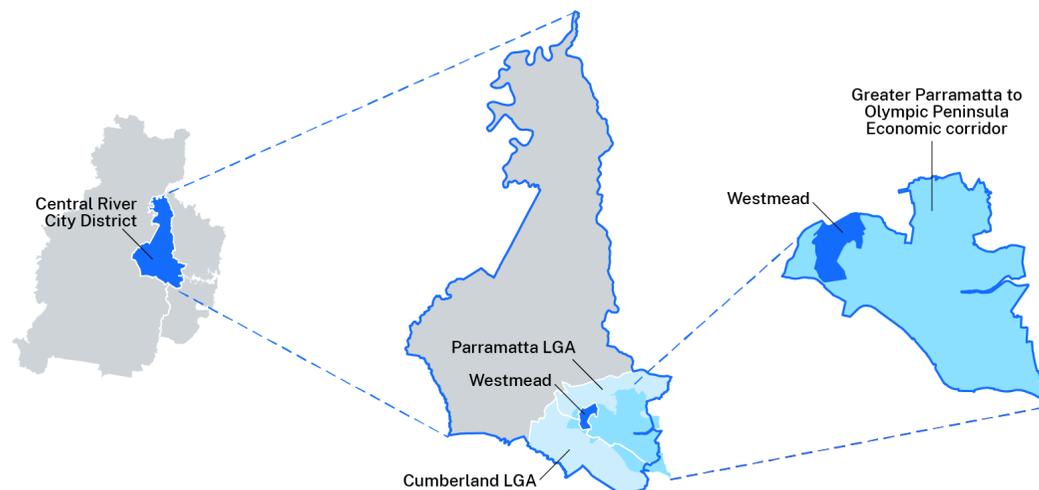
Vision	Objective	Objective description
Liveability Streets are people-oriented to encourage healthy lifestyles and support vibrant, activated places that create a strong sense of community for people of all ages and abilities.	L.1 Public space	Space for people to gather, play, stop, and rest is abundant in Westmead and supports place activation initiatives and flexibility for events within the precinct.
	L.2 Weather protection	Tree lined streets and paths provide shade and cooling in Westmead, making active transport a mode of choice in all seasons and reinforcing place qualities. Weather protection is abundantly provided.
	L.3 Recreation	Walking and cycling access to recreational and cultural facilities, particularly Parramatta Park and the Cumberland Heritage area is easy, with safe, secure, inclusive paths and good wayfinding from all parts of the Precinct.
	L.4 Active and healthy	Westmead walking, cycling and micromobility devices infrastructure caters for all ages and all abilities.
Sustainability Cycling, walking and public transport are the transport modes of choice. Networks are green, healthy, and safe.	S.1 Green grid	Westmead's green grid provides a continuous network for access to places for gather, play, stop and rest.
	S.2 Prioritising sustainable modes	Sustainable transport modes are competitive, economical, comfortable, efficient and attractive for travel to, from, within and through Westmead.
	S.3 Smart future	Infrastructure enables future mobility technology to improve variety of transport options for equitable, efficient and convenient access to and within Westmead in alignment with Smart Cities Strategy.
	S.4 Available sustainable travel options	Multimodal sustainable travel options are available at all times of day and night. These sustainable travel options are high quality and provide equitable access to local and major centres across Greater Sydney.

2. Understanding Westmead

2.1 Westmead as part of the three-city vision

The Greater Sydney Region Plan - A Metropolis of Three Cities (2018) establishes a 40-year strategic land use plan for Sydney. The plan aims to deliver better connections for people across Greater Sydney; with a vision of three cities where most residents live within 30 minutes of their jobs, education and health facilities, services and great places.

As part of the Greater Parramatta metropolitan centre, Westmead has been identified in the Greater Sydney Region Plan as a unique innovation cluster based around health, education and research institutions. It also recognises the role of Westmead as a key component in the Greater Parramatta to Olympic Peninsula (GPOP) economic corridor which is integral to achieving the vision of the plan and the Central River City.



The Westmead Precinct is currently the largest health hub in NSW. The Westmead Precinct is a priority for employment and business growth. The NSW Government will work with stakeholders to develop an integrated vision for the precinct and lead efforts to cluster health, education and research activities.

Figure 2-1 (right) Westmead within the three cities, Central City District local government areas, and the GPOP economic corridor

-Greater Sydney Region Plan – A Metropolis of Three Cities (GCC, 2018)

State and regional planning context

This Transport Strategy aligns with, and support the delivery of, the connectivity, productivity, liveability, and sustainability framework identified in the *Westmead Place Strategy*. The Place Strategy outlines five Big Moves and twelve Directions to achieve a shared vision for the future of Westmead over the next twenty years.

The vision for Westmead is to be Australia's premier health and innovation district – an ecosystem for new discoveries, economic growth and global recognition. Westmead will also deliver exceptional place outcomes for the Central River City, with enhanced heritage and environmental assets, activated places, connected communities and housing choice.

-Westmead Place Strategy (DPE, 2022)

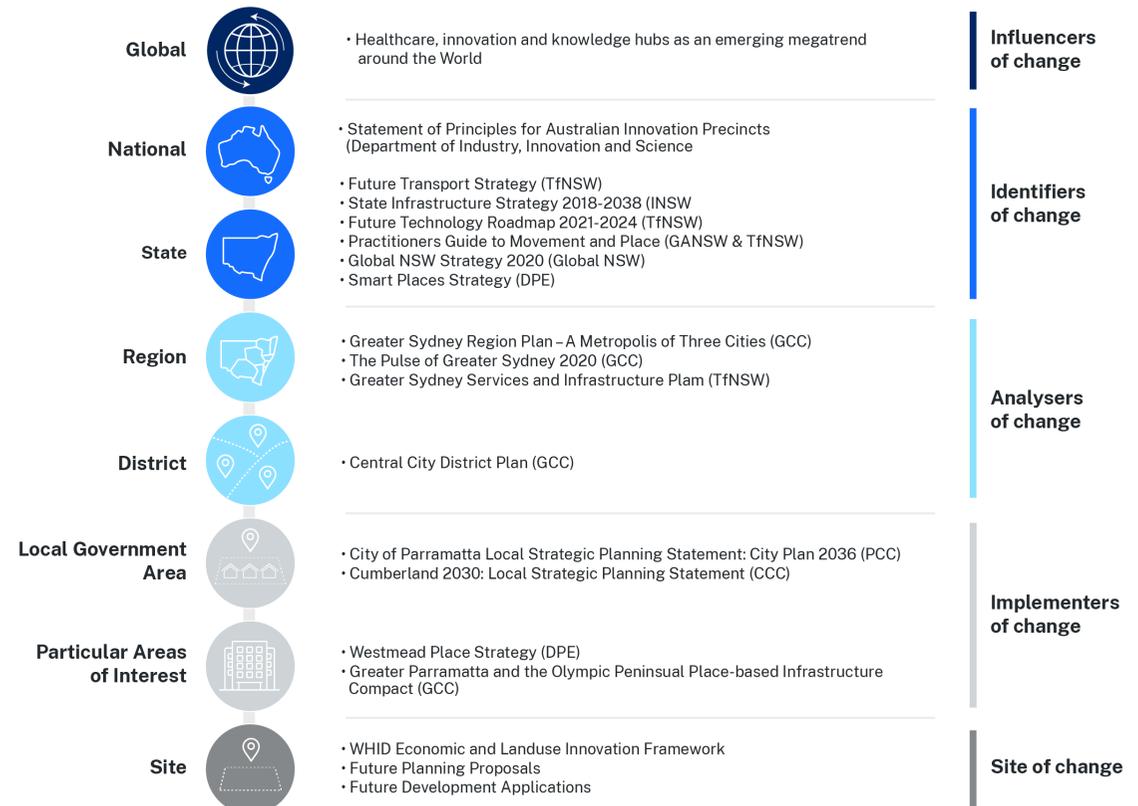


Figure 2-2 State and regional planning context

Furthermore, this strategy ensures alignment with other state and regional plans and strategies as shown in Figure 2-2.

The alignment of this strategy with some of the state and regional land use and transport strategies is discussed in more detail below.

Future Transport Strategy

This strategy presents a vision for transport in NSW built around three state-wide outcomes:

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

Relevant to Westmead, the strategy provides future directions to investigate:

- Apply the 'movement and place' approach to match road function with user groups and create better places and communities.
- Plan centres with a greater focus on walking and cycling as well as public transport priority options.
- Ensure all infrastructure and vehicles are physically accessible by applying inclusive design principles and standards to all infrastructure and service upgrades and new investments.
- Provide safe, quick and convenient services that offer journey times competitive with private cars.
- Physically separate different road user groups with an expanded network of bus lanes and freight priority where possible.
- Improve service provision for people with little or no access to transport through the development of flexible, on-demand and personalised service models.

Greater Sydney Infrastructure and Services Plan

This plan underpins the Future Transport Strategy and highlights committed initiatives and initiatives for investigation that impact Westmead. The following initiatives are relevant to Westmead:

- Parramatta Light Rail Stage 1
- Priority cycleway links in the Central River City
- Sydney Metro West
- T-way to T-way link
- Safe cycleway network within 10km of Parramatta
- Parramatta outer ring road
- Parramatta to Norwest mass transit/train link

Future Technology Roadmap 2021-2024

The roadmap sets out the future technology programs across NSW and applicable to Westmead. Key programs for delivery and investigation relevant to this strategy, include:

- Zero-emissions buses
- PTIPS Priority SCATS expansion and enablement program
- Digital bus stop timetables
- Research to improve workplace flexibility for frontline staff
- Better places through better data to inform planning

Central City District Plan

The District Plan supports the health and education precinct at Westmead, building on the established assets to transform it into a world-class innovation precinct with a greater diversity in knowledge-intensive jobs.

Greater Parramatta and Olympic Peninsula Place-based Infrastructure Compact (PIC)

A pilot PIC was developed for the GPOP area, which spans between Westmead and Sydney Olympic Park. Westmead was identified as a priority strategic area due to the existing and committed infrastructure that would support job creation and new developments.

The PIC recommended the following transport upgrades in and around Westmead:

- Upgrades at Parramatta Park, including bridges over Parramatta River.
- Transport interchange upgrades at Westmead and Parramatta Stations.
- Bus routes linking Parramatta to the Hills Shire and northern suburbs of Sydney.
- Cycleway improvements between Westmead and Parramatta North on approach to Parramatta CBD.
- Exploring travel demand management solutions, involving the incorporation of technologies such as on-demand travel.

2.2 Customers in Westmead

Significant population and employment growth is expected as part of Westmead’s transformation into an innovation district, with a NSW Government target of 50,000 jobs. Access to jobs will continue to be a priority for the Precinct as a major employment hub. Figure 2-3¹ highlights the projected employment and population to 2041.

The unique and diverse land uses and places in Westmead results in a wide range of customers. Eight customer profile groups have been developed to represent precinct users and better understand the varying needs the Transport Strategy should address (some customers may be represented in more than one profile):

- Emergency services
- Employees of the precinct, such as hospital, school, and university staff
- Health precinct visitors, including outpatients and visitors to inpatients
- Primary school students and young families
- High school and university students
- Elderly and mobility impaired

- Visitors to cultural precinct
- Local residents

Additionally, three emerging customer groups are expected in the precinct as a result of land use changes:

- Growth in retail and service industry visitors
- Researchers and academics visiting and working in the innovation sub-precinct
- Employees and advanced manufacturing workers in the Northmead employment sub-precinct and innovation sub-precinct

A summary of the existing and emerging customers and their respective needs is provided in Table 2-1. The customer needs have been used to influence and shape the transport initiatives.

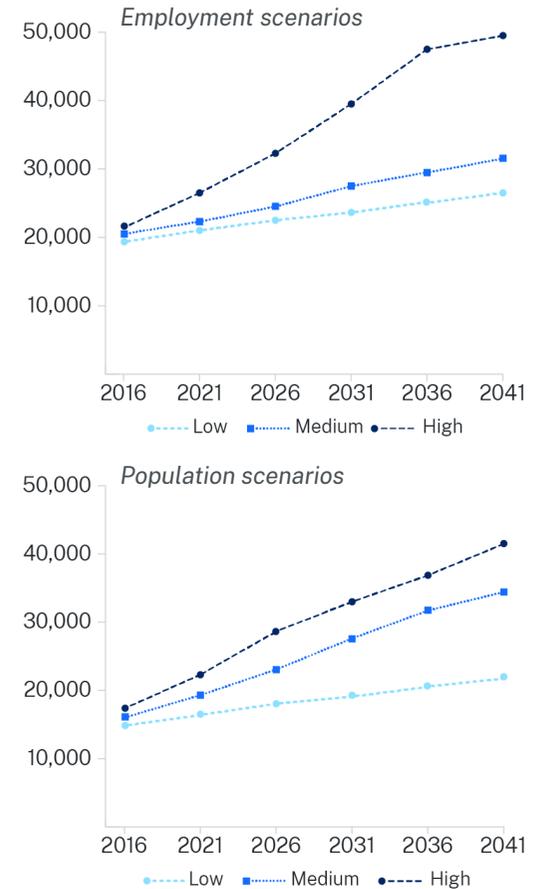
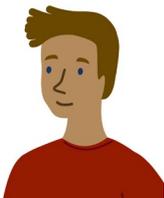
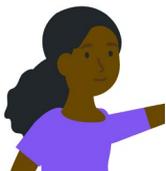


Figure 2-3 Place strategy extent employment (top) and population scenarios (bottom)

¹ These projections were undertaken for the purposes of this Transport Strategy and is subject to further refinement with detailed planning of Westmead, such as the Parramatta North Precinct.

Table 2-1 Existing and emerging customers and their respective needs

Existing customers							
Emergency services	Precinct employees	Health & Innovation District visitors	Primary school students	High school and university students	Visitors to cultural precinct	Elderly and mobility impaired	Local residents
							
<ul style="list-style-type: none"> • Time of day (shift work) • Timeliness • Dedicated parking supply • Night-time safety 	<ul style="list-style-type: none"> • Time of day (shift work) • Convenience • Price sensitive • Parking supply 	<ul style="list-style-type: none"> • Convenience • Price sensitive • Parking (supply and location) • Accessibility • Future mobility preparedness 	<ul style="list-style-type: none"> • Safety • Pedestrian connectivity 	<ul style="list-style-type: none"> • Timeliness • Convenience • Price sensitive • Safety 	<ul style="list-style-type: none"> • Wayfinding • Accessibility • Convenience • Pedestrian connectivity 	<ul style="list-style-type: none"> • Comfort • Safety • Accessibility • Convenience 	<ul style="list-style-type: none"> • Comfort • Safety • Accessibility • Convenience • Pedestrian connectivity • Future mobility preparedness
Emerging Customers							
Researchers and academics			Retail and service industry visitors			Advanced manufacturing workers	
							
<ul style="list-style-type: none"> • Timeliness • Convenience • Pedestrian connectivity • Future mobility preparedness 			<ul style="list-style-type: none"> • Time of day (24-hour economy) • Safety • Convenience 			<ul style="list-style-type: none"> • Safety • Convenience • Timeliness • Future mobility preparedness 	

2.3 Places in Westmead

Understanding place

The *Practitioner's Guide to Movement and Place* (2020) synthesises what qualifies places and future placemaking in a Precinct. The guide offers three lenses (highlighted in Figure 2-4) in defining places – physical form, meaning and activity – which combine to create place intensity.

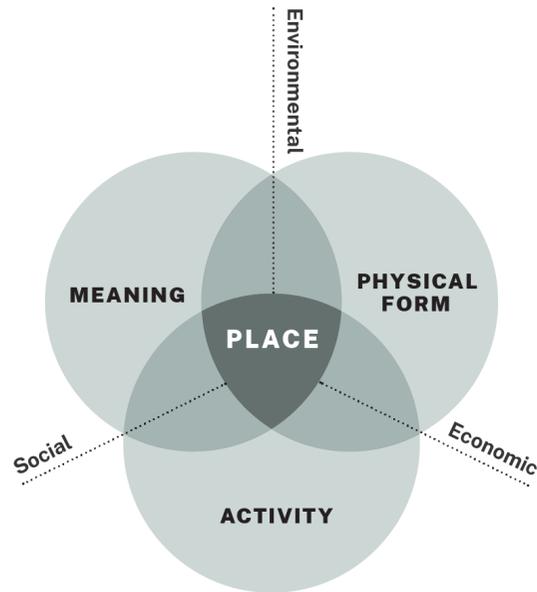


Figure 2-4 Synthesising places through meaning, physical form, and activity

Current place intensity in Westmead

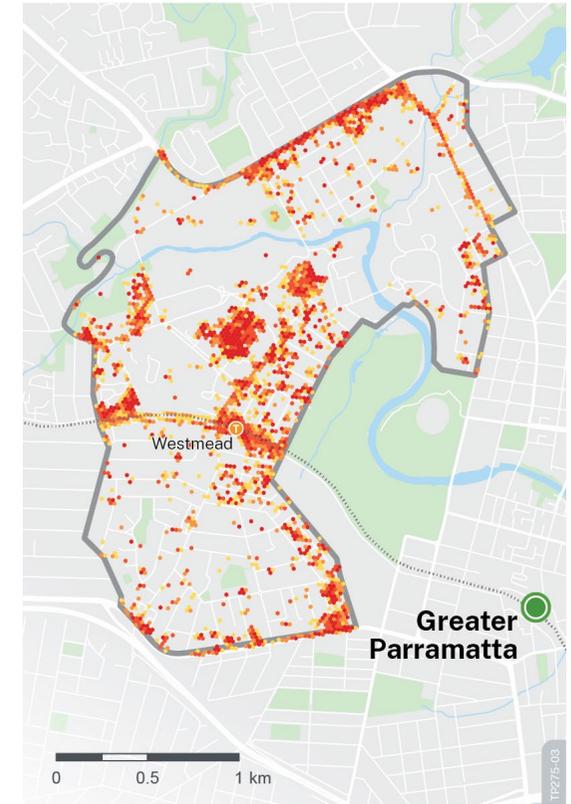
Significant places in Westmead are listed in Figure 2-6. These are locations of high place intensity and activity in the Precinct.

The WHID, which hosts approximately 9,000 hospital workers, generates the most activity in the area. The precinct also houses several schools, to cater for local and Parramatta-wide high school catchments, as well as universities with catchments from across the state. To the north of the Precinct are industrial lots and warehouses, including Coca-Cola Europacific Partners. Apart from local shops on Hawkesbury Road, north of the station, and the arcade next to the station, the Precinct has limited retail offerings.

Place activity in Westmead

Of the three place intensity elements, people activity is most strongly influenced by movement on public networks. An activity heat map generated between 7am and 6pm on weekdays, based on mobile data for the top 20 per cent of spaces in the area, is shown in Figure 2-5.

Places with high activity include Westmead Station, Westmead Hospital, the Children's Hospital at Westmead, Hawkesbury Road, research and education institutions, and the higher density residential areas across the Precinct.



KEY

- Metropolitan centre
- Initiatives area
- Railway network
- Weekday activity
- 80 100
- 80th to 100th percentile

Figure 2-5 High activity areas within Westmead

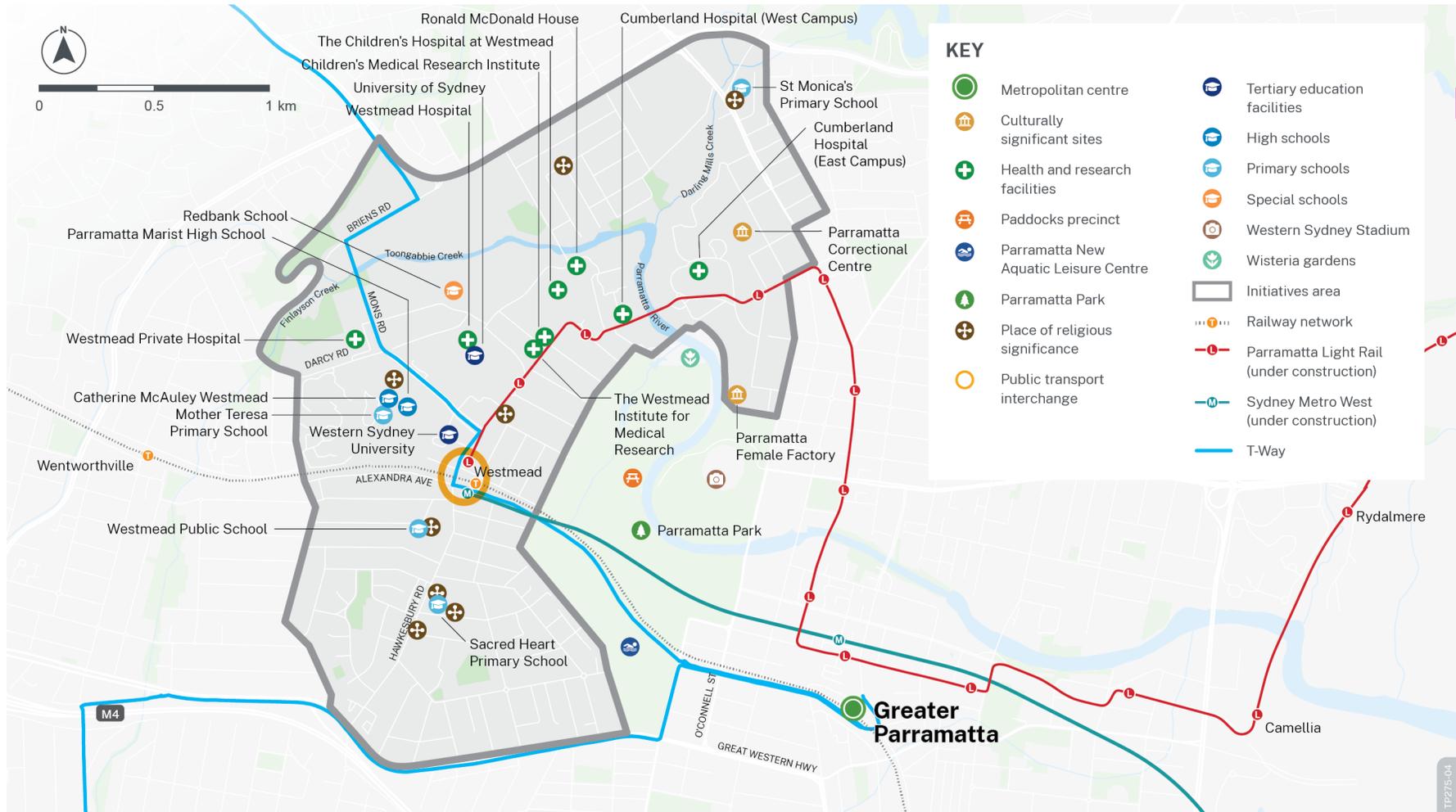


Figure 2-6 Existing significant places in Westmead

Road activity in Westmead is heavily influenced by place activity. Figure 2-7 shows the average hourly roads activity by day throughout Westmead, confirming that weekday activity has a morning peak around 8:30am and an evening peak of 5:30pm. The weekday evening peak is slightly longer than the morning peak, which can likely be attributed to activity around schools at pick-up times and around the hospital at end of shifts.

On weekends, road activity is spread throughout the day, mainly occurring between 8:30am to 10pm, without any significant peaks.

