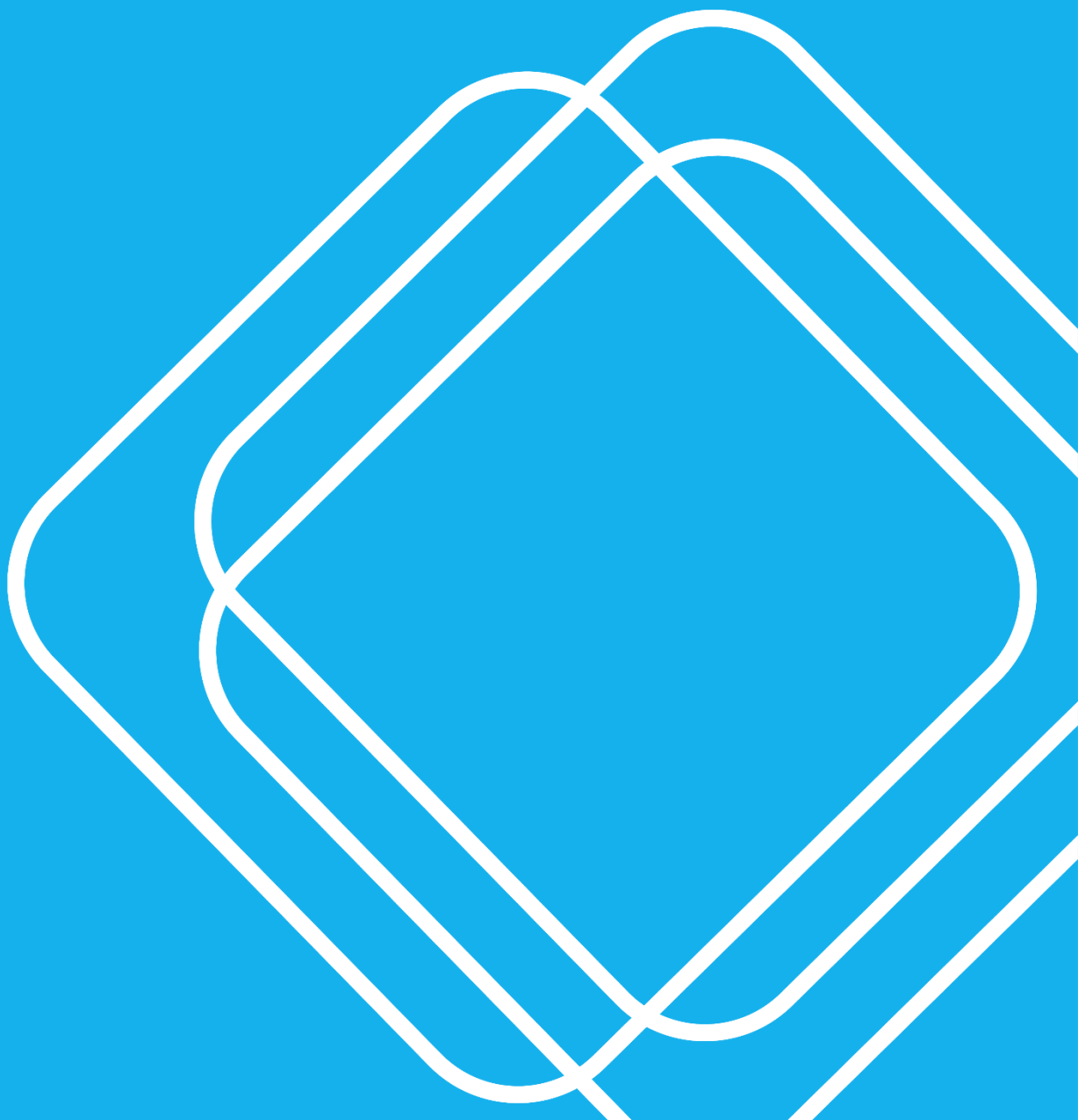