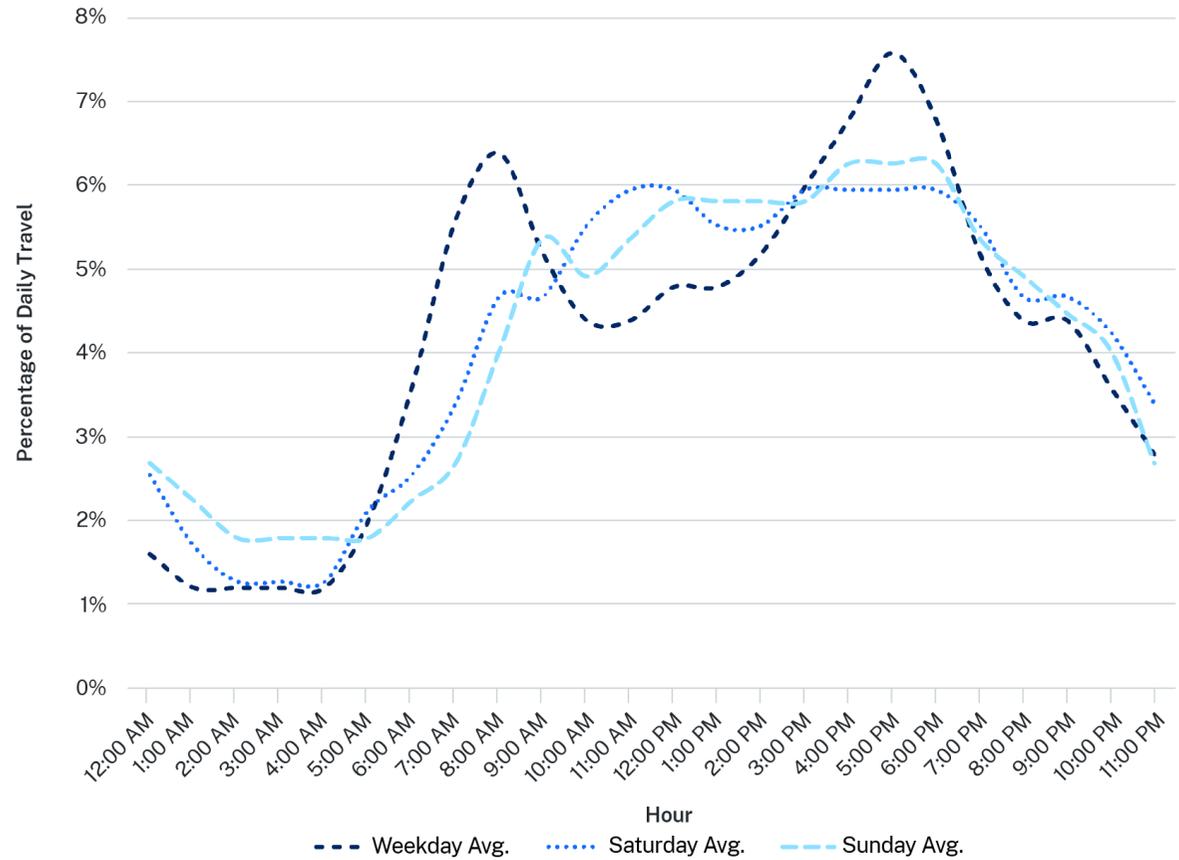
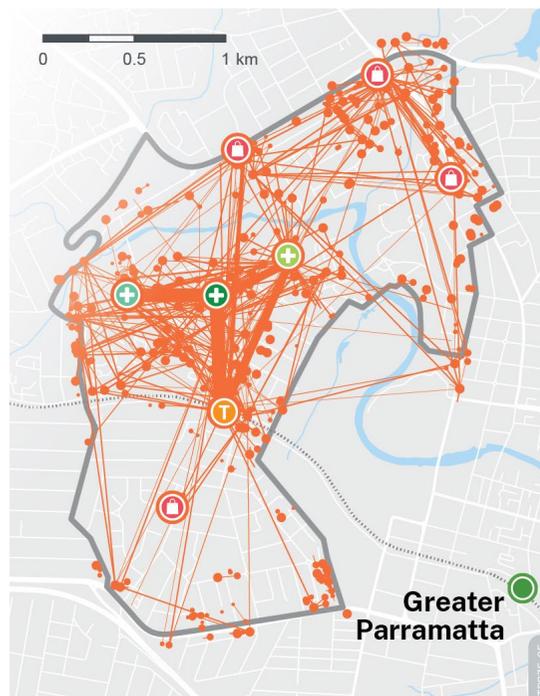


Figure 2-7 Average hourly road activity by day

Cross-visitation

Mobile device signal data has been extracted to understand street utilisation and cross-trips within the precinct. The data shows that Westmead Station, Westmead Hospital and the Children’s Hospital at Westmead function as the main trip nodes within the Westmead Precinct. Figure 2-8 shows the main destinations within the precinct and the relative scale of visits between two destinations within the study area: for example, there is a similar proportion of visitors who go to both the Westmead Train Station and the Children’s Hospital as between Westmead Hospital and the Children’s Hospital. This also shows that the most common trip within the precinct is between Westmead Station and the Westmead Hospital.



KEY

	Metropolitan centre		Retail/Commercial
	Initiatives area		The Children's Hospital at Westmead
	Railway network		Westmead Hospital
	Visits		Westmead Private Hospital
	Westmead Station		

Figure 2-8 Westmead cross visits based on 2019 yearly average from mobile device signal data

Future places in Westmead

Sydney Metro West will connect Westmead through a new metro station and interchange and help to create a metro precinct south of the proposed station extending from Alexandra Avenue to Bailey Street. The project will include a station masterplan with greater retail and commercial footprints. The Parramatta Light Rail route and its stations will also create additional emphasis on public domain and lead to increased place value along the route.

A new town centre will emerge in Cumberland East, providing local services and amenity within walking distance of a major residential and employment hub.

The Cumberland Hospital precinct will be the heart of a new multi-disciplinary university precinct and may attract more than 25,000 students and 2,500 staff by 2055. Additionally, the Western Sydney Startup Hub will provide affordable space and support to Western Sydney startups, scaleups and businesses. The increase in employees will also be accommodated by the new Health Enterprise Zone which may be home to advanced health research and manufacturing.

The emerging places are shown in Figure 2-9.

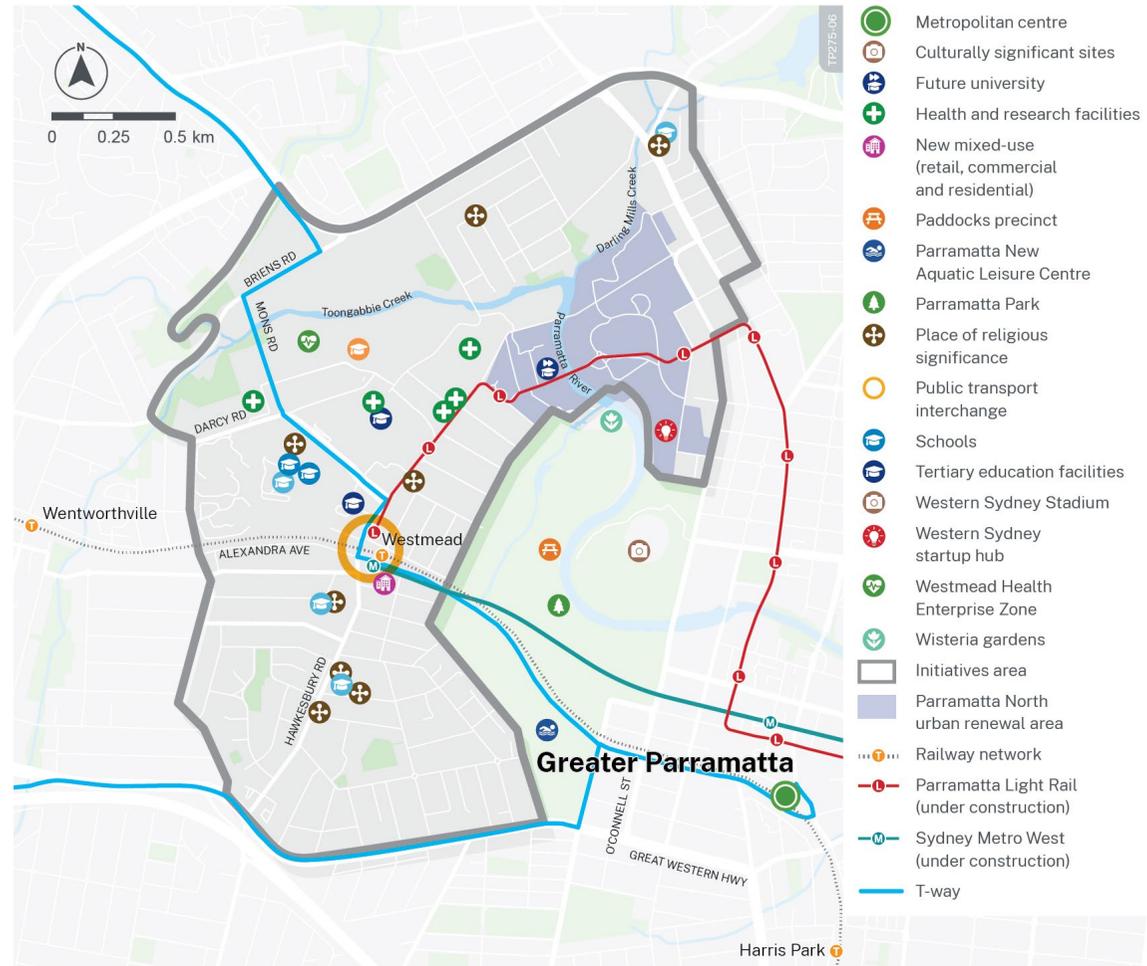


Figure 2-9 Future places in Westmead

2.4 Journeys in Westmead

Understanding movement

The local and state significance of the Westmead Precinct, coupled with the strategic and local transport networks, include a variety of trip directionalities that align with the *Practitioner's Guide to Movement and Place* (2020). The movement synthesis is highlighted in Figure 2-10.

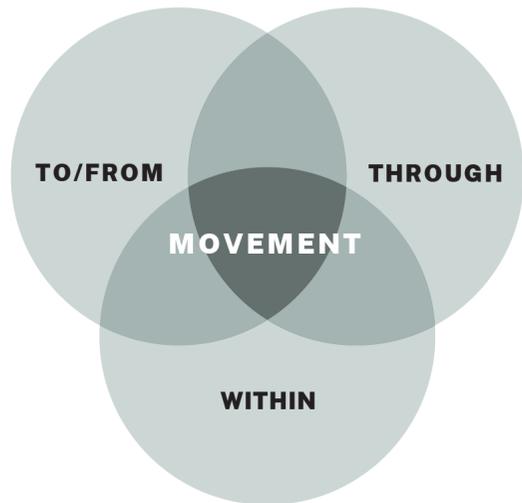


Figure 2-10 Synthesising movement through directionality

Depending on movement activity and place value of a transport network element, corridors and links are classified as main roads (with higher movement functions), civic spaces (with higher place functions), main street (activated road and transport links), and local street (connection to land uses) as shown in Figure 2-11.

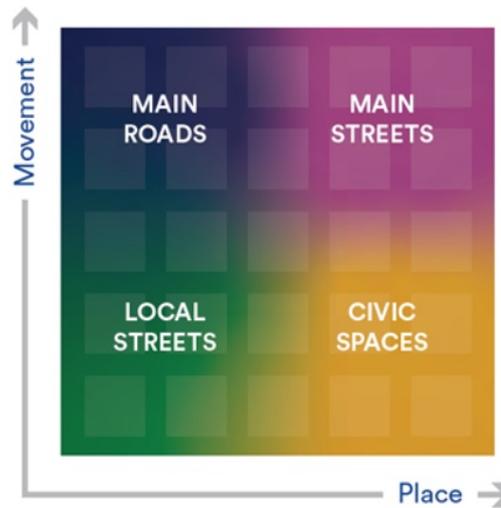


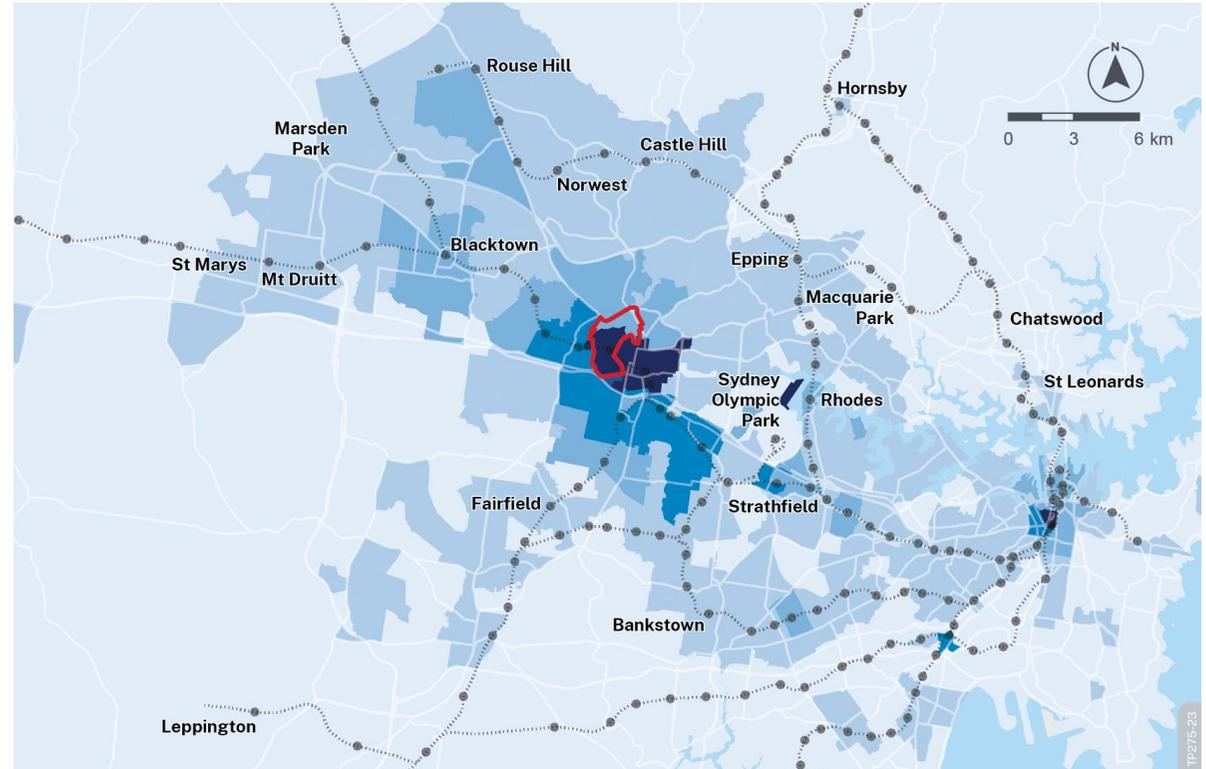
Figure 2-11 Corridor classification as per movement and place functions

Existing journeys to, from and within Westmead

The origin suburbs of all trips to and through Westmead across a one-year period is visualised in Figure 2-12, which is based on signal intelligence data obtained in 2019.

It can be seen from the figure that Westmead and its world class healthcare offering, attracts visitors, patients and employees across Greater Sydney.

The highest proportion of trips come from suburbs such as Blacktown, Auburn, Parramatta, Wentworth Point, Seven Hills, and Merrylands. These areas present a significant opportunity to shape and influence how and when journeys are made to access Westmead.



KEY



Figure 2-12 Origin suburbs of visitors to Westmead

Journey-to-Work

Journey-to-Work data collected by the Australian Bureau of Statistics during the 2016 Census was used to inform an understanding of work trips into the Westmead Precinct. The data is available by Statistical Area Level 2 (SA2) regions, the boundaries of which are shown in Figure 2-13.

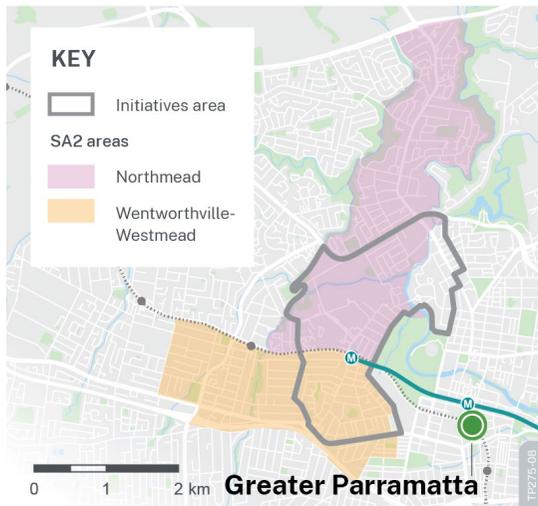


Figure 2-13 SA2 map regions

An analysis of trip modes of people travelling to work within the statistical areas produces the mode splits shown in Table 2-2.

As Westmead lies within the statistical areas of Northmead and Wentworthville – Westmead, the graph in Figure 2-14 is based on the total number of employee trips to both regions.

Most of these journeys occur during the typical morning and afternoon peak periods as indicated by the road activity profile in Figure 2-7. The time-of-day of these journeys partially overlaps with that of education journeys, which presents additional transport challenges for the Westmead Precinct.

Table 2-2 Journey-to-Work to Westmead mode split in 2016

Transport mode	Northmead	Wentworthville-Westmead
Private vehicle	69%	67%
Public transport	14%	12%
Active transport	4%	4%
Other modes	<1%	1%
Worked at home	13%	15%
Mode not stated	1%	1%
Total	100%	100%

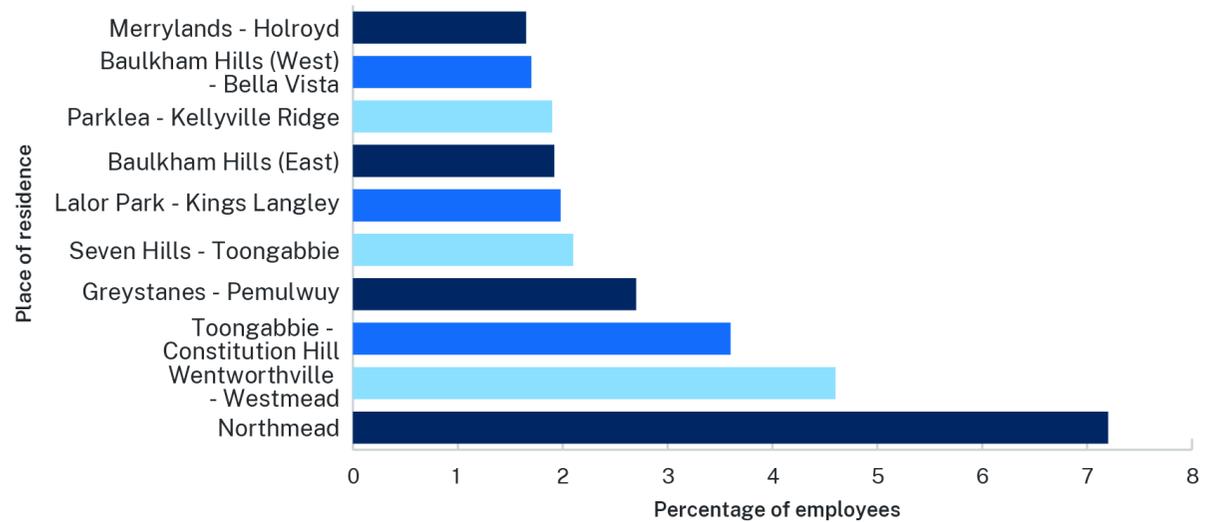


Figure 2-14 Ranking of employee trip origins in Westmead

Emergency journeys

Ground-based ambulance services provide emergency healthcare and access to the emergency departments at Westmead Hospital & the Children's Hospital at Westmead servicing Sydney. In addition, rapid response helicopters access the hospital's helipads. Some of the emergency journeys to the departments also occur without the need for an ambulance or helicopter and are completed using private vehicles, taxis, rideshare or public transport.

These essential journeys occur 24/7, with journey time and efficiency a top priority for these journeys. Priority ambulance access routes to and from the hospitals are identified in Figure 2-17. It is critical to the health and wellbeing of the community that these journey types are accommodated within the transport network.

Education journeys

The Westmead Precinct has an established education district which provides primary, secondary and tertiary education institutions, generating trips that vary in density, origin, and mode share.

Tertiary education institutions tend to generate trips from across Sydney, secondary schools tend to have a larger catchment than public primary schools, which attract trips almost exclusively from the local community.

Independent schools have a larger catchment than public schools, with a higher proportion of students travelling to school by car.

The mode of travel is also influenced by the age of the students; primary school children, for example, are much more likely to be dropped off by car than a student at university. Mode share also depends on where in the Precinct the school is located; those located further away from public transport options are more likely generate private vehicle trips.

Survey results show that up to 90 per cent of students in the Catholic Education Precinct travel to school by car, while 70 per cent of students walk to Westmead Public School.

Travel to and from primary and secondary schools commonly follows an intense but short travel pattern around school start and finish times, leading to delays between 8am-9:30am and 2:30pm-4pm.

Existing infrastructure and services

The Westmead Precinct is one of the busiest health precincts in Australia – a combination of different land uses serving a variety of mobility requirements. It includes a complex transport network with the T-way, Sydney Trains network and buses all converging in the study area. The future Parramatta Light Rail Stage 1 and Sydney Metro West will also have stations in Westmead, adding to the integrated and complex multi-modal transport network.

The following subsections highlights the existing transport network, general trip patterns and mode split to the study area. Crashes on the road network are also considered as potential indicators of poor network performance and/or conflicts between movement and placemaking activities.

Active transport network

The cycle network in Westmead is connected to the regional cycle route via Darcy Road, which runs east-west through the core activity centre and provides access to hospitals and educational institutions. This route is primarily off-road through the town centre with a dedicated cycle path to facilitate safe and separated movements. North-south cycle connections across the railway, however, are limited, with existing routes being on-road with large sections where no dedicated cycle lanes are provided. The completion of new cycling links planned within the Parramatta LGA in parallel with Parramatta Light Rail has the potential to lead to increased cycling adoption in future years.

The Westmead Precinct provides low amenity for pedestrians with long wait times at signalised intersections, a lack of space leading to congestion, particularly around schools and public transport, and missing protected crossings located along key desire lines.