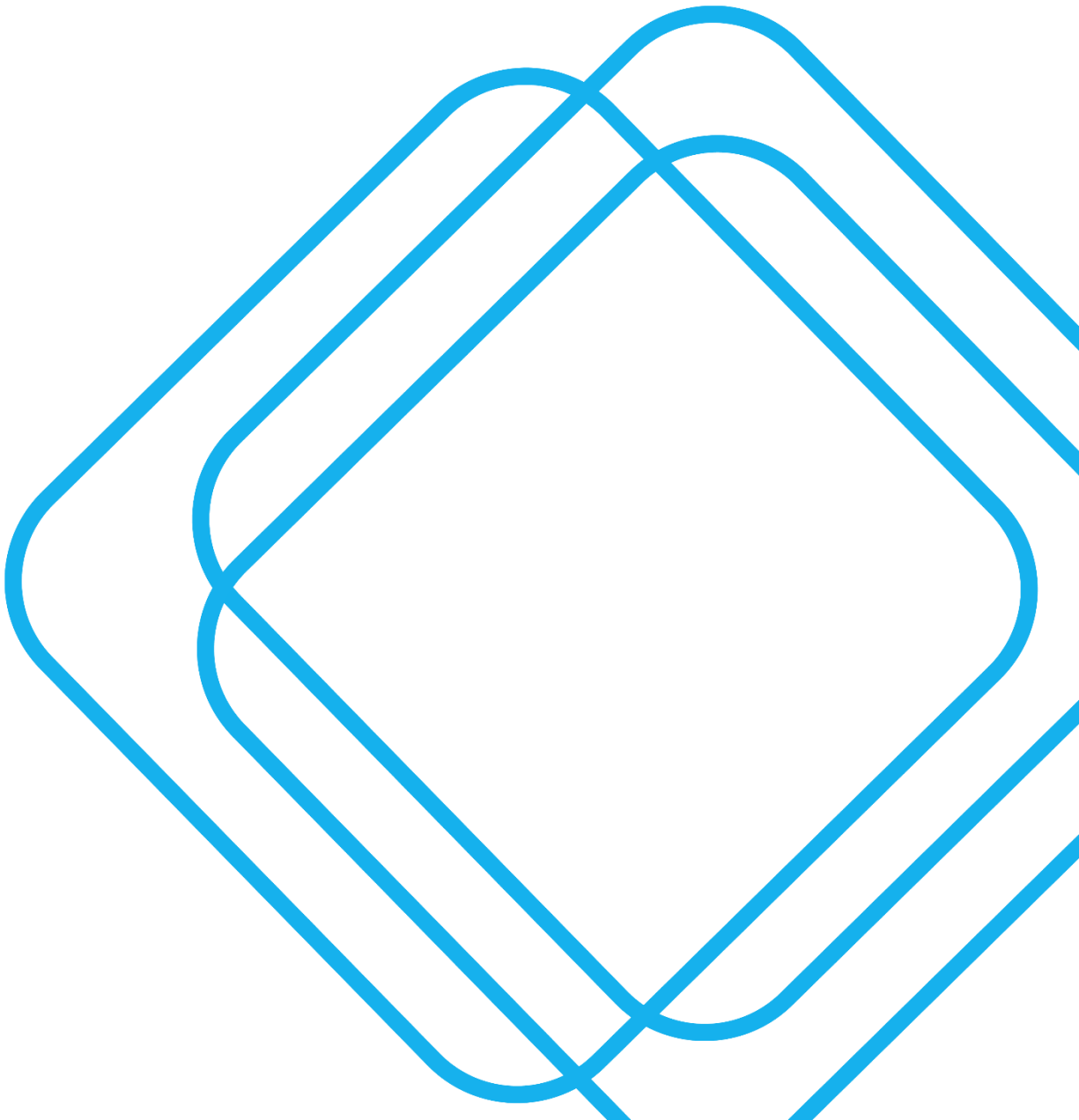
SCT Consulting

REDFERN NORTH EVELEIGH SSP PAINT SHOP SUB-PRECINCT

Transport Strategy and Impact Assessment

JUNE 2022





Quality Assurance

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Prepared by:	SCT Consulting PTY. LTD. (SCT Consulting)	**ABN:**	53 612 624 058

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Prepared:	Ravi Kaberwal, Principal Nick Bernard, Associate Director
Reviewed:	Andy Yung, Director
Authorised:	Seamus Christley, Director

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1.0	8 October 2021	Working draft
2.0	13 October 2021	Working draft
3.0	22 October 2021	Draft report
4.0	12 November 2021	Updated draft report
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6.0	11 April 2022	Final report
7.0	15 June 2022	Response to Adequacy comments
8.0	17 June 2022	Updated figures from other disciplines

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Executive Summary

Background and introduction

In 2008, a Concept Plan was approved for the Redfern North Eveleigh Precinct. The 2008 Concept Plan forms a set of planning controls over the Precinct. Due to significant changes in surrounding areas and the need to meet growth requirements, the renewal approach for the Precinct is being revised.

This State Significant Precinct (SSP) Study proposes amendments to the planning controls applicable to the Paint Shop Sub-Precinct to reflect changes in the strategic direction for the Sub-Precinct. The amendment is being undertaken as a State-led rezoning process, reflecting its status as part of a State Significant Precinct located within the *State Environmental Planning Policy (Precincts - Eastern Harbour City) 2021*.

Vision for the Redfern North Eveleigh Precinct

The Redfern North Eveleigh Strategic Vision, prepared by Transport in 2021, is the first part of the new strategic planning process for the Precinct's renewal. The Vision was developed to:

– Set the vision, key strategic planning and urban design considerations for the Precinct

– Understand and reflect the unique character of the Precinct

– Identify priorities and principles to guide the renewal

– Provide flexibility in the development approach to accommodate changing needs and technology and to account for the renewal evolving over time.

The Vision is:

The Redfern North Eveleigh Precinct will be a connected centre for living, creativity and employment opportunities that support the jobs of the future. An inclusive, active and sustainable place for everyone, where communities gather.

Next to one of the busiest train stations in NSW, the Precinct will comprise a dynamic mix of uses including housing, creative and office spaces, retail, local business, social enterprise and open space. Renewal will draw on the past, adaptively re-using heritage buildings in the Precinct and will acknowledge Redfern's existing character and particular significance to Aboriginal peoples, culture and communities across Australia. The Precinct will evolve as a local place contributing to a global context.

To enable the vision for the Precinct, the following principles were developed, grouped into six key themes:

1. Great place for community
2. Jobs for the future
3. Creative
4. Aboriginal past, present and future
5. Culture and history
6. Connected people and places.

The Precinct is centrally located close to Redfern station, Macdonaldtown station, the Royal Prince Alfred Hospital, Sydney University, the University of Technology, Sydney, South Eveleigh and within the broader Tech Central – a NSW Government commitment to create the biggest innovation and technology hub in Australia.

Alongside Redfern North Eveleigh, Transport is delivering the Central Precinct Renewal, a major urban renewal program in Australia's busiest transport interchange – Sydney's Central Station.

The Vision and Principles will guide future development on the site and inform key considerations in the assessment of future proposals, including the Paint Shop Sub-Precinct.

The proposal

An Urban Design and Public Domain Study has been prepared to establish the urban design framework for the Redfern North Eveleigh Paint Shop Sub-Precinct. The Urban Design and Public Domain Study provides a comprehensive urban design vision and strategy to guide future development of the Sub-Precinct and has informed the proposed planning framework of the SSP Study.

The Urban Design Framework for the Paint Shop Sub-Precinct comprises:

– Approximately 1.4 hectares of publicly accessible open space comprising:
    - A public square – a 7,910 square metre public square fronting Wilson Street
    - An eastern park – a 3,871 square metre park located adjacent to the Chief Mechanical Engineer's Building and the new eastern entry from Platform 1 of the Redfern station
    - Traverser No1 - a 2,525 square metre public square edged by Carriageworks and the Paint Shop.
– Retention of over 90% of existing high value trees.
– An overall greening coverage of 40% of the Sub-Precinct.
– A maximum of 142,650 square metre gross floor area (GFA), comprising:
    - between 103,700 - 109,550 square metres of gross floor area (GFA) for employment and community facility floor space (minimum 2,500 square metres). This will support approximately 6,200 direct jobs on the site across numerous industries including the innovation, commercial and creative sectors.
    - between 33,100 - 38,950 square metres of GFA for residential accommodation, providing for between 381 and 449 new homes (including 15% for the purposes of affordable housing).
– New active transport infrastructure and routes to better connect the Paint Shop Sub-Precinct with other parts of Tech Central and the surrounding localities.
– Direct pedestrian connections to the new Southern Concourse at Redfern station.
– Residential parking rates comprising:
    - Studio at 0.1 per dwelling
    - 1 Bed at 0.3 per dwelling
    - 2 Bed at 0.7 per dwelling
    - 3 Bed at 1.0 per dwelling
– Non-residential car parking spaces (including disabled and car share) are to be provided at a rate of 1 space per 700 square metres of GFA.
– 66 car spaces are designated for Sydney Trains maintenance and operational use.