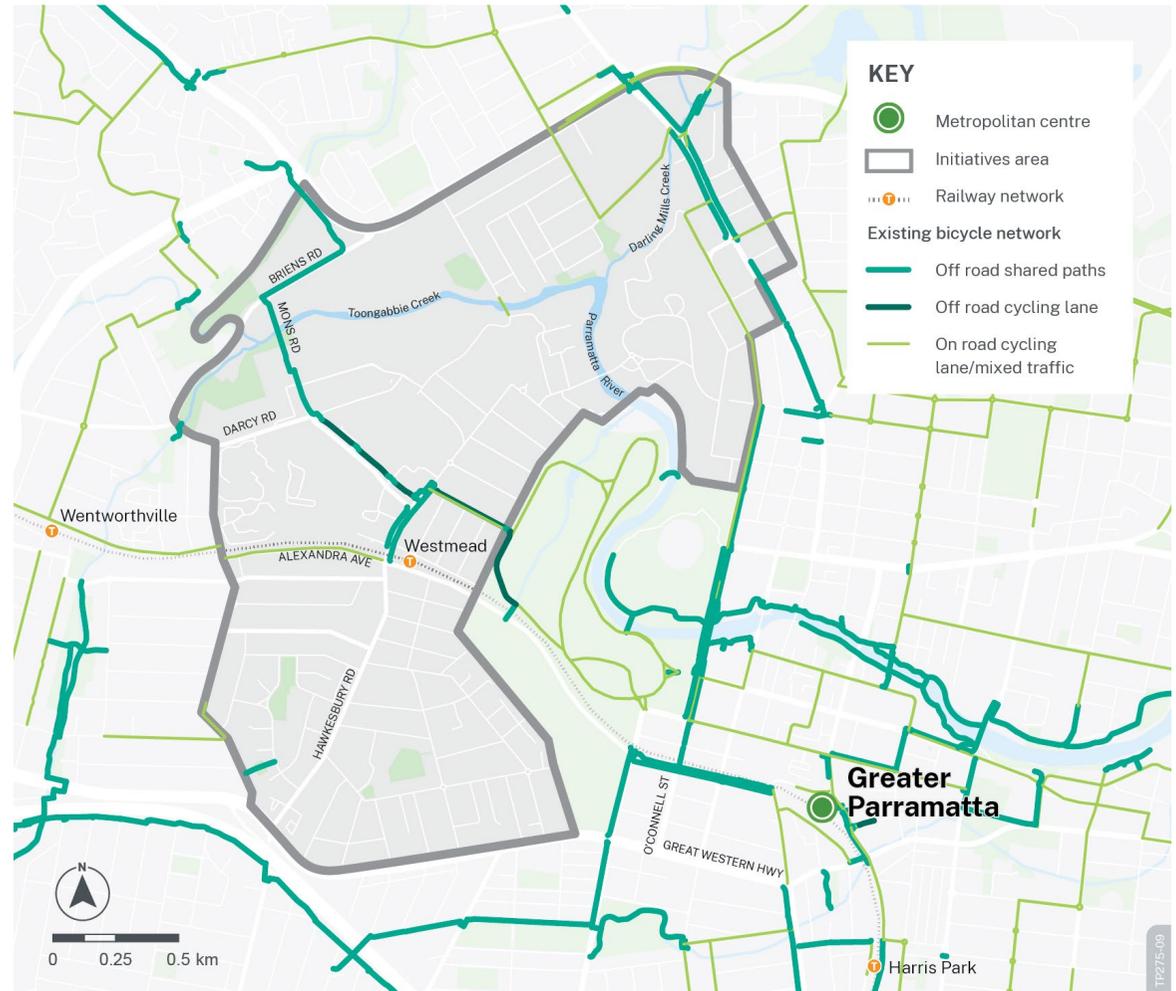


Figure 2-15 The cycling network in and surrounding Westmead

Public transport network

Westmead is served by several bus routes and two railway lines in the Sydney trains network, as shown in Figure 2-16:

- T1 Western Line – Emu Plains or Richmond to Central
- T5 Cumberland Line – Leppington to Richmond

The station is additionally serviced by the BMT Blue Mountains Line – Bathurst and Lithgow to Central railway line on the NSW trains network.

Most of the bus services terminate in the Parramatta CBD, except for Route 818 which connects Westmead Hospital with Merrylands.

The Liverpool–Parramatta T-way runs through South Wentworthville and Mays Hill but does not directly service Westmead. Interchanging at Parramatta Station offers the option to catch a rapid bus service to/from south-west Sydney but interchange significantly adds to journey times.

Westmead station provides frequent trains to Parramatta and the Eastern City. However, the station is not well connected to parts of the Hills District, northern suburbs and south-west region of Sydney by the rail network. Passengers travelling to Westmead from these locations are required to take indirect routes that increase travel time or to make multiple transfers throughout their journey.

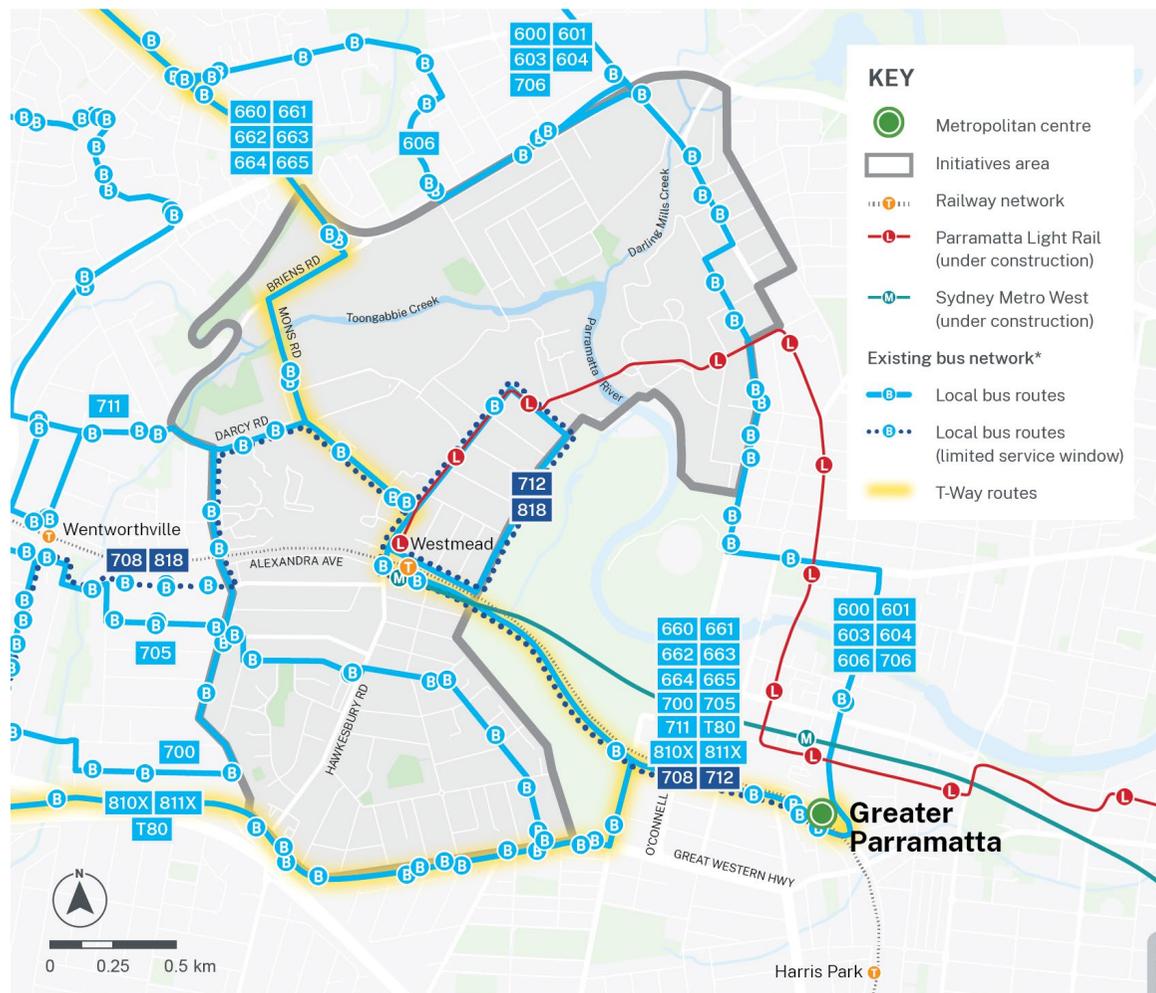


Figure 2-16 Public transport network serving Westmead (as of Jan 2022)

Road network

The Westmead Precinct is bisected east-west by the railway line. Meanwhile, Toongabbie Creek reduces north-south connections, with Hawkesbury Road and Bridge Road being the only two major north-south connections within the precinct.

The Parramatta Outer Ring Road, formed by Cumberland Highway, James Ruse Drive, and the M4 Motorway, provides a major through-traffic bypass around Westmead and Greater Parramatta.

Figure 2-17 provides an overview of the road network.

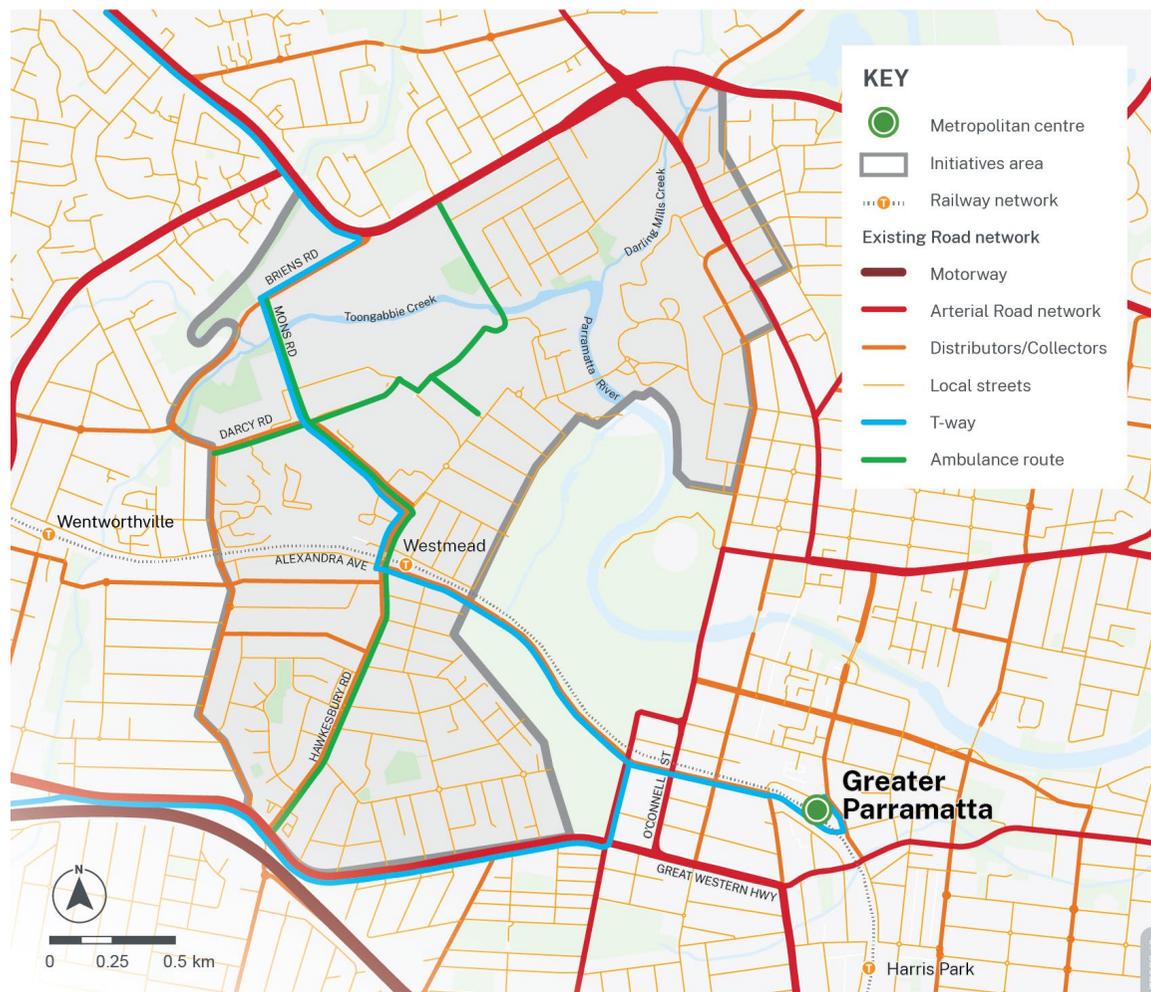


Figure 2-17 Road network in and surrounding Westmead

Freight network

The main roads surrounding Westmead serve as the primary freight network, as shown in Figure 2-18. Accordingly, industrial areas are sited adjacent providing the shortest route to/from the primary freight network and minimising intrusion into residential neighbourhoods.

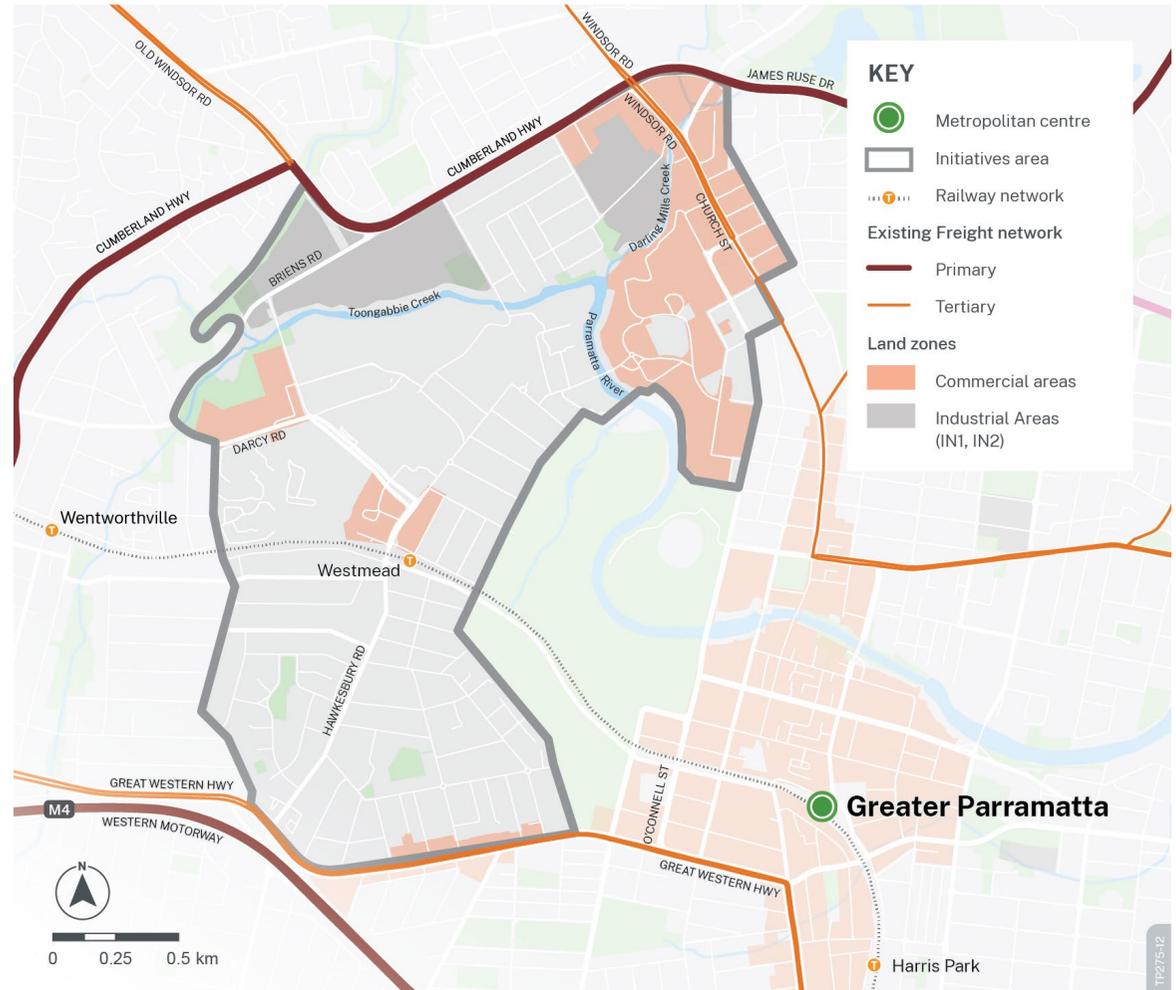


Figure 2-18 Freight network in and surrounding Westmead

Future Travel Demand

The Sydney Strategic Travel Model (STM) has been used to forecast multimodal trips to Westmead and Northmead – see Table 2-3. The Sydney STM assumes a future network with the committed Sydney Metro West, Parramatta Light Rail, and other changes to the public transport network. No specific assumptions were made beyond those within the base case in the model and do not include potential changes from the initiatives for investigation within this Transport Strategy.

Table 2-3 indicates that the average forecasted public transport mode share in 2041 is 24 per cent, and 13 per cent for active transport.

This is almost **double the current public transport mode share**, and **almost three times the existing walking and cycling share**.

However, without measures to discourage through-traffic, STM predicts a high proportion of private vehicle trips through the precinct in the morning peak period (7am to 9am) in 2041, forecasting approximately:

- 5,900 trips into the area
- 7,500 trips leaving the area
- 3,000 through trips or about 20 per cent of total car trips in the morning peak

This increase highlights the need for investment in sustainable and public transport options.

Table 2-3 2031 & 2041 trips by mode and direction, Westmead and Northmead

Direction	2031 Origin					2031 Destination				
Scenario	AT	CarD	PT	CarP	Total	AT	CarD	PT	CarP	Total
Low	4,400	15,700	8,300	6,400	34,800	4,200	17,600	6,600	6,700	35,200
	13%	45%	24%	18%	100%	12%	50%	19%	19%	100%
Medium	5,200	17,200	9,200	7,100	38,600	5,100	19,500	8,600	8,100	41,400
	13%	45%	24%	18%	100%	12%	47%	21%	20%	100%
High	5,800	18,400	9,300	7,400	40,900	5,800	22,900	11,000	8,700	48,400
	14%	45%	23%	18%	100%	12%	47%	23%	18%	100%

Direction	2041 Origin					2041 Destination				
Scenario	AT	CarD	PT	CarP	Total	AT	CarD	PT	CarP	Total
Low	4,900	17,100	9,600	7,000	38,600	4,800	19,100	8,300	7,400	39,500
	13%	44%	25%	18%	100%	12%	48%	21%	19%	100%
Medium	6,200	19,500	11,100	7,900	44,800	6,300	22,400	11,700	9,300	49,700
	14%	44%	25%	18%	100%	13%	45%	24%	19%	100%
High	7,200	21,400	11,700	8,500	48,700	7,200	26,400	13,500	9,500	56,500
	15%	44%	24%	17%	100%	47%	24%	17%	17%	100%

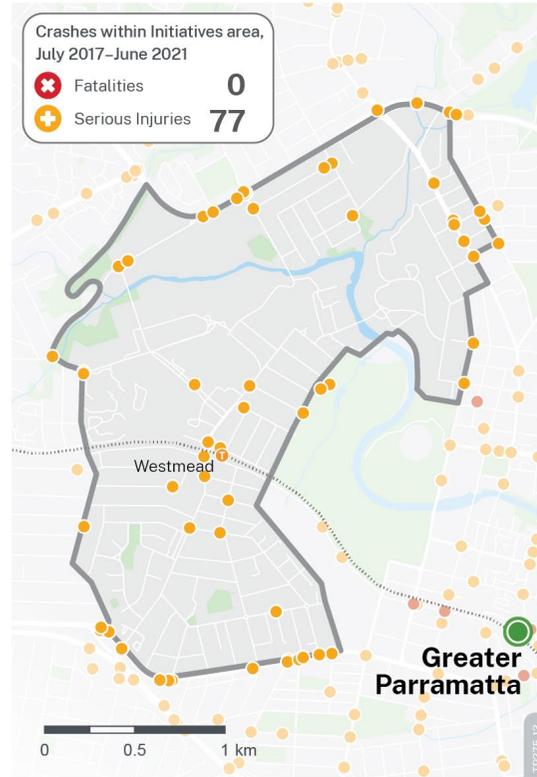
*AT: Active Transport, CarD: Car Driver, PT: Public Transport, CarP: Car Passenger

Crash analysis

The history of road crashes, in conjunction with place activity and journey information, helps to identify the conflicts in the road network, as well as potential solutions.

Figure 2-19 shows the locations of fatal and serious injuries (FSI) for all modes within the study area between July 2017 and June 2021, based on available data from the NSW Centre for Road Safety.

Serious injuries are overwhelmingly located along higher-speed roads around the Westmead Precinct: Great Western Highway, Briens Road and Church Street. Notably, intersections along Hawkesbury Road recorded several serious injuries in the five-year period, including near Westmead Public School and Westmead Hospital. Intersections along Hassall Street and Balmoral Road, which are lower speed local roads, also show a history of serious injuries.



KEY

- Metropolitan centre
- Initiatives area
- Railway network
- Degree of crash
 - Fatal
 - Serious injury

Figure 2-19 Fatal and serious injury crash locations, July 2017 – June 2021

While there were no fatal injuries in the five-year period shown on Figure 2-19, in 2014, a child was fatally struck by a vehicle while attempting to cross Hawkesbury Road near Mowle Street on their way to school. This location aligns with a driveway that creates a gap in the pedestrian fence on the west side of Hawkesbury Road. Pedestrians commonly cross at this location to reach the school gates (observed during the site visit) because there are few dedicated crossings for residents coming from the south-east of the study area.

2.5 Movement and Place classifications

Existing street environments

The classification of corridors in the Precinct was the focus of the Movement and Place Workshop. The designation of corridor classifications was initially undertaken based on speed limits, public transport services, and placemaking elements on every road. Those were discussed with stakeholders and a consensus was reached.

Based on the Movement & Place classifications, Figure 2-20 shows the current street environment/corridor classifications. Local streets comprise the highest coverage in Westmead, specifically in the southern part of the Precinct, where a higher concentration of residential lots exists. Hawkesbury Road is the current north-south spine of the Precinct, with retail frontages and a future light rail currently under construction and is therefore classified as a main street. Inner hospital streets are currently classified as civic spaces with minimal traffic.