The key features of the Urban Design Framework, include:

– The creation of a new public square with direct pedestrian access from Wilson Street to provide a new social and urban hub to promote outdoor gatherings that will accommodate break out spaces and a pavilion structure.
– An eastern park with direct access from Redfern station and Little Eveleigh Street, which will provide a high amenity public space with good sunlight access, comfortable wind conditions and community character.
– Upgraded spatial quality of the Traverser No1 yard, retaining the heritage setting, and incorporating complementary uses and good access along Wilson Street to serve as a cultural linkage between Carriageworks and the Paint Shop Building.
– The establishment of an east-west pedestrian thoroughfare with new public domain and pedestrian links.
– A range of Water Sensitive Urban Design (WSUD) features.
– Activated ground level frontages with commercial, retail, food and beverage and community and cultural uses.
– Adaptive reuse of heritage buildings for employment, cultural and community uses.
– New buildings for the Sub-Precinct, including:
    - Commercial buildings along the rail corridor that range between 3 and 26 occupied storeys

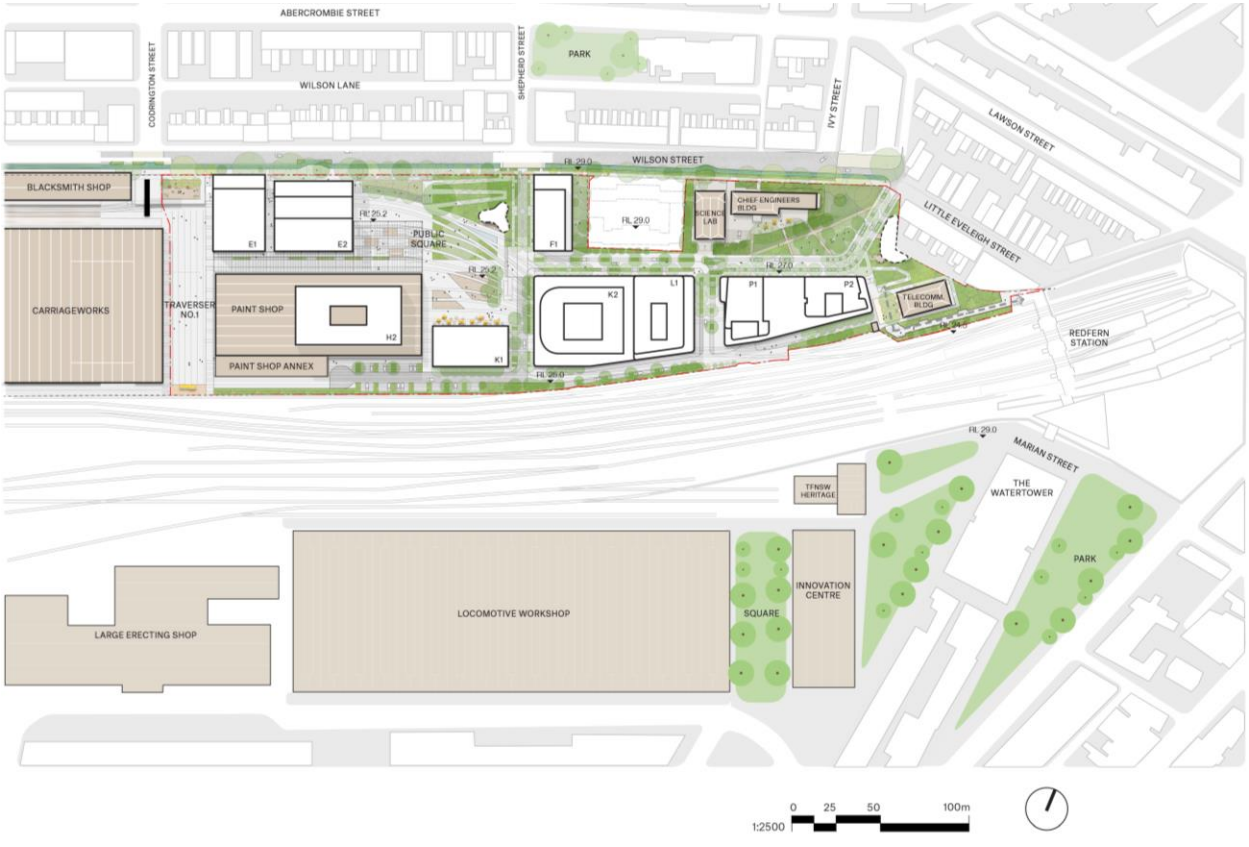
- Mixed use buildings along the rail corridor, comprising a three-storey non-residential podium with residential towers ranging between 18 to 28 occupied storeys
- Mixed use buildings (commercial and residential uses) along Wilson Street with a four-storey street wall fronting Wilson Street and upper levels at a maximum of 9 occupied storeys that are set back from the street wall alignment
- A commercial building on the corner of Wilson Street and Traverser No.1 with a four-storey street wall fronting Wilson Street and upper levels at a maximum of 8 occupied storeys that are set back from the street wall alignment. There is flexibility to allow this building to transition to a mixed-use building with active uses at ground level and residential uses above
- Potential options for an addition to the Paint Shop Building comprising of commercial uses. These options (all providing for the same GFA) include:
    - A 5-storey commercial addition to the Paint Shop Building with a 3m vertical clearance, with the adjacent development site to the east comprising a standalone 3-storey commercial building (represented in **Figure ES-1**)
    - A 3-storey commercial addition to the Paint Shop Building with a 3m vertical clearance which extends and connects to the commercial building on the adjacent development site to the east
    - No addition to the Paint Shop Building, with the adjacent development site to the east comprising a standalone 12-storey commercial building.