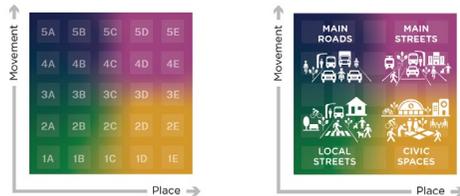
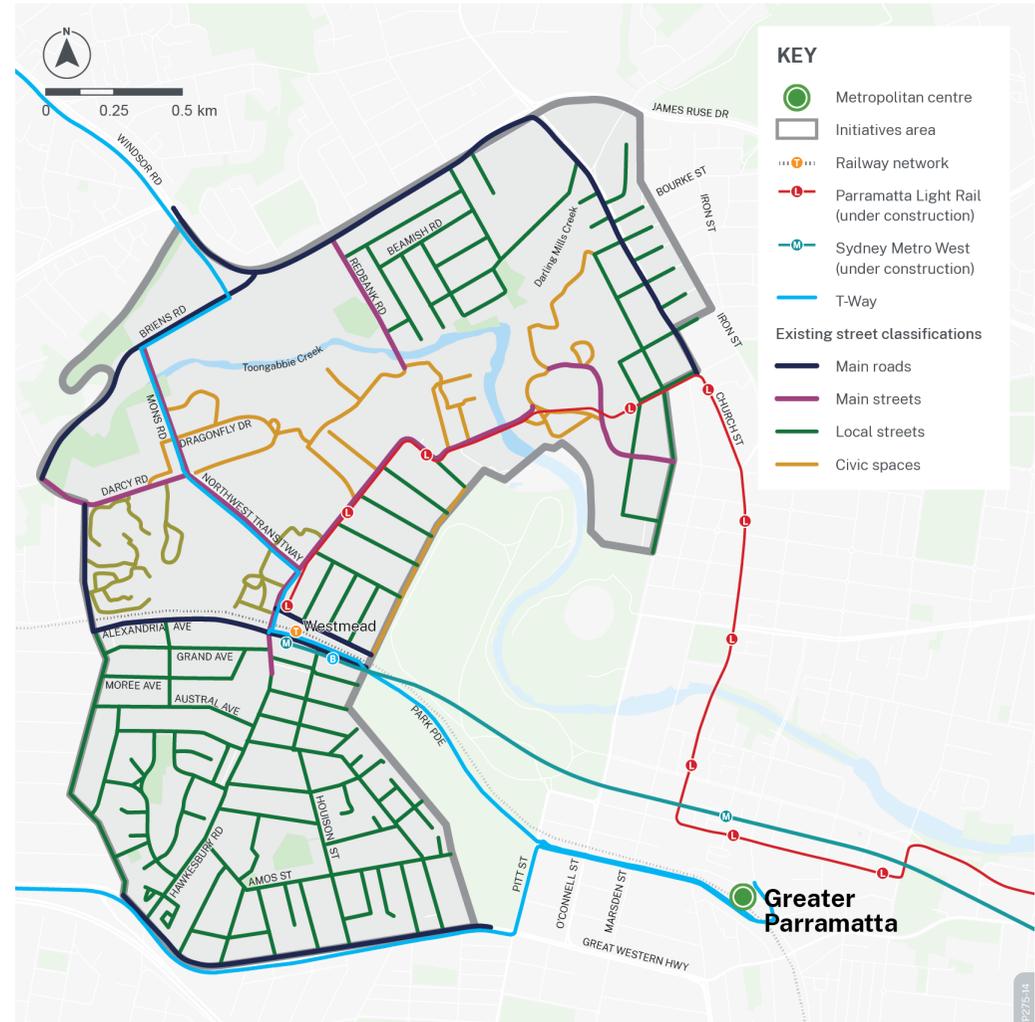


Figure 2-20
Existing street environments



PTZ/TS-H

Future street environments

The change of corridor classification in Figure 2-21 reflects the desired street environments based on stakeholder aspirations for the Westmead Precinct.

Elements such as existing and planned land use, future travel demand, public transport infrastructure, and the structure of the local and regional road network have also influenced the outcome for future street environments.

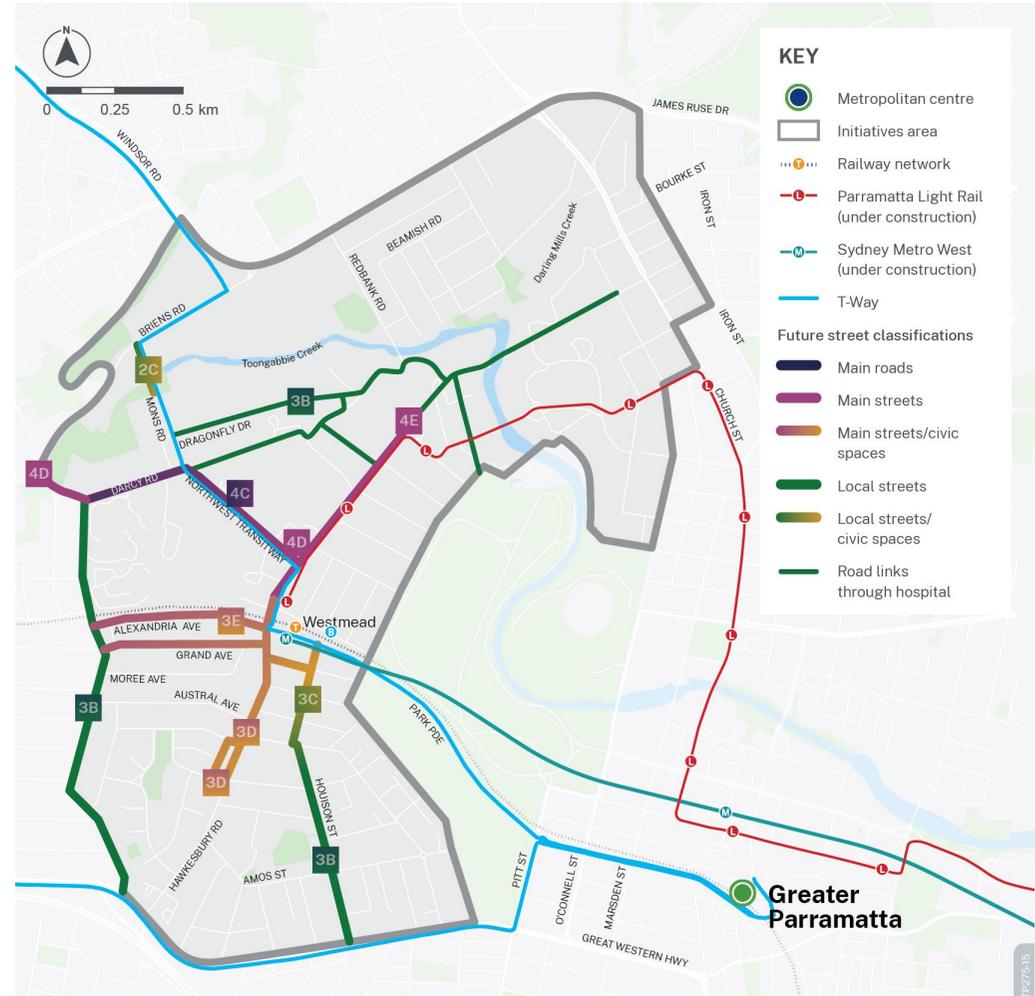
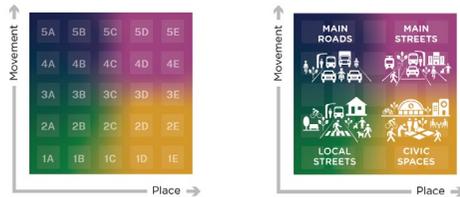


Figure 2-21
Change in street environments



3. Challenges and opportunities

Westmead has unique opportunities and challenges, with competing demands for Movement and Place functions and a significant program of planned land use changes. These opportunities and challenges are summarised below and explored further through the strategic directions in Chapter 4.

The challenges in Westmead that present opportunities to make positive change and achieve the vision for transport include:

- Constrained local road network capacity with limited access
- Limited north-south public transport access
- Hawkesbury Road achieving its desired Main Street function
- Constrained capacity for access to schools
- Limited public transport services through the night
- Limited connectivity through highways, parks, and waterways

In addition, there are further opportunities present, which are:

- Capitalising on Parramatta Light Rail Stage 1 and Sydney Metro West
- Westmead as a growing interchange
- Growing employment, activity and innovation district
- Plan for future mass transit across Greater Parramatta
- New vibrant places will enable access to more services and jobs
- Proximity to high quality open space

3.1 Challenges

Constrained local road network capacity

The capacity of the local road network is constrained in part due to the geography of the Precinct. The road network in Westmead has been likened to that of a peninsula, with few links in and out of the Precinct, particularly to and from the north.

The railway line, Parramatta River and Toongabbie Creek limit north-south movements, whilst Parramatta Park limits east-west movements. Westmead is surrounded by multi-lane highways – the Great Western Highway, M4 Motorway, and Cumberland Highway, which further limit the permeability of the Precinct.

For freight and services vehicles, access to and from Westmead via Briens Road is limited and pushes vehicle movement towards the space-constrained core of the precinct. Additionally, road capacity constraints can impact the 24/7 emergency vehicle access to Westmead Hospital and the Children’s Hospital at Westmead.

Estimates of road network traffic flows from the Sydney Strategic Travel Model have been used

to identify likely traffic conditions, assuming no changes in the road network in future years. A measure of Level of Service based on volumes/capacity ratios has been used for traffic conditions and is defined in Table 3-1.

Table 3-1 Level of Service categories

Level of Service	Definition
A	Free flow. Traffic flows freely and movement is unrestricted.
B	Traffic speeds are not affected, but movement within the traffic stream is slightly restricted.
C	This represents stable flow. Movement across lanes is noticeably restricted and lane changes require more driver awareness.
D	Traffic flow begins to approach instability. Speeds are slightly lower than free flow. Movements within the traffic stream is much more limited.
E	Traffic flow is unstable and operates at or close to capacity. Speed varies rapidly because movement within the traffic stream is highly restricted.
F	Traffic flow is forced and breaks down. Every vehicle moves in lockstep with the vehicle in front of it, with frequent stopping. Travel time cannot be predicted.

Current travel demands in and around the Precinct show that some corridors, particularly Hawkesbury Road and Bridge Road, are already at or above capacity for the morning peak hour.

Figure 3-1 shows the level of service for the morning peak, based on volume to capacity ratios calculated from data collected in 2019.

Forecasts² indicate that the congestion on these corridors will likely worsen and spread to other areas of the Precinct. Figure 3-2 and Figure 3-3 show the expected level of service in 2031 and 2041 respectively, for the AM peak hour using the medium population and employment scenarios. These forecasts show that some crucial movement corridors will be close to, or over, capacity by 2041. These corridors include sections of Darcy Road, Hawkesbury Road, and the entirety of Bridge Road.

The capacity of the local road network has limited room for expansion, beside minor interventions to improve journey time reliability, and reconciling the increase in travel demand with these constraints will be a significant challenge for the Westmead Precinct.

The NSW Government is currently investing in new metro and light rail infrastructure and services in the precinct. This will offer additional public transport capacity which is more sustainable and reduces the need to provide additional road capacity.

² These forecasts are based on outputs from the Sydney Strategic Travel Model. Alternative land use scenarios were modelled, but the modelling assumptions are broadly as documented in TfNSW’s TPA Information Sheet: Strategic Travel Model Assumptions dated October 2020

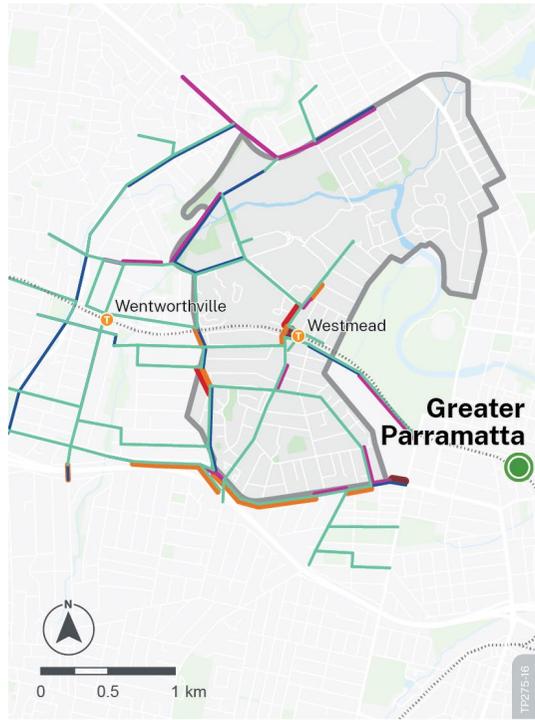


Figure 3-1 Level of service for AM Peak, 2019

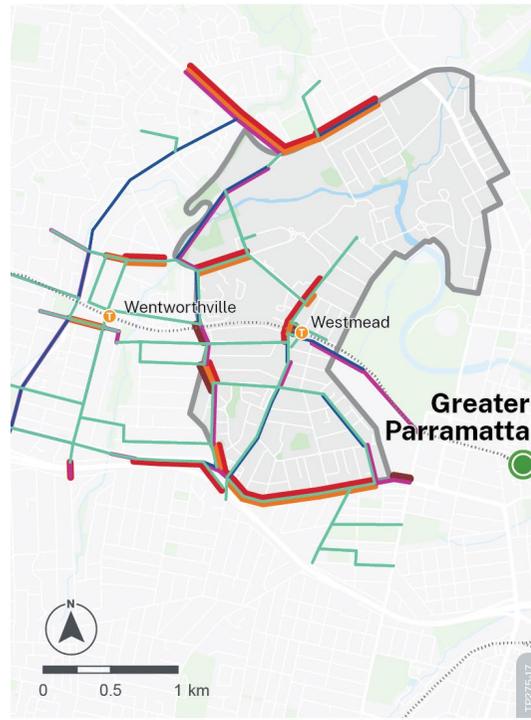


Figure 3-2 Level of service for AM Peak using the medium land use scenario, 2031

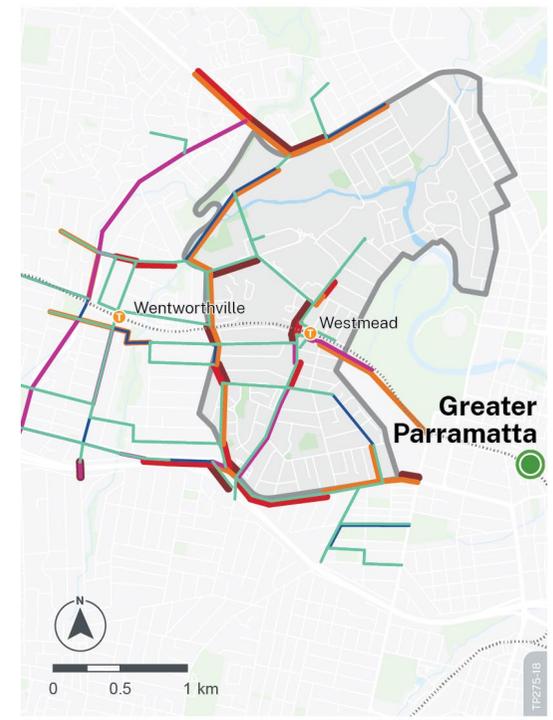


Figure 3-3 Level of service for AM Peak using the medium land use scenario, 2041

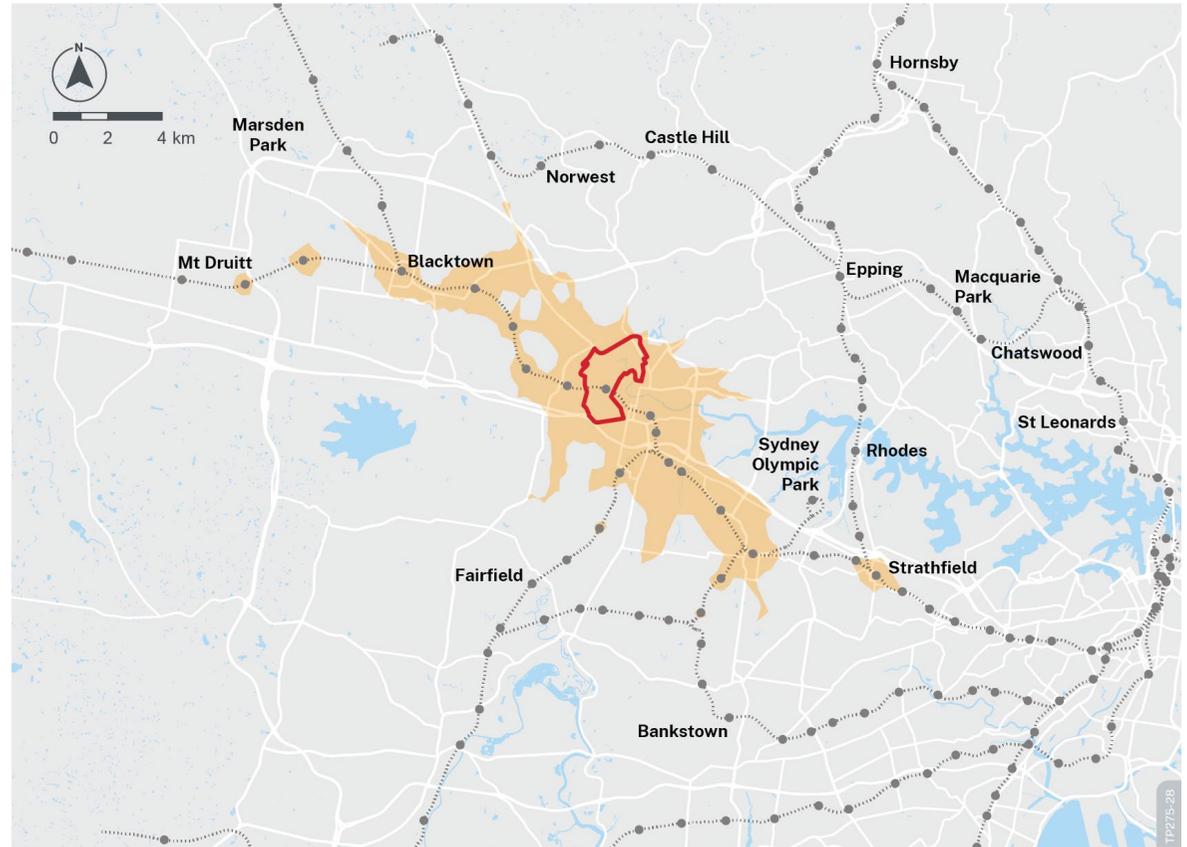
Limited north-south public transport access

Westmead has limited public transport accessibility for north-south journeys, both for travel within and into/out of the precinct, as shown in Figure 3-4. This is partly due to the severance created by the railway line, Parramatta River and Toongabbie Creek. However, there are also limited services operating in the north-south direction. This results in public transport users needing to change services at least once while travelling north-south, often with significant waiting times at interchanges.

Westmead Station provides good accessibility for residents and visitors of Westmead South, but is less accessible from Westmead North, particularly beyond the Health and Innovation District.

Local and suburban bus services to the south of Westmead are significantly scarcer than connections to the north, with only three routes servicing the area south of the railway. None of the bus routes connect to the north-east of the precinct, including North Parramatta, which is consistent with the absence of road connections.

North-south active transport connections are also limited with existing cycle routes primarily on-road, and pedestrian routes limited to footpaths next to major road corridors.



KEY

- Westmead initiatives area
- Railway line and station
- 30 minute public transport catchment at 5pm

Figure 3-4 30-min public transport travel time catchment

Hawkesbury Road needs improvements to achieve its desired Main Street function

Hawkesbury Road has been identified as a future Main Street, responding to its current use as a main north-south corridor and potential for increased place qualities. Main streets are described in the Movement and Place Framework as having both significant movement functions and place qualities.

The road is the major connection between Westmead Station and the activity centre north of the railway line, providing direct access to the Western Sydney University campus opposite the station. North of the campus, it functions as the main access road to the Westmead Hospital and Children's Hospital at Westmead, leading to Cumberland Hospital in the north-east via Bridge Road. The road is being upgraded, and existing road space is being reallocated to allow for the construction of the Parramatta Light Rail.

Hawkesbury Road encompasses areas that have high place potential, such as the small shopping centre in Westmead South, Westmead Public School, and the areas around the WHID.

Photos from a site visit conducted on 29 April 2021, shown in Figure 3-5, confirm that Hawkesbury Road is a congested car-centric corridor, with minimal provision for buses (bus

lane present only on the railway bridge and parts of Westmead North), narrow and deteriorating footpaths, and no provision for bicycles.

The high volume of traffic and narrow footpaths, while impairing movement function, are also not conducive to vibrant and attractive places.

The Movement and Place Framework highlights that balancing the functions of main streets such as Hawkesbury Road is a common challenge.

Additionally, The NSW Government has developed the Safe System Assessment Framework for Movement and Place, which support lowering speed limits on high streets.

Hawkesbury Road, in its current configuration, does not allow for neither high movement function nor place qualities. The multimodal movement of people and goods along Hawkesbury Road is constrained due to congestion and lack of infrastructure for alternative transport modes.

For Hawkesbury Road to achieve its desired Main Street function, necessary improvements to its movement function and place amenity must be made. Potential solutions to this challenge are further explored in Chapter 4.



Figure 3-5 Hawkesbury Road during the morning peak. Images taken 29/04/2021.

Constrained capacity for access to schools

There are seven public schools that have catchments located partially in the Westmead Precinct, leading to a large number of young students travelling to and from school. The catchments are shown in Figure 3-6. Additionally, a cluster of private schools is located on Darcy Road (Parramatta Marist High School and Mother Teresa Primary School), and Parramatta High School is located on the verge of the study area, on Pitt Street.

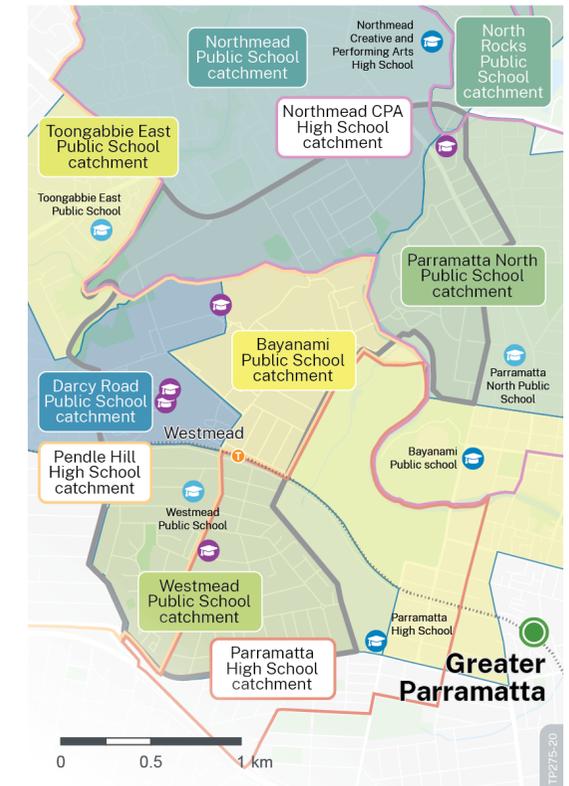
There are more than 4,400 students across Westmead Public School and the mentioned private schools. Data suggests that there will likely be continued growth in the number of students attending school within Westmead, particularly in the Catholic Education Precinct with a potential 1,200 additional students, which recently received planning approval for an expansion to the campus.

Travel to and from schools commonly follows an intense but short travel pattern around school start and finish times. Depending on the transport mode through which these journeys are made, this can lead to delays between 8am-9:30am and 2:30pm-4pm.

The mode of transport used for school travel varies between primary school and high school, and for different areas in the Precinct. Westmead

Public School estimates that 30 per cent of their students are picked up and dropped off by car, while the Catholic Education Precinct estimates 90 per cent of primary school aged children to be picked up or dropped off by car.

With the expected growth of demand for education in Westmead and the current mode share for journeys to school, the transport task throughout the Precinct during the morning and afternoon peak hours is a significant challenge.



KEY

-  Metropolitan centre
-  Initiatives area
-  Railway network
-  Public schools
-  Private schools

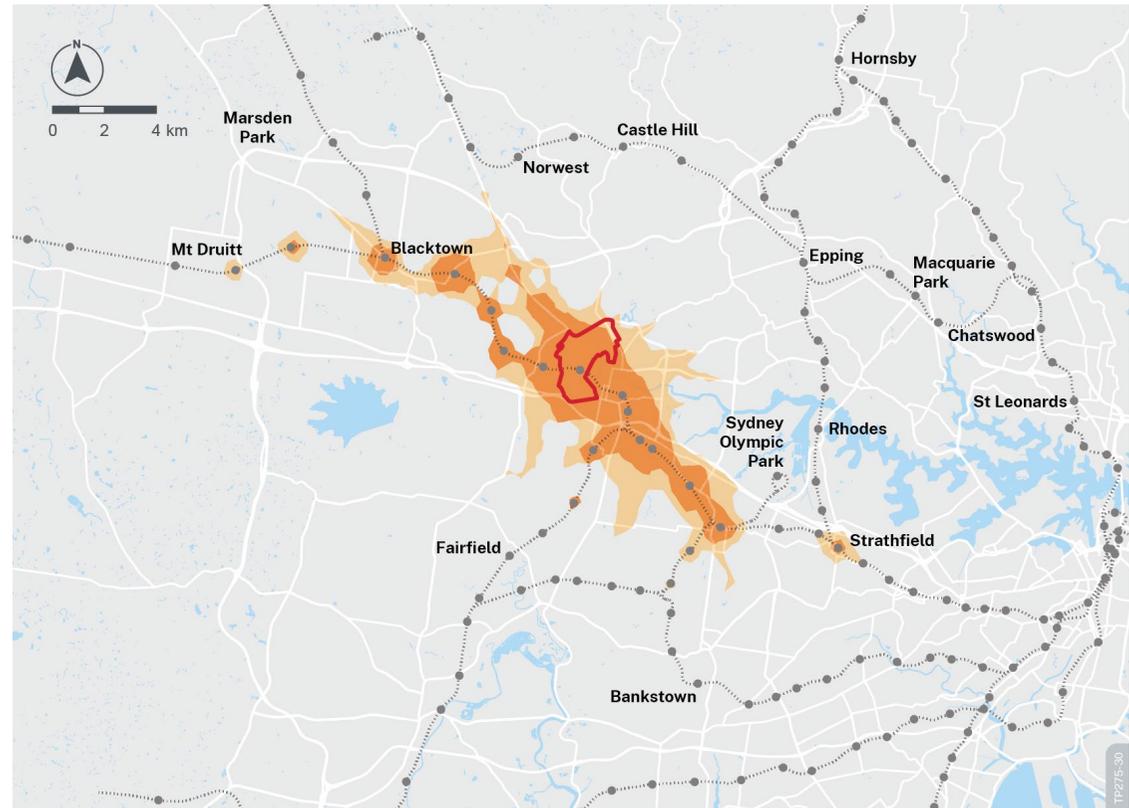
Figure 3-6 Public school catchments in Westmead

Limited public transport services through the night

At night, public transport connectivity issues are exacerbated. Figure 3-7 compares the 30-minute catchment at 5pm and 10pm for public transport services to the centre of Westmead. This is of particular importance in supporting shift workers, university students, healthcare staff hospitality staff and achieving the *NSW Government's 24-Hour Economy Strategy* initiative to deliver a built environment, including transport, that promotes 24-hour economy activity in new Government-led precinct projects.

Improving night time transport options will help support Westmead's transition to a vibrant, safe, and diverse Precinct for people to live, work, and visit.

Furthermore, improvements in footpath lighting and passive surveillance through activated ground floor spaces could overcome challenges in making night time public transport a viable choice – particularly addressing safety for women.



KEY

- Westmead initiatives area
- 30 minute public transport catchment at 5pm
- 30 minute public transport catchment at 10pm
- Railway line and station

Figure 3-7 Comparison of 30-minute public transport catchments at 5pm and 10pm (weekday)

Limited connectivity through highways, parks, and waterways

Westmead's constrained local connectivity is likened to a peninsula in that there are few links in and out of the Precinct, as shown in Figure 3-8. The road network is constrained by Bridge Road and Hawkesbury Road bridges over the railway line, which are bottlenecks that cause excessive queueing and congestion during peak hours. Further to the north, Briens Road is the only publicly accessible vehicle route over Toongabbie Creek, with all other vehicle connections over the river linking into hospitals. This results in circuitous routing of vehicles travelling through the precinct, which degrades the traffic environment and contributes to congestion.

There are significant constraints in constructing additional crossings to increase the permeability of the Precinct, including the large cost of construction for crossings over the railway line and waterways. However, better utilisation of the existing crossings can help to increase the permeability of the precinct and contribute to overcoming this challenge.



KEY

- Metropolitan centre
- Railway network
- Initiatives area
- Road bridge or underpass crossing rail corridor
- Road bridge over river

Figure 3-8 Existing crossings through natural and man-made barriers

3.2 Opportunities

Parramatta Light Rail Stage 1 and Sydney Metro West

Construction for Stage 1 of the Parramatta Light Rail is underway, which will connect Westmead to Carlingford via the Parramatta CBD and Camellia over 12 kilometres, with 16 stops. The light rail will provide a direct connection between Parramatta CBD with Cumberland Hospital, Westmead Hospital, and the Children's Hospital at Westmead, with the route terminating at Westmead Station. The completion of the light rail will allow for more connected public transport access to the hospitals, where some buildings are up to 1.5 kilometres from Westmead Station. Westmead will also benefit from increased accessibility to Parramatta North.

Sydney Metro West will connect Westmead with fast, high frequency, high quality mass transit services to Sydney Olympic Park, North Strathfield, Burwood North, Five Dock, The Bays, Pyrmont and Hunter Street in the Sydney CBD. These areas will be included in Westmead's 30-minute public transport catchment, offering opportunities to increase the reach and collaboration synergies of this future global health and innovation precinct.

Westmead as a growing interchange

The committed transport investment will make Westmead a major interchange in the transport network with AM period passenger numbers expected to reach 15,000 in 2031 and 18,500 in 2041, based on forecasts from the strategic travel model.

Other new connections are also being considered for Westmead, which will further increase its function as a major interchange. Proposals include the T-way to T-way link and the Parramatta to Norwest mass transit with a potential stop in the WHID.

The future volume of passengers moving in, out and through Westmead highlights the opportunity to develop a comprehensive wayfinding plan (both physical and digital), which recognises:

- The culturally diverse and multi-lingual population of Greater Sydney.
- First time or infrequent travellers to/from Westmead health services.



Growing employment, activity and innovation district

The Westmead Place Strategy provides a land use vision for the area for the next 20 years. This includes more health, education, innovation and advanced manufacturing jobs but also more residents and students, with opportunities for housing choice and supply identified in the Place Strategy's Structure Plan shown on Figure 3-9.

A mix of housing typologies are expected in the future with the Place Strategy planning priority to *encourage a mix of housing choice in urban renewal, including student accommodation, key worker, social and affordable housing*. This presents an opportunity for a diverse range of people to live and work in Westmead.

This intensification of land uses offers an opportunity to support the planned public transport network with more local and regional connections, justified by the increased population and employment. The higher activity and denser future also lend itself to better active transport connectivity, with more trips within walking and cycling distance. This presents the opportunity for active transport to become a mode of choice.

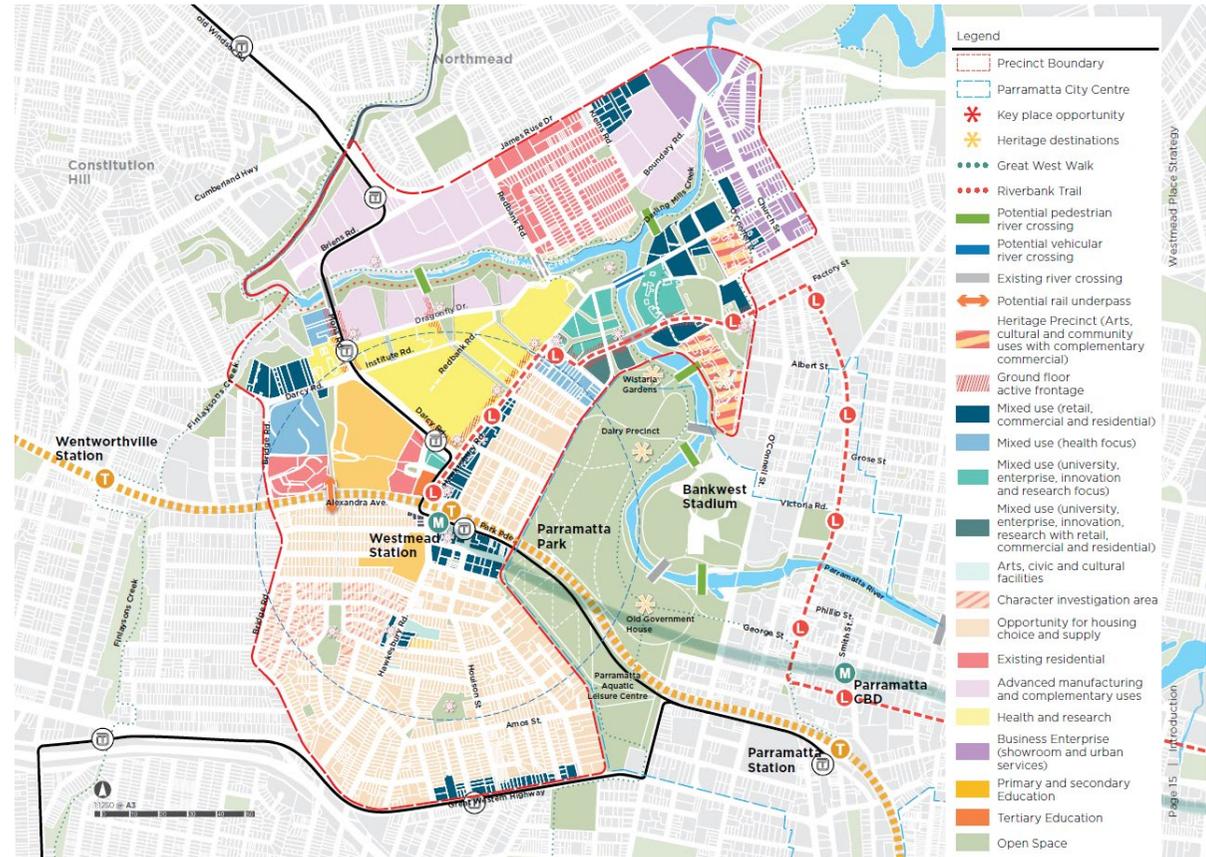


Figure 3-9 Westmead Place Strategy structure plan

Innovation Districts



Source: The Brookings Institution

Innovation Districts are “geographic areas where leading-edge anchor institutions and companies cluster and connect with start-ups, business incubators, and accelerators”.³

They are places that drive economic growth and create jobs through the knowledge and technology driven economy, which strongly benefits from density and agglomeration.

A key learning from other innovation districts is that success relies on attracting, retaining and growing talent.⁴ Innovation districts compete on a global scale for talent. Creating an environment of vibrant spaces and efficient transport services are critical for successful innovation districts. Getting these foundations right in Westmead will support the goal of attracting and retaining a high-value workforce.

By reviewing other innovation districts and assets that comprise local innovation ecosystems, spatial and social considerations have been identified.

Key actions that will impact on the WHID include:

- Facilitate physical proximity between institutions and organisations to achieve the critical mass for innovation to occur.
- Support connectivity and partnerships across the district to achieve innovation capacity - a district’s capacity to translate ideas into new products and services. Innovation represents a chief source of high-quality jobs. Regions that have a critical mass of the skilled workers and institutions needed to create and deploy new technologies are best positioned for success.
- Support access into and from the place to ensure diversity and inclusion. Innovation relies on a diverse set of actors.
- Create quality places: connectivity, proximity, and vibrant, inclusive public spaces. The extent to which the physical landscape is strengthening networks and relationships and enticing people from a diversity of backgrounds to mix.
- Enact leadership and meaningful engagement with stakeholders.

³ Katz, B., Wagner, J. (2014). *The Rise of Innovation Districts: A New Geography of Innovation in America*. The Brookings Institution. <https://www.brookings.edu/wp-content/uploads/2016/07/InnovationDistricts1.pdf>

⁴ Based on interviews and reflections from practitioners involved in creating innovation districts and described in *The Rise of Innovation Districts: A New Geography of Innovation in America*.

Plan for future mass transit across Greater Parramatta

The development of Greater Parramatta into the centre of the Central River City offers the opportunity for further transport infrastructure, providing local and city shaping connections within the area and beyond. Figure 3-10 shows the potential for a Parramatta to Norwest mass transit link to establish a station in the WHID.

A Parramatta to Norwest mass transit could potentially be connected to the Parramatta to Kogarah mass transit link, which would link Westmead to even more suburbs of Greater Sydney. A station near the Children’s Hospital at Westmead, currently over 10-minute walk from any mass transit, would also encourage more mode-shift for trips to, and from, this major destination and reduce congestion in the area. A preferred location for the future mass transit station should be identified and the station and corridor protected from development or hospital activity that would prohibit or limit the future mass transit development opportunity.

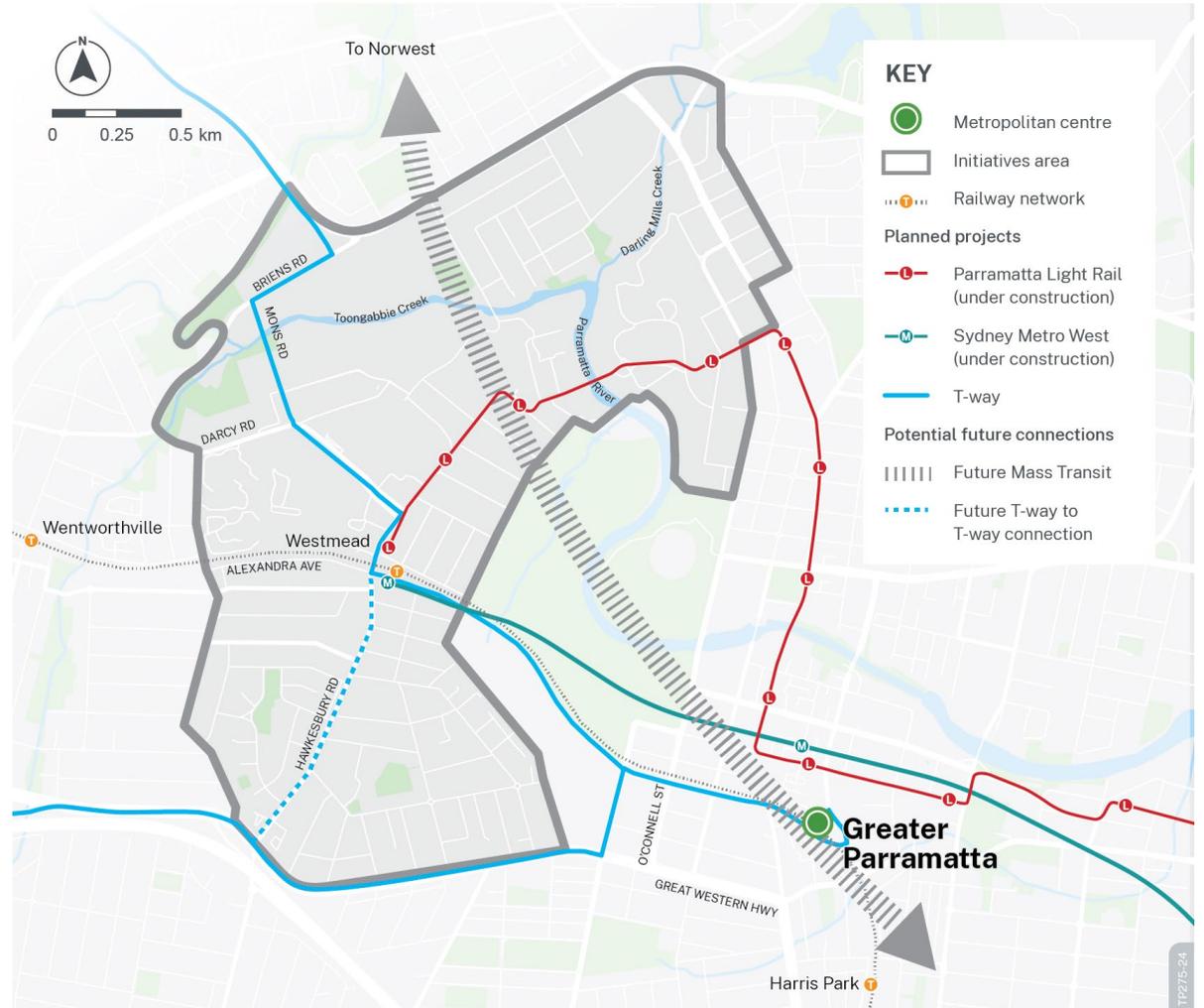


Figure 3-10 Future Transport Strategy - potential connections for Westmead

New vibrant places will enable access to more services and jobs

Westmead is set to see the development of more dining and retail activities in the future, supporting its transformation into a higher intensity precinct. Hawkesbury Road is planned to become a vibrant main street: the developed retail and entertainment offering will fulfill more needs locally and lead to shorter trips that can be made on foot or by cycling.

Outside of the study area, but close by, Church Street (or Eat Street as it is known locally) offers a vibrant and attractive dining scene that is set to develop further as the Parramatta Light Rail improves its connections to the surrounding neighbourhoods, and to Westmead.

With two main streets withing a two-kilometre radius, there is an opportunity for Westmead workers and residents to have access to a wide-range of services and jobs, pending the improvement of local walking and cycling connections.

Proximity to high quality open space

Customers in the precinct have good access to high quality open spaces in Parramatta Park. The park attracts visitors from beyond the local area with its amenity and facilities, reflecting its high place value.

With the future Parramatta Park upgrades, People's Loop, Wistaria Gardens development and Paddocks Precinct development, its attractiveness is set to increase. Moreover, all over the precinct, additional green space is provided and will be improved with the Green

Canopy along Creeks/Rivers and the Cumberland Heritage area offers an additional focal point for local living and beyond.

Active transport access to these areas of open space offers the opportunity to reduce the need to travel elsewhere for leisure. High quality active transport connections will also provide residents with a green and blue network for activities such as recreational walking, cycling and jogging.



4. Realising the vision

4.1 Ongoing and committed initiatives

The outcomes of this strategy have been shaped by the committed and ongoing initiatives in and around Westmead, which include:

- **Westmead Health and Innovation District** (in planning and under construction): acceleration of development at what is already one of Australia's largest health and research zones, establishing the WHID as a global centre for new discoveries, commercialisation, treatment, education, and training.
- **Parramatta Light Rail** (under construction): A new public transport service that will connect Westmead to Carlingford via the Parramatta CBD and Camellia with a two-way track spanning 12 kilometres.
- **Sydney Metro West** (in planning and under construction): A new 24-kilometre metro line with stations confirmed at Westmead, Parramatta, Sydney Olympic Park, North Strathfield, Burwood North, Five Dock, The Bays, Pyrmont and Hunter Street in the Sydney CBD.

- **Parramatta North Program** (under construction): This program will deliver a range of education, research, commercial, cultural and residential outcomes. It will provide important social and community infrastructure in support of the innovation, jobs and skills growth of the future Westmead Precinct.

These initiatives are in addition to regionally significant transport programs being delivered by TfNSW, including **More Trains More Services**, the **Bus Priority Program**, and the **Zero Emission Buses Program**.

Artist impression of the Parramatta Light Rail station at Westmead



4.2 The future of connectivity within and beyond Westmead

When the vision outlined in this strategy is realised, Westmead could be a truly integrated innovation district where residents, visitors and workers can interact and spend time in great public places, enabling planned and unplanned interactions between people in support of innovation and creativity. The connectivity framework for Westmead and its surrounds, with significant locations, is shown in Figure 4-1.

For the future network, the following interventions have been assumed:

- Delivery of Parramatta Light Rail Stage 1 (committed and funded)
- Delivery of Sydney Metro West (committed and funded)
- Delivery of T-way to T-way link along Hawkesbury Road
- Improved bus connectivity between Westmead and Castle Hill
- Improved bus connectivity between Westmead and local areas to the south-west, including Greystanes and Pemulwuy

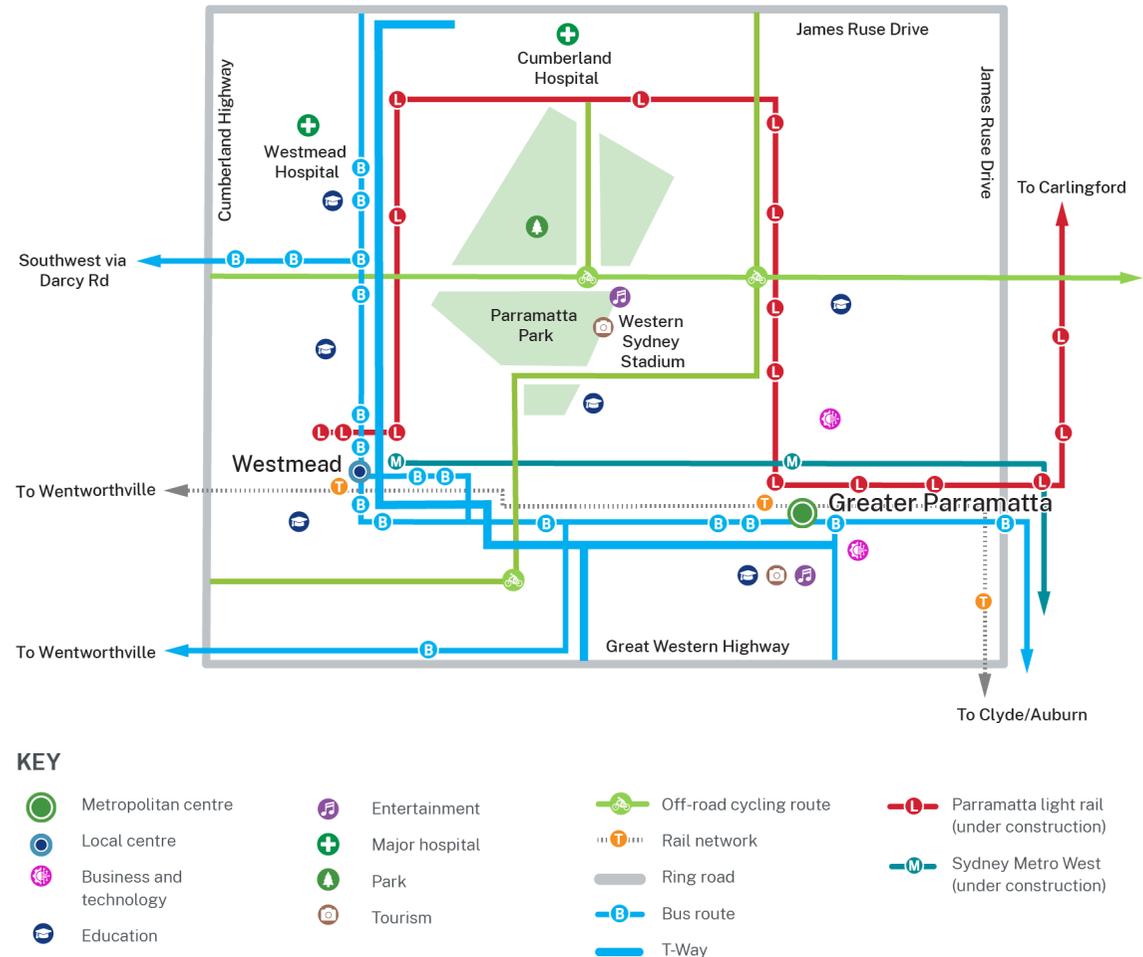


Figure 4-1 The connectivity framework for Westmead and its surrounds

In the future, Westmead will be significantly more accessible for a larger portion of Sydney by public and active transport within 30 minutes, as shown in Figure 4-2 and Figure 4-3. This highlights the significant increase in connectivity to Westmead, with more than twice the number of people and more than five times as many jobs accessible from Westmead. The significant increase in connectivity to jobs and people will support Westmead's role as an attractive and accessible place to live, work and visit.

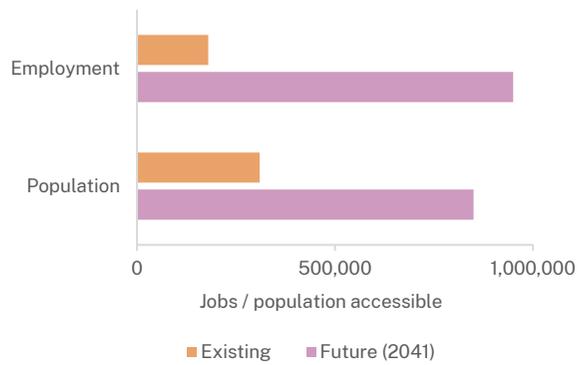
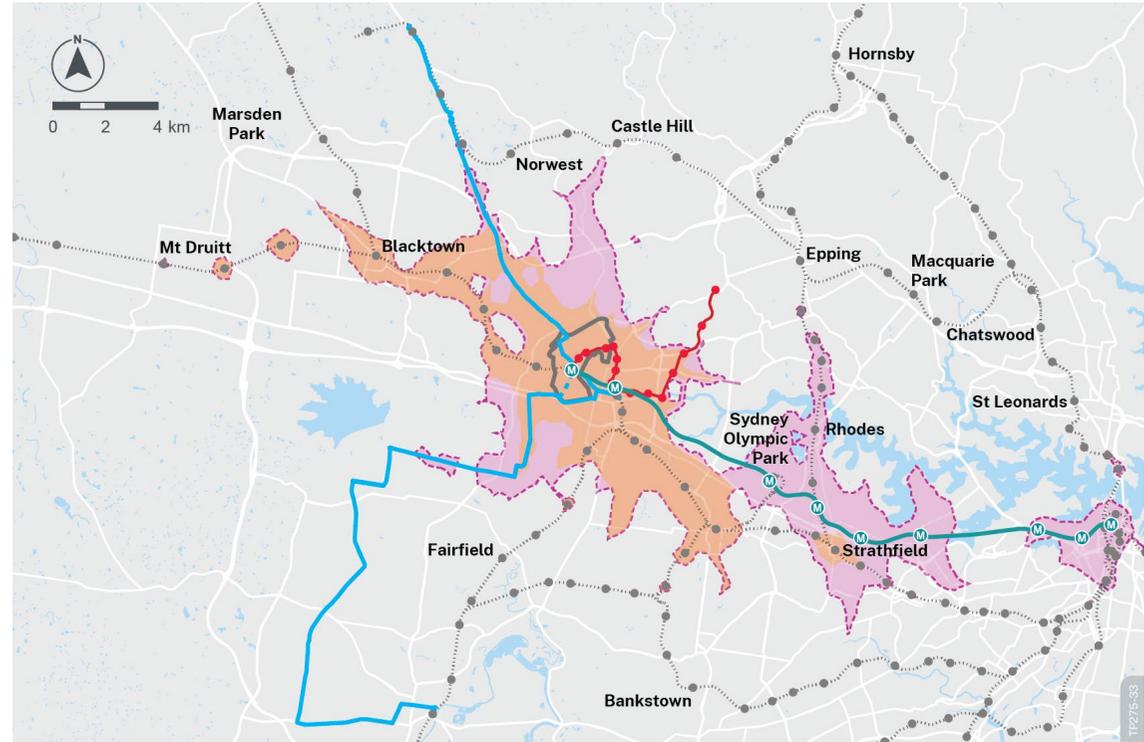


Figure 4-2 Existing and future 30-minute public transport catchment at 5pm (weekday) – access to jobs and population



KEY

- Westmead initiatives area
- Railway line and station
- Parramatta Light Rail (under construction)
- Sydney Metro West (under construction)
- T-way
- Future T-way to T-way connection
- 30 minute public transport catchment With existing network
- With future network

Figure 4-3 Existing and future 30-minute public transport catchment to Westmead interchange at 5pm (weekday)

4.3 Strategic directions and initiatives

The initiatives are collated and presented here under the overarching strategic directions, which are:

1. Support Westmead's transformation into a truly integrated innovation district
2. Create vibrant and safe places, leveraging the major movement corridors, parklands and creeks
3. Develop sustainable travel networks that are permeable and attractive
4. Deliver better public and active transport options for customers of all ages and ability
5. Enhance the transport network to optimise and balance movement

The strategic directions support the overarching vision through encouraging connectivity, liveability, productivity, and sustainability of the local places in the Precinct.

A summary of the initiatives recommended for further investigation is provided in Figure 4-5.

The initiatives listed under this section are not yet funded nor committed and are presented for future investigation prior to investment decisions being made.

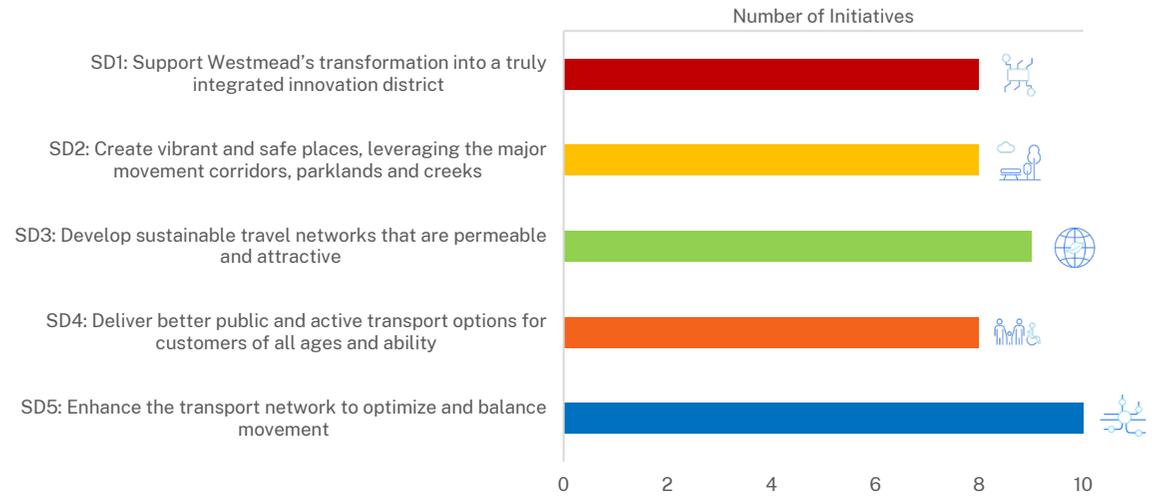


Figure 4-4 Number of initiatives per strategic direction

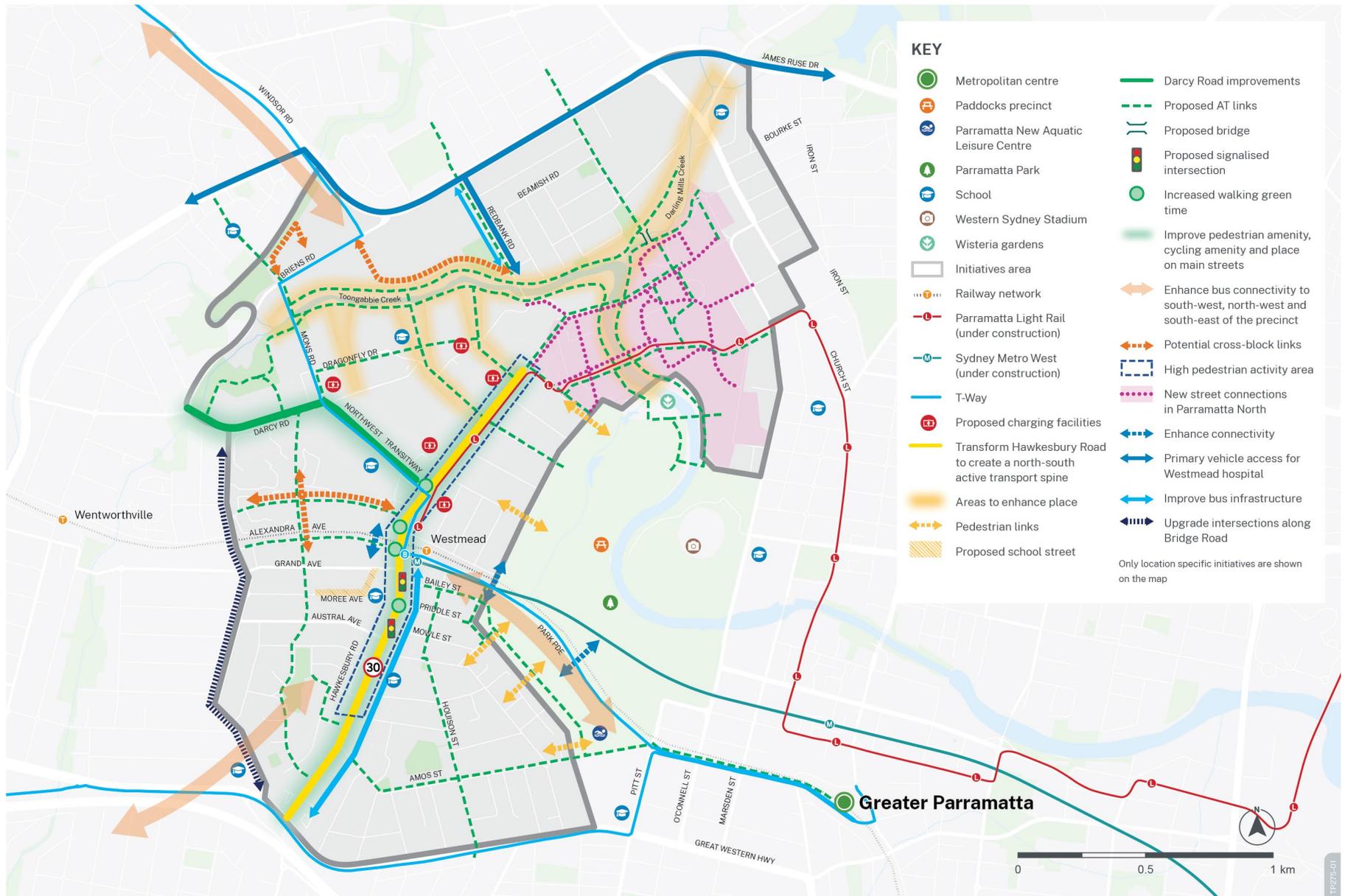


Figure 4-5 Transport initiatives across Westmead



Strategic Direction 1: Support Westmead’s transformation into a truly integrated innovation district

The initiatives in this strategic direction will adapt transport and land use in Westmead to global future trends or impact from local development plans.

It has a strong focus on connectivity, as the future of Westmead as a successful health and innovation district is strongly dependent on its capacity to adopt future mobility trends and plan for future growth.

Alignment of strategic direction with objectives

Connectivity

C.1	C.2	C.3	C.4	C.5	C.6	C.7
	✓		✓	✓		✓

Productivity

P.1	P.2	P.3	P.4	P.5	P.6	P.7
	✓	✓			✓	✓

Liveability

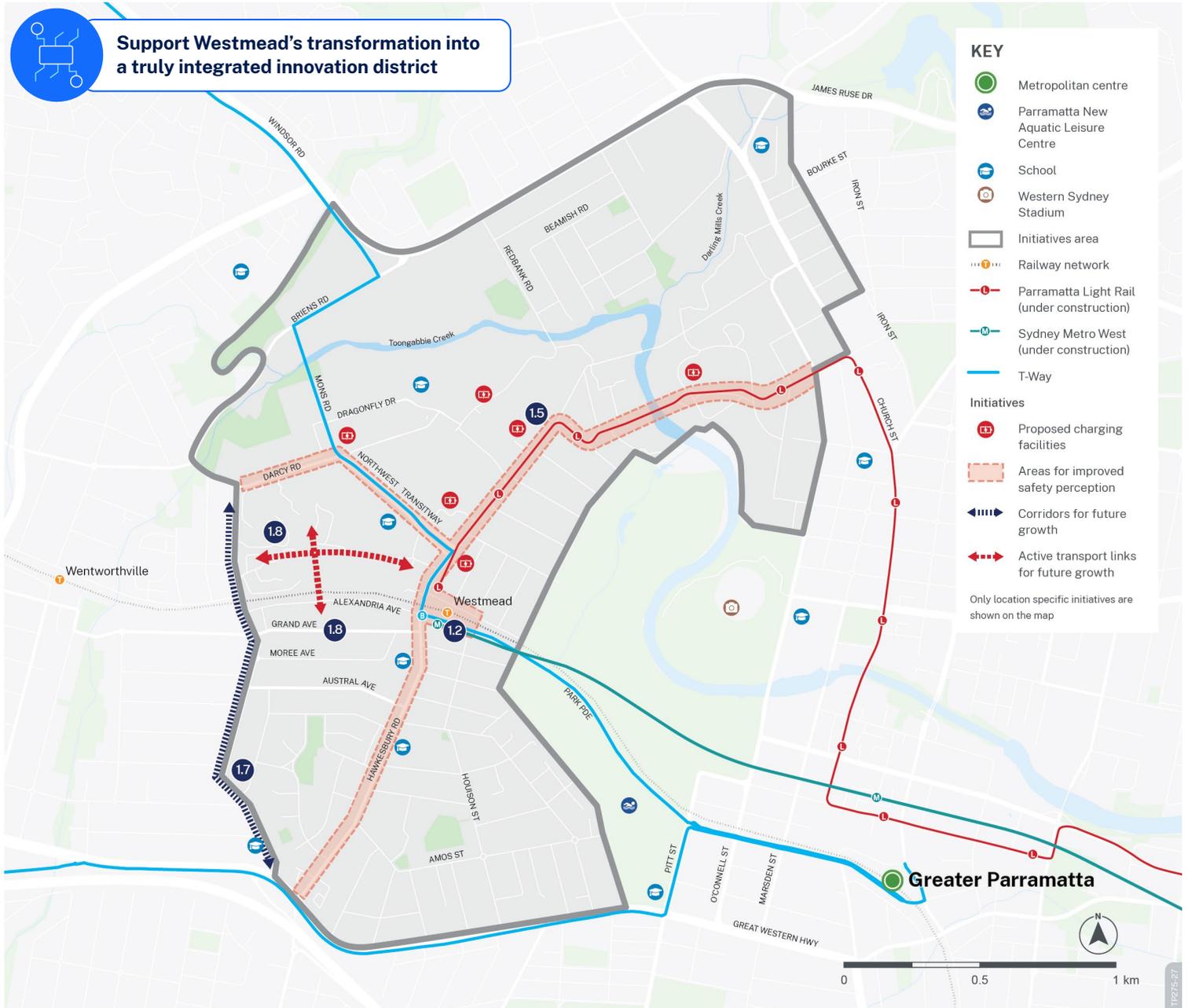
L.1	L.2	L.3	L.4
✓			

Sustainability

S.1	S.2	S.3	S.4
✓		✓	✓

Figure 4-6 – Strategic Direction 1 Initiatives

- 1.1 Implement smart infrastructure and services
- 1.2 Create a sense of arrival with the Sydney Metro station masterplan
- 1.3 Expand the TfNSW travel behaviour change program
- 1.4 Support electric mobility uptake
- 1.5 Improve safety of public and active transport
- 1.6 Develop a precinct-wide parking strategy
- 1.7 Mitigate noise impacts along Bridge Road
- 1.8 Improve permeability in the Catholic School block



1.1 – Implement smart infrastructure and services

Support the creation of a smart place by investigating the implementation of:

- Technologies that improve place value such as smart bins, multi-function poles, streetlight dimming, information kiosks and digital wayfinding.
- Smart sensors to count pedestrians and cyclists to drive future infrastructure provision. Similarly, cameras and sensors at bus stops could help track passenger volumes and waiting times.
- Environmental sensors, including heat, water quality, air quality, pollution, tree health and soil quality to inform passenger advice and assist maintenance.
- Flooded road warning systems that can alert drivers and the community of current or expected flooding levels at canals, waterways and flood zones.
- Bus and emergency vehicle signal priority trials at intersections using next generation SCATS technology.
- Cameras and smart decision engines to help prevent crime at key places such as urban plazas and bus stops.
- Digital smart kerbs to better manage kerbside parking for customers and asset managers.
- Emerging aviation technologies and rapid point-to-point services.

1.2 - Create a sense of arrival with the Sydney Metro station masterplan

Deliver the Sydney Metro West Westmead station masterplan. The masterplan should incorporate:

- A station design that creates a sense of arrival to the precinct, setting the precedent of high amenity through Westmead.
- An integrated transport interchange.
- High quality urban design elements.
- Well-connected to the surrounding precinct to allow for safe entry and exit for customers.

1.3 – Expand the TfNSW travel behaviour change program

Expand the TfNSW travel behaviour change program to:

- Develop a precinct wide travel demand management plan and coordinate transport initiatives and travel choices, to smooth the peak demand curve.
- Ensure a coordinated approach of travel demand initiatives between businesses, institutions and government.
- Investigate opportunities to integrate the precinct into wider Mobility-as-a-Service (MaaS) initiatives.

1.1 – Implement smart infrastructure and services



Interactive wayfinding kiosk built by Readyref

A smart place in Westmead should integrate with the City of Parramatta Council's Smart Cities Masterplan (2015). The Westmead smart place could also be an extension of Cumberland City Council's Smart Cities pilot project in Granville. New infrastructure, buildings and street assets should be future proofed with fibre and power connections to allow future provision of smart solutions.

Some of the potential benefits of this initiative include:

- Improved customer experience for residents, employees and visitors.
- Improved safety and comfort in public spaces.
- Improved efficiency and lower cost of public services.
- Data driven decision making and real-time monitoring of conditions.

- Ensure Travel Plans are implemented that support the activation of public roads and streets adjacent, and within, all major developments including the Health and Innovation Districts.
- Leverage completion of Parramatta Light Rail (PLR) to encourage mode shift via behavioural change campaigns targeting employees, students, and residents.
- Drive promotion of resources and templates to guide developers and organisations in Westmead in preparing Travel Plans, Access Guides and associated resources on the Travel Choices website.

1.4 – Support electric mobility uptake

Support electric mobility uptake with:

- Inclusion of electric vehicle (EV) charging points in non-residential and new residential developments.
- Implementing controls to ensure that new developments are EV ready, including necessary electrical infrastructure and accessible space needed to install charging infrastructure in the future.
- Trialling kerbside EV charging spaces.
- Inclusion of EV charging in new Westmead Hospital carpark developments and/or refitting existing car parks with EV charging.
- The delivery of a continuous high-quality cycling network to encourage use of e-

bikes and other forms of electric micro-mobility.

- Inclusion of micro-mobility docking and charging facilities in end of trip facilities, new developments and within the new Westmead Town Centre.

1.5a – Improve safety of public and active transport

Improve safety of public and active transport, particularly at night with:

- Lighting improvements (stations & surroundings).
- Activated ground floor uses, increased density, and better development design for passive surveillance – particularly for sites along Hawkesbury Road and Darcy Road.

Note: this initiative should be considered alongside Initiative 3.8.

1.5b – Improve safety of public and active transport

Improve safety of public and active transport, particularly at night by:

- Trialling an on-demand night transport service for late night shift workers at the WHID.

1.6 – Develop a precinct-wide parking strategy

Develop a precinct-wide parking strategy to minimise private car usage and encourage mode shift, including planning controls for maximum parking rates for developments such as commercial, retail, health, education and residential, to limit the reliance on private vehicle use in new developments.

1.7 – Mitigate noise impacts along Bridge Road

Plan developments along Bridge Road to mitigate noise impacts on new dwellings due to increased traffic volumes and localised widening for intersections.

1.8 – Improve permeability in the Catholic School block

Plan for future growth in the Catholic Education Precinct by improving access and permeability in the area between Bridge Road, Darcy Road and Hawkesbury Road with:

- A north-south active transport crossing over the T1 Line.
- A new east-west civic space link between Bridge Road and Farm House Road.

1.3 - TfNSW Travel behaviour change program



Travel Choices is one of TfNSW's travel behaviour change programs, which deploys an established approach to reduce transport demand by redistributing journeys to other modes, routes or removing the need for the journey altogether. The aim of the Travel Choices program is to deliver long term behaviour change and sustainable travel patterns.

The program in Westmead would focus on working collaboratively with employers, health departments and universities to create various strategies to help create long-term sustainable behaviour. An approach that deploys walking, cycling and public transport initiatives alongside

parking management strategies, have shown to be more effective than encouragement strategies alone. Implementing this approach on a Perth public hospital resulted in a 34% shift from car trips. Comparatively, when adopting an incentive only strategy at an adjacent hospital, there were minimal changes in travel behaviour⁵.

Some of the potential benefits of this initiative include:

- Reduce congestion, both on roads and public transport, particularly in peak periods.
- Improve flexibility and choices for employees and customers.
- Reduce demand for parking and other infrastructure.

1.5b - Night-time on-demand transport trial



One of the major barriers to increasing the usage of public transportation among healthcare workers in the WHID, which operates 24/7, is the availability of convenient and safe transport options that meets the needs of shift workers. In a 2016 staff survey, respondents cited "insufficient services when I am normally rostered" as a key reason for not using public transportation.⁶

A dedicated night-time transport service trial could run between 8pm-6am. The service could initially be implemented as a 12-month trial to test effectiveness and staff uptake.

Some of the potential benefits of this initiative include:

- Secure transport from/to hospital to/from home at night when safety is a key consideration for travellers.
- Reduction in car parking demand at the hospital, as well as reduced congestion and car dependency.
- Reduction in space needed for car parking, freeing up land for more productive uses within the Westmead Precinct.
- Reduced absenteeism, staff turnover and improved access to the labour pool, helping attract top talent.

⁵ Petrunoff et al. (2015). *Carrots and sticks vs carrots: Comparing approaches to workplace travel plans using disincentives for driving and incentives for active travel.*

⁶ GTA Consultants. (2019). *Westmead Redevelopment Sustainable Travel Plan.*



Strategic Direction 2: Create vibrant and safe places, leveraging the major movement corridors, parklands and creeks

This strategic direction is a set of initiatives that ensures that public places and streets have good amenity, are vibrant, and safe. It aims to enhance the character and form of local places, such as parklands and creeks – places valued by the community, through better and safe connections for people.

Finally, it recognises that some key movement corridors also need to accommodate a diverse range of movement types, such as children walking to school, as well as urban amenity, such as tree plantings and public spaces.

Alignment of strategic direction with objectives

Connectivity

C.1	C.2	C.3	C.4	C.5	C.6	C.7
		✓	✓		✓	

Productivity

P.1	P.2	P.3	P.4	P.5	P.6	P.7

Liveability

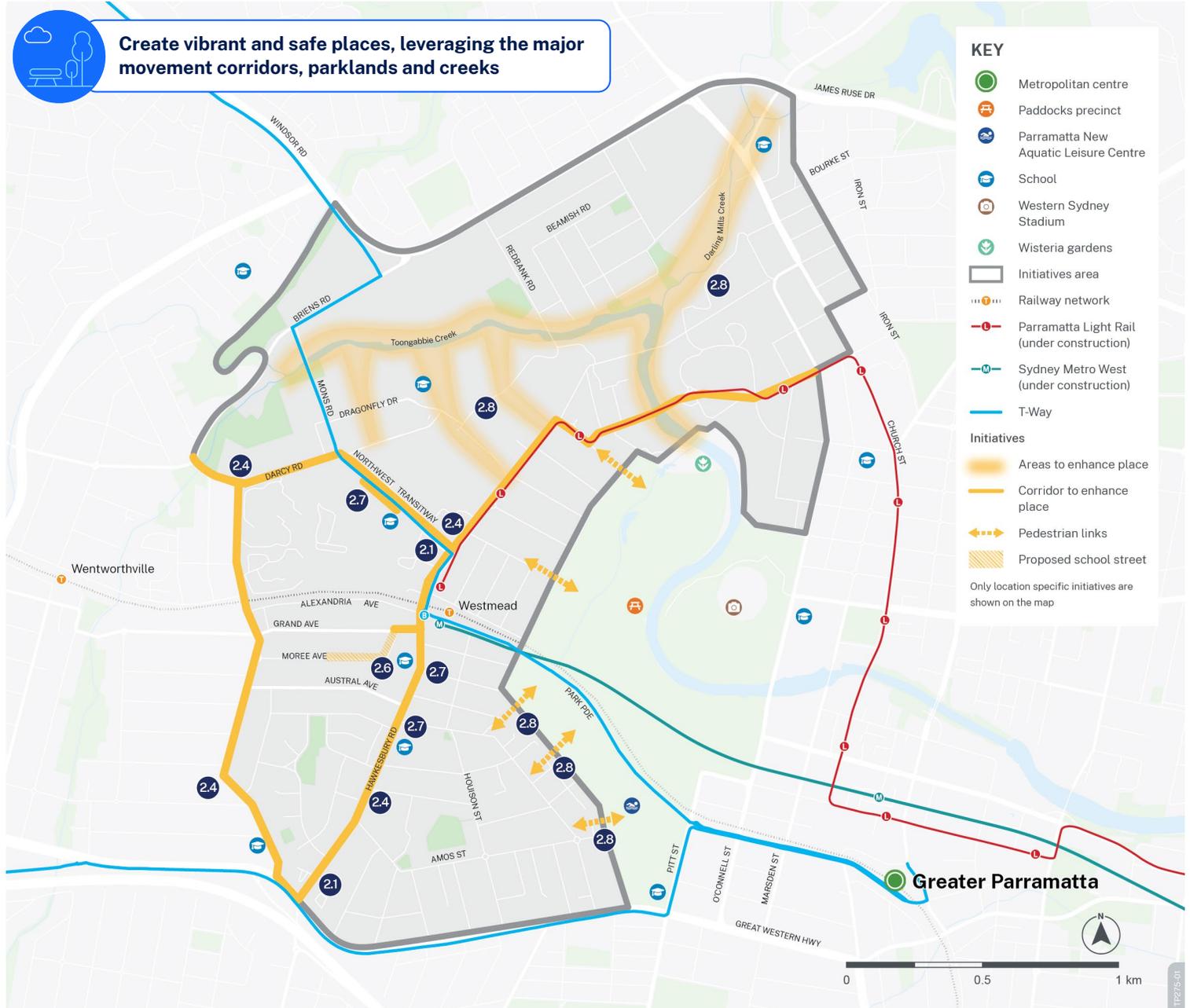
L.1	L.2	L.3	L.4
✓	✓	✓	✓

Sustainability

S.1	S.2	S.3	S.4
✓	✓	✓	✓

Figure 4-7 – Strategic Direction 2 Initiatives

- 2.1 Re-imagined Hawkesbury Road
- 2.2 Reduced speed limits on local streets
- 2.3 Footpath treatments at local intersections
- 2.4 Minimise new driveways on high movement corridors
- 2.5 Local street tree plantings
- 2.6 Trial a School Street
- 2.7 Improve pedestrian amenity near schools
- 2.8 Network of landscaped cycling and walking paths



TPZ/ES-01

2.1 – Re-imagined Hawkesbury Road

Develop a concept design for a re-imagined Hawkesbury Road (between Darcy Road and Great Western Highway) to incorporate widened footpaths, undergrounding of power lines, utilities (e.g. gas, telecommunications), smart infrastructure, improved pedestrian safety and a landscaping buffer, including tree planting between the road carriageway and pedestrian/cycling path. This will require consideration for future land dedication and/or additional setbacks for adjacent lots.

2.2 - Reduced speed limits on local streets

Identify opportunities to trial lower speed limits on local roads e.g. 30km/h and 40km/h (including High Pedestrian Activity Areas) to support neighbourhood activity, accompanied by other improvements to the road environment to reduce travel speed.

2.3 - Footpath treatments at local intersections

Progressively include footpath treatments, such as continuous footpaths, to improve pedestrian experience and calm traffic at intersections when undertaking renewal works on local streets or intersections.

2.1 – Re-imagined Hawkesbury Road



Hawkesbury Road is a key north-south road in Westmead and is dominated by vehicle traffic, with poor outcomes for pedestrians, cyclists and local residents. This initiative presents a key opportunity to transform the customer experience, place outcomes and amenity. This could include widened footpaths, cycling lanes, shared paths, activated street frontages, undergrounding of utilities and landscaping.

Some of the potential benefits of this initiative includes:

- Improved facilities help transition Hawkesbury Road to a people-centric Main Street.
- Allowance for a potential T-way to T-way link connecting the Liverpool-Parramatta T-way and North-West T-way, with interchange at Westmead Station, improving public transport accessibility to and from the north-west and south-west.

2.4 - Minimise new driveway crossings on high movement corridors

Implement planning/development controls to minimise new driveway crossings, where feasible, to improve the pedestrian experience and reduce vehicle conflicts on high movement corridors:

- Hawkesbury Road
- Bridge Road
- Darcy Road (between Briens Road and Hawkesbury Road)

2.5 – Local street tree plantings

Implement local street tree planting in the precinct as per Parramatta Light Rail Program (Tree Offset Strategy), Cumberland City Council Urban Tree Strategy 2020 and Parramatta City Council Tree Planting Program.

2.6 – Trial a School Street

Conduct a trial of a School Street on Moree Avenue near Westmead Public School to improve safety and encourage first and last-mile active transport usage during pick up and drop off times.

2.7 – Improve pedestrian amenity near schools

Widen footpaths and improve pedestrian amenity at entrances to Sacred Heart, Westmead, and Mother Teresa Primary Schools and Paramatta Marist High School.

2.8 – Network of landscaped cycling and walking paths

Plan and implement a new network of landscaped and well-lit cycling and walking paths through the WHID and future Parramatta North Precinct to connect to future enhanced places alongside the Parramatta River, Toongabbie and Darling Mills Creeks, and within Parramatta Park, which will form connected Green Open Spaces.

2.3 – Continuous footpaths



Continuous footpaths improve the pedestrian experience by reducing the need for pedestrians to step down into the roadway. This results in easier access for pedestrians, particularly those with limited mobility, such as wheelchair users or parents with prams.

Some of the potential benefits of this infrastructure includes:

- Improved outcomes for less mobile customer groups such as wheelchair users and parents with prams through removing the need to use kerb ramps.
- Reduced traffic speeds in neighbourhoods through a simple method of traffic calming, with the footpath acting like a speedbump.
- Improve road safety and promote active travel usage by signalling to drivers that they are entering a part of the roadway designed for pedestrians first.

2.6 – School streets



School streets have been implemented in several places around the world. It recognises that safety for kids should be the primary driver of street environments near schools. A school street on Moree Avenue could be implemented at school start and end times by limiting vehicles near the school gate, where movements are concentrated.

Some of the potential benefits of this initiative include:

- Improve safety, convenience and a people friendly environment for kids and families to socialise and play in.
- Help make the street safer, more child friendly and a gathering place for families – while still maintaining access for residents outside of school pick-up/drop-off hours.
- The safe environment encourages walking, cycling and other sustainable transport modes.



Strategic Direction 3: Develop sustainable travel networks that are permeable and attractive

Initiatives in this strategic direction focus on prioritising sustainable travel options throughout the Westmead Precinct. This means improving the availability and supporting infrastructure of active, shared, and public transport modes.

Most initiatives in this strategic direction are focussed on encouraging modal shift by making sustainable transport modes competitive, economical, comfortable, efficient and attractive. This can primarily be achieved by improving amenity, functionality, and connectivity of active transport modes such as walking and cycling. The initiatives also support liveability through mitigating the urban heat island effect through a raft of measures associated with sustainable street and urban design.

Alignment of strategic direction with objectives

Connectivity

C.1	C.2	C.3	C.4	C.5	C.6	C.7
	✓	✓	✓	✓	✓	

Productivity

P.1	P.2	P.3	P.4	P.5	P.6	P.7
✓		✓	✓	✓		

Liveability

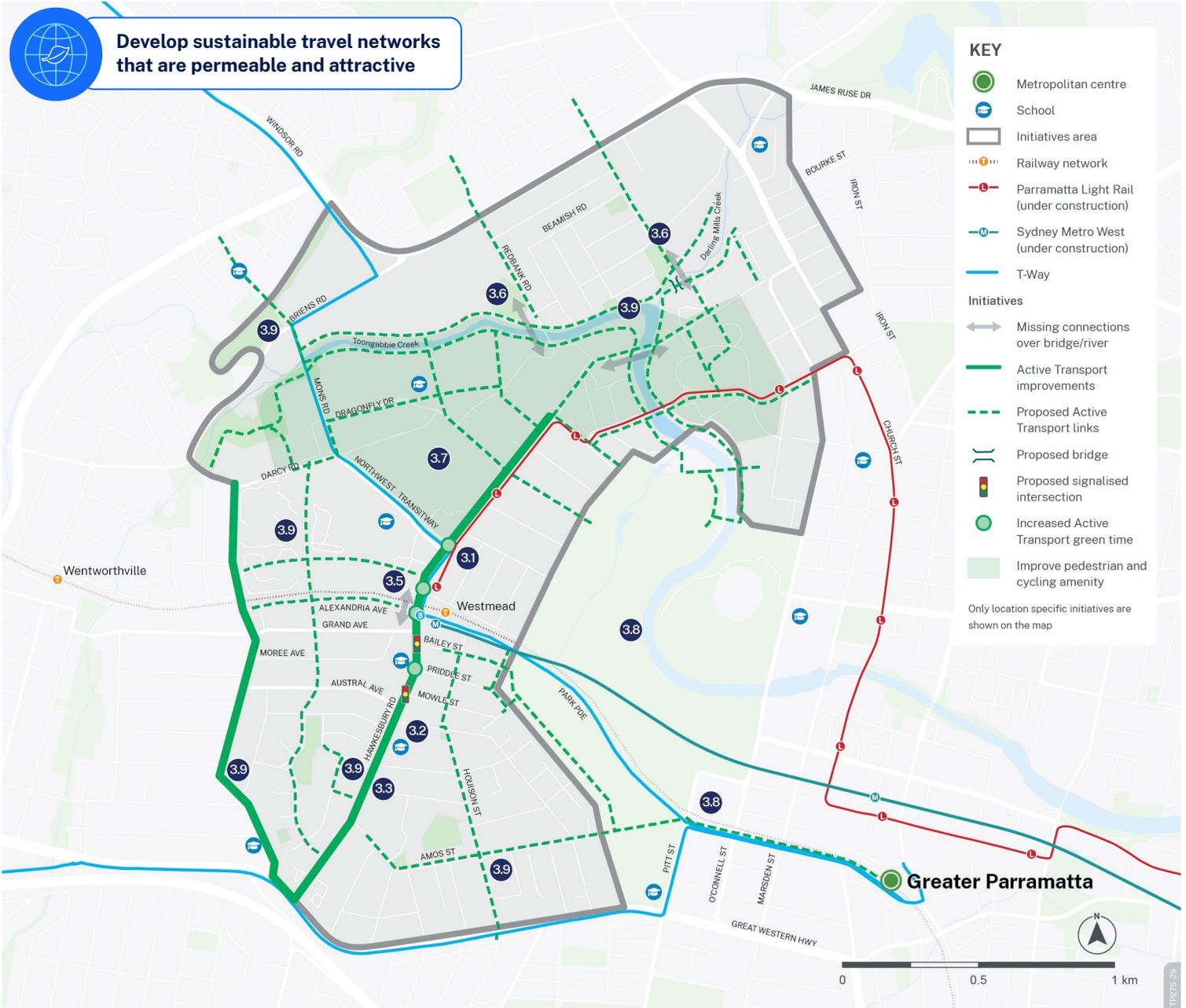
L.1	L.2	L.3	L.4
	✓	✓	✓

Sustainability

S.1	S.2	S.3	S.4
			✓

**Figure 4-8 – Strategic
Direction 3 Initiatives**

- 3.1 Increase pedestrian and cyclist green time and frequency
- 3.2 Signalised or priority crossings for pedestrians and cyclists
- 3.3 Improve pedestrian amenity on Hawkesbury Road
- 3.4 Mitigate urban heat island effect
- 3.5 Improve the safety of Hawkesbury Road bridge
- 3.6 Active transport connections over and along creeks and rivers
- 3.7 Improve pedestrian and cycling amenity through the WHID
- 3.8 Improve regional active transport connectivity
- 3.9 New active transport network



3.1 – Increase pedestrian and cyclist green time and frequency

Increase green time and frequency for pedestrians and cyclists at signalised crossings, while assessing impact on bus services, at the following intersections:

- Priddle Street / Hawkesbury Road
- Alexandra Avenue / Hawkesbury Road
- Railway Parade / Hawkesbury Road
- Darcy Road / Hawkesbury Road

3.2 – Signalised or priority crossings for pedestrians and cyclists

Provide signalised or priority crossings for pedestrians and cyclists at the following intersections:

- Bailey Street / Hawkesbury Road
- Mowle Street / Hawkesbury Road
- Across Park Parade to access the tunnel into Parramatta Park

3.3 – Improve pedestrian amenity on Hawkesbury Road

Increase the width of footpaths and create pedestrian kerb extensions along Hawkesbury Road to improve pedestrian safety and comfort. Provide pedestrian and cyclist connections and at-grade pedestrian facilities across Hawkesbury Road, Bridge Road and Alexandra Avenue.

3.4 – Mitigate urban heat island effect

Mitigate urban heat island effect, which makes the area less comfortable for walking and cycling and reduces amenity, particularly in hotspots and key locations with:

- Street design to increase tree canopy
- Water sensitive urban design
- Cool pavement, such as high albedo surfaces and permeable pavement
- Cool and green envelopes on transport infrastructure, such as bus shelters and car parks
- Shading structures and evaporative cooling measures

3.5 – Improve the safety of Hawkesbury Road bridge

Create a safer environment for pedestrians and bicycle riders at the Hawkesbury Road bridge over the railway by widening the existing bridge or constructing a new bridge, thereby accommodating better modal interchange and solving footpath capacity issues.

3.6 – Active transport connections over and along creeks and rivers

Provide additional active transport connections over and along Parramatta River, Toongabbie Creek, and Darling Mills Creek to increase active transport catchment and provide improved recreational connections along green waterways.

3.7 – Improve pedestrian and cycling amenity through the WHID

Increase permeability and connectivity via new active transport link and create a continuous separated cycleway, wide footpaths and protected crossings on the planned new road links.

3.8 - Improve regional active transport connectivity

Improve regional active transport connectivity between Westmead and Parramatta with initiatives such as:

- Include a cycling contra-flow on Parramatta Park roads.
- Improve lighting, and investigate CCTV, along pedestrian connections through Parramatta Park.
- Create a continuous cycleway including cycling-priority intersections and wayfinding between Parramatta Station, Parramatta Park and Westmead Station to encourage bike+train trips.

3.9 – New active transport network

Create new active transport network on:

- Hawkesbury Road
- Houison Street and Hassall Street
- The north-south green spine from MacArthur Crescent to Finlayson Creek
- Finlayson Creek
- Amos Street and Euralla Street
- Alexandra Avenue
- Hainsworth Street
- Park Parade
- Connecting the waterways and precincts along Parramatta River, Toongabbie Creek and Darling Mills Creek
- Formalising the connection from Park Parade to Bailey Street, Priddle Street and Oakes Street

3.4 – The urban heat island effect



Western Sydney experiences temperatures up to 10 degrees higher than Eastern Sydney, regularly exceeding 35 degrees in summer. The urban heat island effect intensifies the naturally warm climate and is caused by heat absorbing surfaces such as carparks and roads, and dark roofs that store heat during the day.

The urban heat island effect can be countered through measures such as increased tree canopy, blue and green infrastructure, cool paving and water sensitive urban design.

Measures to reduce the urban heat island effect also help increase community amenity and desirability of urban spaces. Potential benefits of this initiative include:

- Reduced urban heat island effect and cooler summer temperatures.
- Improved amenity and desirability of urban spaces and outdoor activities such as outdoor dining and community sports.
- Improved attractiveness of sustainable transport modes such as walking and cycling.

3.6 – Connections over and along creeks and rivers



Westmead is home to several creeks and rivers, including Toongabbie Creek to the north of the hospital, Darling Mills Creek near Northmead and the Parramatta River connecting to both creeks near Parramatta North. These waterways create severance, limiting the level of mobility between different parts of Westmead.

Additional active travel connections over the creeks could help improve mobility options within the precinct.

Some of the potential benefits of this initiative include:

- Improved recreational connections that would fill gaps in the existing network.
- Attractive and serene active travel connections for local residents and visitors to feel connected to nature.
- Enhance future public domain projects for revitalised open spaces along the creeks by improving ease of access.



Strategic Direction 4: Deliver better public and active transport options for customers of all ages and abilities

This strategic direction groups together initiatives that strive to create seamless and accessible journeys for all that access Westmead, including people of all ages, socioeconomic backgrounds, and those living with disabilities.

While initiatives in Strategic Direction 4 support a smaller number of objectives in comparison to the other strategic directions, the positive impact on the objectives is likely to be strong. Initiatives such as increasing the frequency and connectivity of public transport modes and improving pedestrian connectivity are likely to have a strong positive impact on large numbers of the community without detracting from other initiatives.

Alignment of strategic direction with objectives

Connectivity

C.1	C.2	C.3	C.4	C.5	C.6	C.7
-----	-----	-----	-----	-----	-----	-----

✓		✓		✓		
---	--	---	--	---	--	--

Productivity

P.1	P.2	P.3	P.4	P.5	P.6	P.7
-----	-----	-----	-----	-----	-----	-----

	✓					
--	---	--	--	--	--	--

Liveability

L.1	L.2	L.3	L.4
-----	-----	-----	-----

			✓
--	--	--	---

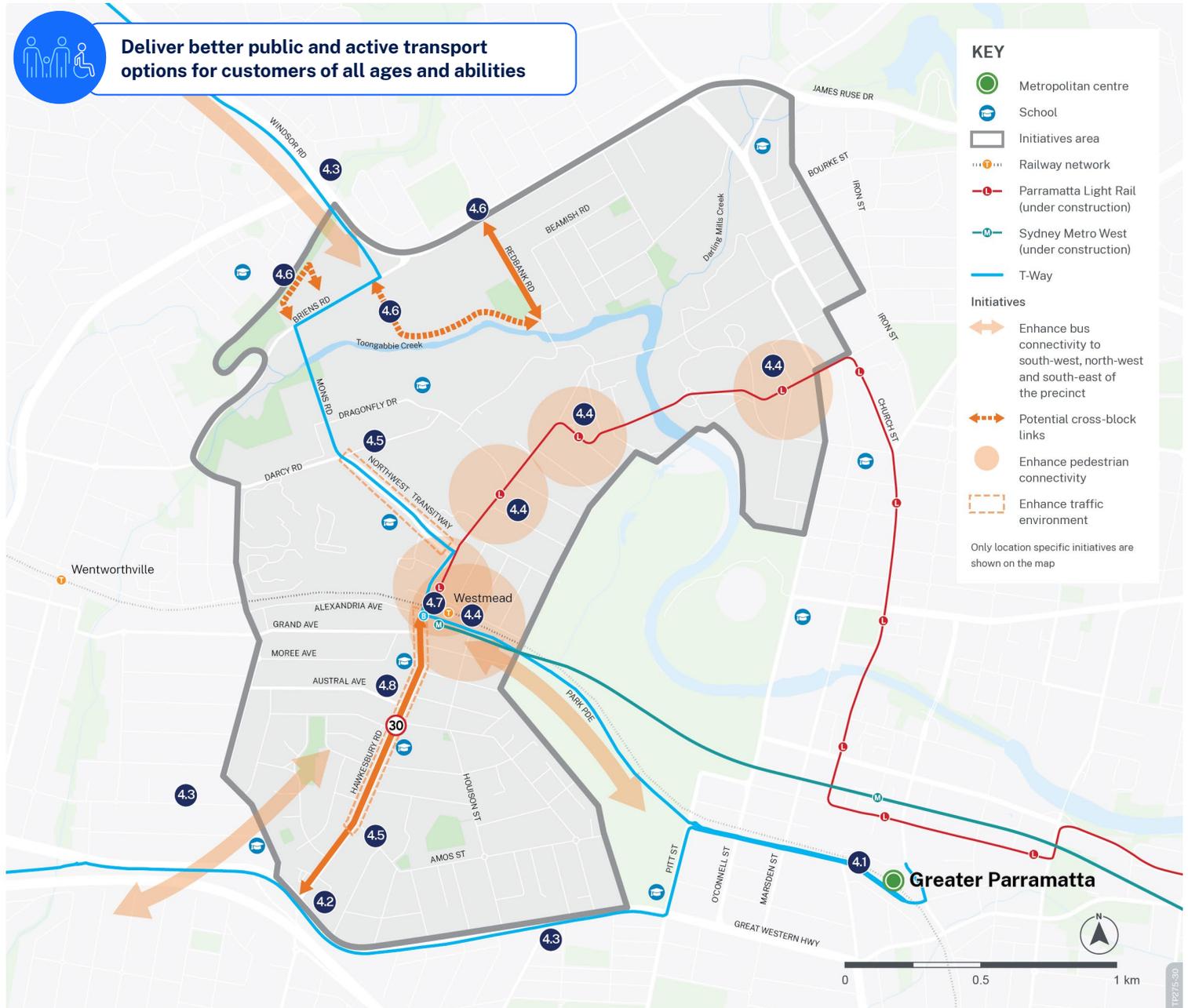
Sustainability

S.1	S.2	S.3	S.4
-----	-----	-----	-----

✓			
---	--	--	--

Figure 4-9 – Strategic Direction 4 Initiatives

- 4.1 Strategic bus planning for Greater Parramatta
- 4.2 T-way to T-way Link
- 4.3 Frequent, direct and legible public transport connections
- 4.4 Pedestrian connectivity to mass transit
- 4.5 Before and after school traffic management
- 4.6 Public and active transport connectivity to Northmead
- 4.7 Safe, comfortable and efficient transport interchange hub
- 4.8 Connections to Westmead Public School by walking and cycling



4.1 – Strategic bus planning for Greater Parramatta

Update and implement the strategic bus planning for Greater Parramatta following the relevant Guiding Principles:

- Provide safe, frequent, and reliable public transport services to support the 24-hour economy.
- Maintain and optimise strong bus connectivity to Parramatta Interchange, such as improving timetabling to facilitate interchange.
- Investigate potential for on-demand shuttles in areas and times that buses are not appropriate.

4.2 – T-way to T-way Link

Deliver the T-way to T-way Link to connect the Liverpool -Parramatta T-way to North-West T-way on Hawkesbury Road and supporting bus shelters.

4.3 – Frequent, direct and legible public transport connections

Deliver frequent, direct and legible public transport connections with surrounding areas in the north-western suburbs (e.g. Castle Hill, Baulkham Hills, Carlingford and Epping) and south-western suburbs (e.g. Merrylands, Greystanes, Pemulwuy) of Sydney.

4.4 – Pedestrian connectivity to mass transit

Improve pedestrian connectivity from surrounding neighbourhoods to Westmead Station, new Metro station, and PLR stops via footpath widening, kerb-built outs and improved pedestrian priorities at intersections.

4.5 – Before and after school traffic management

Develop a traffic signal operation plan for before and after school traffic management with the objective of improving pedestrian experience by minimising overcrowding at crossing waiting areas along Darcy Road and Hawkesbury Road.

4.6 – Public and active transport connectivity to Northmead

Improve public and active transport connectivity to Northmead to support its transformation as an employment precinct with:

- New low speed cross-block links.
- Connections to Toongabbie Creek and its future active transport link.
- An open space connection to Kleins Road.
- Additional bus stops in, or closer to, Northmead such as on Redbank Road or on the new cross-block link (for a new/modified bus service).

4.7 – Safe, comfortable and efficient transport interchange hub

Plan and develop a safe, comfortable and efficient transport interchange hub that includes:

- Improved bus stop visibility from other modes (for example, location, direct access (low sinuosity), and infrastructure such as poles and signage).
- Efficient and readable wayfinding to prioritise active transport to key places.
- Opal facilities that support payment options for infrequent users.
- Accessible real-time multi-modal travel information available at key stops.
- Disability Discrimination Act (DDA) compliant pathways between modes, near stops and at entrances to stations.

4.8 – Connections to Westmead Public School by walking and cycling

Improve connections to Westmead Public School by walking and cycling with:

- Lower speed environment on Hawkesbury Road: traffic calming and pedestrian priority crossings at all intersections.
- 40km/h posted speed limit pilot in Westmead South and the implementation of a Local Area Transport Management (LATM) plan on local streets, where necessary.
- School zones around Westmead Public School at 30km/h speed limits.



Strategic Direction 5: Enhance the transport network to optimise and balance movement

This strategic direction provides a set of initiatives that seek to ensure there is reliable and efficient movement of people and goods within and to and from Westmead Precinct. Initiatives tend to focus mainly on those key movement networks with high movement value, particularly Main Roads and rail corridors.

The optimisation and balancing of where movements occur in Westmead, enhances the amenity and vibrancy of public spaces while maintaining the mobility requirements of businesses, health and education services.

Alignment of strategic direction with objectives

Connectivity

C.1	C.2	C.3	C.4	C.5	C.6	C.7
✓	✓	✓				✓

Productivity

P.1	P.2	P.3	P.4	P.5	P.6	P.7
✓		✓	✓	✓	✓	✓

Liveability

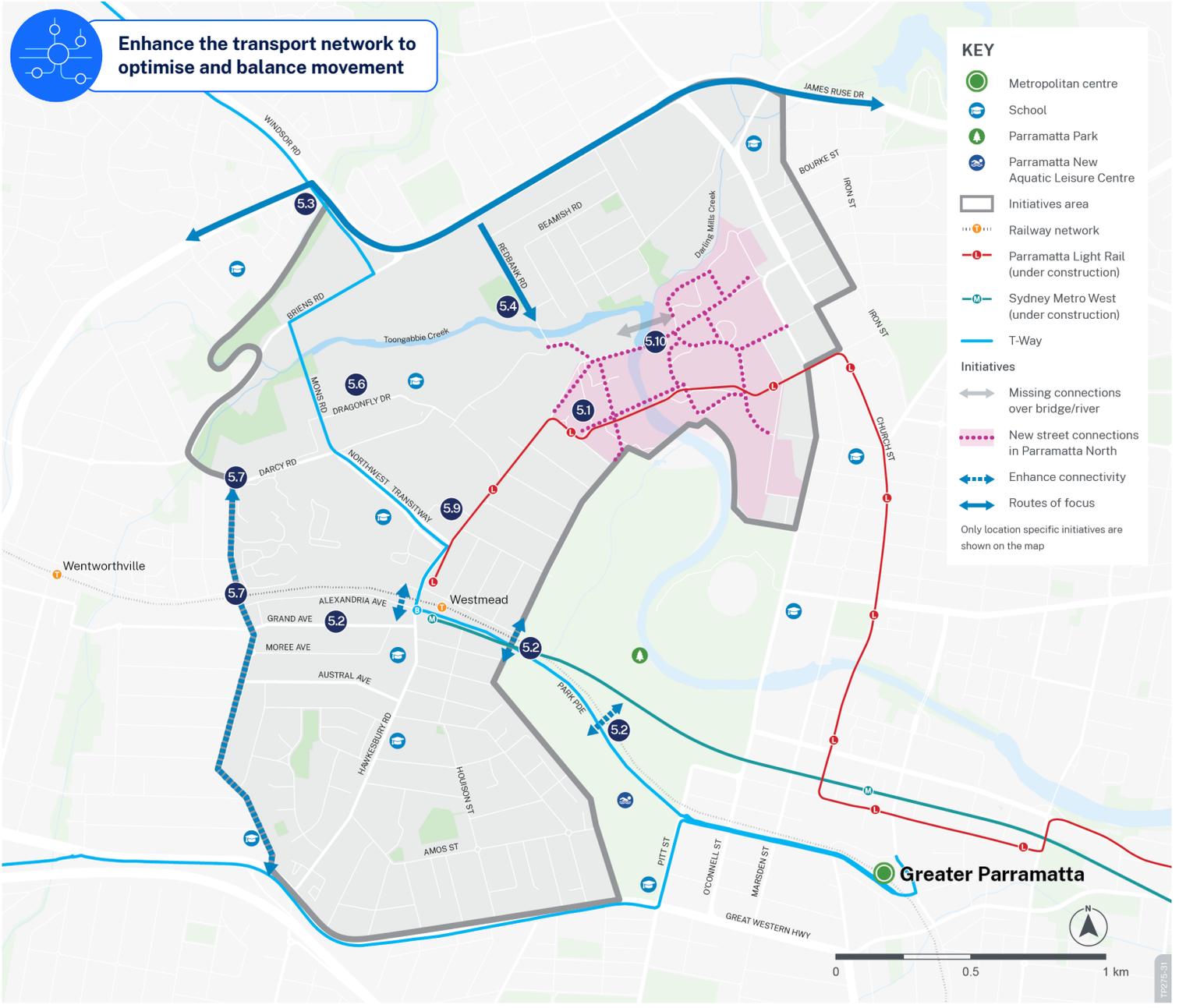
L.1	L.2	L.3	L.4
		✓	✓

Sustainability

S.1	S.2	S.3	S.4
	✓		✓

Figure 4-10 – Strategic Direction 5 Initiatives

- 5.1 Future mass transit station in the WHID
- 5.2 Active transport railway crossings
- 5.3 Reduce Westmead’s attractiveness to through traffic
- 5.4 Northwest Westmead Hospital vehicle access for patients, visitors and freight
- 5.5 Minimise growth in car parking supply and better manage existing supply
- 5.6 Locate new WHID car parking at rear of site
- 5.7 Bridge Road upgrade
- 5.8 Multi-modal wayfinding plan
- 5.9 Optimise on-street parking, access and loading in high place-intensity areas
- 5.10 Permeable street network throughout the Parramatta North Precinct



5.1 – Future mass transit station in the WHID

Safeguard a future mass transit station in the WHID to enable delivery of city-shaping infrastructure and increase public transport accessibility.

5.2 – Active transport railway crossings

Improve connectivity between north and south Westmead by creating additional active transport railway crossings and improving existing ones:

- In Parramatta Park, between Railway Parade and Park Parade and at the future Aquatic and Leisure Centre.
- East of Westmead Station, between Park Avenue and Park Parade.
- West of Hawkesbury Road, completing the alignment of the planned North-South green spine.

5.3 – Reduce Westmead’s attractiveness to through traffic

Reduce Westmead’s attractiveness to through traffic and encourage the use of Parramatta Outer Ring Road for these vehicle trips, by:

- Designing for a lower speed environment on Hawkesbury Road and increasing the priority of active and public transport.
- Improvements to the network efficiency/operation of the Parramatta Outer Ring Road.
- Improvements to wayfinding and signage to direct through-trips away from the internal road network.

5.4 – Northwest Westmead Hospital vehicle access for patients, visitors and freight

Focus Westmead Hospital vehicle access for patients and visitors (i.e. outpatients and non-emergency patients finding a park) to the northwest of the site, including a potential additional vehicular crossing for direct freight vehicle access to the hospitals and Health Enterprise Zone.

The investigation of any additional crossing will be in partnership with NSW Health and supported by the Greater Cities Commission.

5.5 – Minimise growth in car parking supply and better manage existing supply

Implement planning controls with maximum car parking rates for all new developments in Westmead, including residential dwellings, to reflect the increased public transport accessibility.

As surface carparking is repurposed with the redevelopment of the WHID and public transport accessibility increases, progressively reduce employee car parking supply rates and better manage access and pricing of the existing supply (i.e. reduce the number of spaces per employee across the district).

5.6 – Locate new WHID car parking at rear of site

Locate any new WHID staff and hospital visitor (non-emergency) car parking towards the rear of the site, while minimising impact on the creek and active transport links. Prioritise parking availability for concession holders (permits from Westmead Hospital or the Children’s Hospital at Westmead) and emergencies closest to site entrances.

5.7 – Bridge Road upgrade

Upgrade Bridge Road for increased north-south traffic movements and new safe intersection controls, including:

- Upgrade the existing bridge over the rail corridor on Bridge Road – future-proofed to accommodate up to four lanes.
- Upgrade the intersection of Darcy Road with Bridge Road.

5.8 – Multi-modal wayfinding plan

Develop and implement a multi-modal wayfinding plan (physical and digital) throughout the precinct. The wayfinding and signage should:

- Integrate indigenous and European settler historical names and stories of places in Greater Parramatta.
- Recognise the cultural diversity of Greater Sydney with information provided in multiple languages.
- Ensure Westmead is easily navigable by first time travellers.

5.9 – Optimise on-street parking, access and loading in high place-intensity areas

Optimise on-street parking, access and loading by testing and trialling solutions for future competition (for example, e-scooters, bike share and rideshare), and regularly reviewing kerbside management restrictions in high activity areas, such as the transport interchange surrounds.

5.10 – Permeable street network throughout the Parramatta North Precinct

Develop a permeable street network throughout the Parramatta North Precinct, with an additional river crossing and connection to the local road network in North Parramatta. These roads would be appropriately designed for desired traffic function.

5.5 – Car parking supply & management



The NSW Government is undertaking significant public transport investment for Westmead and Greater Parramatta. Additional investment in both active and public transport is also expected over time, in line with the recommendations of this strategy.

This will provide new opportunities for residents, workers and visitors to access the place without using a car; reducing the proportion of vehicle trips to/from Westmead and helping reduce traffic congestion. Subsequently, the amount of parking required per person in Westmead would decrease below today's level.

Some of the potential benefits of this initiative include:

- Reduced growth in car parking provision, which would allow for more productive use of space and re-allocation of funding to build car parks, for other uses such as research labs, commercial spaces, education, local services or public spaces.
- Improve the productivity of existing car parking facilities through efficient parking management, such as smart parking and guidance systems.

5. Implementing the transport strategy

Priorities outlined in this strategy will require further, more detailed investigation and consultation prior to investment decision and government approval. Continued collaboration will be required, with TfNSW working alongside other parties that have a role in planning or implementation. The implementation of major components of this strategy requires the establishment and/or use of existing governance mechanisms.

A robust governance arrangement would also facilitate engagement and consultation by the relevant areas within NSW Government and councils.

5.1 Implementation plan

This Transport Strategy enables TfNSW, local governments, major landowners and developers to implement and deliver the vision for transport in Westmead. Implementation would not be the sole responsibility of TfNSW.

The implementation plan presented on the following pages identifies the following information for each of the initiatives:

- Next step – the immediate next step which needs to be taken by the leading entity to progress the initiative.
- Timeframe – the timeframe within which the initiative is recommended to be delivered, completed or put into effect. This is a recommendation of this strategy, not a guaranteed commitment.
- Lead responsibility – the entity that will lead the development of the initiative, such as through further stakeholder consultation, engagement, design and development.
- Support responsibility – the entity that will support the leading entity, such as through providing advice, input or resources to progress the initiative.





**Strategic Direction 1 –
Support Westmead’s
transformation into a
truly integrated
innovation district**

Timeframe	No.	Initiative Name	Next Step	Responsibility
Short term (0-5 years)	IN1.3	Expand the TfNSW travel behaviour change program	Greater Parramatta Travel Demand Management study	Lead: TfNSW Support: NSW Health, NSW Education, CoPC, CCC
Short term (0-5 years)	IN1.5b	Night-time on-demand transport service trial	Planning for trial by further identification of shift workers' needs	Lead: TfNSW Support: NSW Health
Short term (0-5 years)	IN1.6	Develop a precinct-wide parking strategy	Develop whole of precinct car parking strategy	Lead: TfNSW Support: NSW Health, CoPC, CCC. NSW Education
Short term (0-5 years)	IN1.8	Improve permeability in the Catholic School block	Review of Catholic school masterplan to include new links	Lead: CoPC Support: TfNSW, Catholic Education Diocese of Parramatta
Short to long term (0-15 years)	IN1.1	Implement smart infrastructure and services	Develop a smart infrastructure plan for Westmead	Leads: CCC, CoPC Support: Health Infrastructure
Medium to long term (5-15 years)	IN1.2	Create a sense of arrival with the Sydney Metro station masterplan	Refinement and approval of station masterplan	Lead: TfNSW Support: CCC, CoPC, NSW Health
Medium to long term (5-15 years)	IN1.4	Support electric mobility uptake	Develop EV action plan	Lead: TfNSW Support: DPE, CoPC, CCC, NSW Health
Medium to long term (5-15 years)	IN1.5a	Improve safety of public and active transport	Lighting assessment	Leads: CoPC, CCC Support: DPE, TfNSW
Medium to long term (5-15 years)	IN1.7	Mitigate noise impacts along Bridge Road	Update planning controls for noise mitigation	Leads: CCC, CoPC Support: DPE, TfNSW



**Strategic Direction 2 –
Create vibrant and
safe places, leveraging
the major movement
corridors, parklands
and creeks**

Timeframe	No.	Initiative Name	Next Step	Responsibility
Short term (0-5 years)	IN2.2	Reduced speed limits on local streets	Plan and implement trials of 40km/hr speed limits on local streets. Identify opportunities and trial High Pedestrian Activity Areas with 30km/h speed limits.	Lead: TfNSW Support: CoPC, CCC
Short term (0-5 years)	IN2.6	Trial a School Street	Start planning trial	Lead: NSW Education Support: TfNSW, CCC
Short term (0-5 years)	IN2.7	Improve pedestrian amenity near schools	Design and consult	Leads: CoPC, CCC Support: TfNSW, NSW Education
Short to long term (0-15 years)	IN2.1	Re-imagined Hawkesbury Road	Develop a strategic concept design for Hawkesbury Road	Lead: TfNSW Support: CoPC, CCC, DPE, NSW Health
Short to long term (0-15 years)	IN2.8	Network of landscaped cycling and walking paths	Upon Council approval, include in priority cycle and pedestrian network program	Leads: CoPC, CCC Support: TfNSW, NSW Health
Medium to long term (5-15 years)	IN2.3	Footpath treatments at local intersections	Upon Council approval, integrate into Council asset management and project program	Leads: CoPC, CCC Support: TfNSW
Medium to long term (5-15 years)	IN2.4	Minimise new driveways on high movement corridors	Review planning/development controls	Leads: CoPC, CCC
Medium to long term (5-15 years)	IN2.5	Local street tree plantings	N/A	Leads: CoPC, CCC Support: TfNSW, NSW Health



**Strategic Direction 3 –
Develop sustainable
travel networks that
are permeable and
attractive**

Timeframe	No.	Initiative Name	Next Step	Responsibility
Short term (0-5 years)	IN3.1	Increase pedestrian and cyclist green time and frequency	Review traffic signal control plan	Lead: TfNSW
Short to long term (0-15 years)	IN3.4	Mitigate urban heat island effect	Include design principles in future Council street works projects and renewal programs	Leads: CoPC, CCC Support: TfNSW
Short to long term (0-15 years)	IN3.6	Active transport connections over and along creeks and rivers	Funding and design	Leads: CoPC, CCC Support: TfNSW, NSW Health
Short to long term (0-15 years)	IN3.7	Improve pedestrian and cycling amenity through the WHID	Integration into masterplan	Lead: NSW Health Support: CoPC, CCC, TfNSW
Short to long term (0-15 years)	IN3.9	New active transport network	Funding and design	Leads: CoPC, CCC Support: TfNSW, NSW Health
Medium to long term (5-15 years)	IN3.2	Signalised or priority crossings for pedestrians and cyclists	Funding and design	Lead: TfNSW Support: CCC, NSW Health
Medium to long term (5-15 years)	IN3.3	Improve pedestrian amenity on Hawkesbury Road	Integrate with existing Hawkesbury Road improvement programs such as PLR	Leads: CoPC, CCC Support: TfNSW
Medium to long term (5-15 years)	IN3.5	Improve the safety of Hawkesbury Road bridge	Optioneering and design competition	Lead: TfNSW Support: CoPC, CCC, Sydney Trains
Medium to long term (5-15 years)	IN3.8	Improve regional active transport connectivity	Consultation with Greater Sydney Parklands	Lead: Greater Sydney Parklands Support: CoPC, TfNSW



**Strategic Direction 4 –
Deliver better public
and active transport
options for customers
of all ages and ability**

Timeframe	No.	Initiative Name	Next Step	Responsibility
Short Term (0-5 years)	IN4.3	Frequent, direct and legible public transport connections	Update strategic bus planning to support Westmead connections to the northwest and southwest	Lead: TfNSW
Short term (0-5 years)	IN4.4	Pedestrian connectivity to mass transit	Address issues identified by CoPC's pedestrian audit and providing funding for upgrades. Audit of walking routes to Westmead station from Westmead South	Leads: CoPC, CCC
Short term (0-5 years)	IN4.5	Before and after school traffic management	Develop a traffic signal operation plan	Lead: TfNSW
Short term (0-5 years)	IN4.7	Safe, comfortable and efficient transport interchange hub	Funding and design	Lead: TfNSW
Short term (0-5 years)	IN4.8	Connections to Westmead Public School by walking and cycling	Funding and design	Lead: CCC Support: TfNSW, NSW Education
Medium to long term (5-15 years)	IN4.1	Strategic bus planning for Greater Parramatta	Update strategic bus planning to support Westmead planned growth	Lead: TfNSW
Medium to long term (5-15 years)	IN4.2	T-way to T-way Link	Conduct a pre-feasibility study, leading to a strategic business case	Lead: TfNSW
Longer term (15+ years)	IN4.6	Public and active transport connectivity to Northmead	Parramatta North Program to align with initiative	Lead: CoPC Support: Property NSW, TfNSW



**Strategic Direction 5 –
Enhance the transport
network to optimise
and balance movement**

Timeframe	No.	Initiative Name	Next Step	Responsibility
Short term (0-5 years)	IN5.4	Northwest Westmead Hospital vehicle access for patients, visitors and freight	WHID master planning to be consistent with initiative	Lead: TfNSW Support: NSW Health
Short term (0-5 years)	IN5.5	Minimise growth in car parking supply and better manage existing supply	Develop whole of precinct car parking strategy	Lead: TfNSW Support: NSW Health, CoPC, CCC, NSW Education
Short term (0-5 years)	IN5.6	Locate new WHID car parking at rear of site	Integration into masterplan	Lead: NSW Health Support: TfNSW, CoPC
Short term (0-5 years)	IN5.8	Multi-modal wayfinding plan	Commission the development of a wayfinding plan	Lead: TfNSW Support: CoPC, CCC
Short term (0-5 years)	IN5.9	Optimise on-street parking, access and loading in high place-intensity areas	Integrate with existing Hawkesbury Road improvement programs such as PLR	Leads: CoPC, CCC Support: TfNSW
Medium to long term (5-15 years)	IN5.2	Active transport railway crossings	Funding and design	Lead: TfNSW Support: CoPC, CCC
Medium to long term (5-15 years)	IN5.7	Bridge Road upgrade	Conduct a pre-feasibility study, leading to a business case for intersection upgrade. Develop a corridor program for Bridge Road	Lead: TfNSW Support: CoPC, CCC, Treasury
Longer term (15+ years)	IN5.1	Future mass transit station in the WHID	Integration into WHID masterplan	Lead: TfNSW Support: NSW Health
Longer term (15+ years)	IN5.3	Reduce Westmead's attractiveness to through traffic	Project development for the Parramatta Outer Ring Road program	Lead: TfNSW Support: CoPC, CCC
Longer term (15+ years)	IN5.10	Permeable street network throughout the Parramatta North Precinct	Parramatta North Program to align with initiative	Lead: Property NSW Support: TfNSW

5.2 Measuring success

Implementing this strategy calls for ways to measure progress. Key Performance Indicators that align with the strategic objectives have been established using indicators used in:

- The Pulse of Greater Sydney Performance Indicators 2020 by the GCC.
- Movement and Place: Built Environment Indicators 2022.

These indicators would be used to assess existing baseline conditions and monitor how effectively the strategy objectives are being met over time.

5.3 Next steps

The initiatives identified in this strategy will be considered through detailed planning processes to support the future rezoning of the Westmead Precinct.

Furthermore, alongside the technical analysis, the following planning processes will also be commenced:

- Detailed prioritisation of infrastructure within the short, medium, long and longer-term timeframes, to provide an understanding sequencing and realise the

highest benefit projects first, in accordance with the place objectives.

- Identification or creation of governance structures to ensure decision-making is coordinated and considered by the relevant areas within NSW Government.
- The development of strategic business cases for capital-intensive transport initiatives, such as new walking and cycling links, rail crossings, new bridges, major arterial road upgrades, or new public transit infrastructure. This would confirm any funding allocation decisions are well timed, offer value for money, consider and mitigate risks, allow for testing of alternatives and ensure consistency with NSW Government priorities and objectives.
- Implementation of funding mechanisms through the planning system, such as Regional Infrastructure Contributions and local contribution plans, to manage the costs of new infrastructure required to respond to growth. This would apportion infrastructure costs appropriately between the private and public sectors.
- Where required, the preservation and progressive acquisition of land over time to ensure that future transport infrastructure can be feasibly delivered, with minimal

disruption and impact on the community of the time. Planning authorities should consider the use of planning incentives to facilitate land dedication as sites redevelop over time.



Westmead Place-based Transport Strategy

© October 2022 Transport for NSW. TP275.

Publication Number 22.215

ISBN 978-1-922875-28-0

DISCLAIMER

While all care is taken in producing and publishing this work, no responsibility is taken or warranty made with respect to the accuracy of any information, data or representation. The authors (including copyright owners) and publishers expressly disclaim all liability in respect of anything done or omitted to be done and the consequences upon reliance of the contents of this publication.

Transport for NSW
231 Elizabeth Street
Sydney NSW 2000

transport.nsw.gov.au