– Commotment to a 5 Star Green Star Communities rating, with minimum 5 Star Green Star Buildings rating.

– All proposed buildings are below the Procedures for Air Navigation Services – Aircraft Operations (PANS-OPS) to ensure Sydney Airport operations remain unaffected.

The Indicative Concept Proposal for the Paint Shop Sub-Precinct is illustrated in **Figure ES-1**.

Figure ES–1 Indicative Concept Proposal



Source: Bates Smart, 2022

The transport objectives developed for the Paint Shop Sub-Precinct are:

1. Encourage and facilitate the increased uptake of sustainable modes (rail, walk and cycle) through improved integration, accessibility and permeability.
2. Minimise car-based impacts to surrounding area and network:
    a. Reduction of vehicle trip generation from the North Eveleigh Concept Plan 2008 by at least 40%
    b. Constrained parking provisions on-site (<10% of mode share)
3. Balance the on-street environment to provide:
    a. Permeable, prioritised and safe environment for customers who walk or cycle
    b. Sufficient on-street parking to support mobility-impaired customers, short-turn around parking and on-demand services.
    c. Activation of the street-level environment throughout the day.
    d. Provision of dedicated spaces for freight and point-to-point.

To align with these transport objectives and to take full advantage of the site's proximity to Redfern station and its current upgrade of the Southern Concourse, while minimising the reliance on private vehicle trips, a set of aspirational mode share targets has been developed in consultation with the City of Sydney.

Table ES-1 presents the existing travel mode shares for the surrounding area (Redfern-Chippendale SA2 and South Eveleigh) and the 2008 approved mode share targets for the overall Redfern North Eveleigh Precinct compared to the proposed mode share targets for the Paint Shop Sub-Precinct. The general trend is a reduction in the car mode share target and an increase in the rail and active transport mode share targets.

To support the aspirational mode share targets and the objective to achieve a maximum 10 per cent private vehicle mode share target, it is the intent to constrain the car parking provision rate for the Sub-Precinct. The approved cap of 786 spaces for the Sub-Precinct has been further reduced even though the development GFA has increased. The parking rates proposed for the Sub-Precinct would be reduced from the 2008 Concept Plan approved rates.

Table ES-1 Existing mode share and proposed mode share targets

Mode	Existing (2016 JTW) Redfern-Chippendale SA2		South Eveleigh 2021	Approved RNE Concept Plan (2008) *	Proposed Paint Shop Sub-Precinct	
	Inbound	Outbound			Residential	Non-Residential
Walk	10%	24%	12%	10%	30%	20%
Cycle	3%	5%		5%	10%	10%
Rail	42%	30%	54%	42%	47%	62%
Bus	7%	13%	16%	3%	3%	3%
Total non-vehicle	***62%***	***72%***	***82%***	***60%***	***90%***	***95%***
Vehicle	***36%***	***22%***	***18%***	***40%***	***10%***	***5%***
Other	2%	6%	-	-	-	-
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

* Note: It is assumed that the approved mode share targets for the Precinct will continue to be applied to the Clothing Store and Carriageworks Sub-Precincts

Travel demand and associated impacts

An assessment of the proposed changes and any potential impacts that may result within and surrounding the Paint Shop Sub-Precinct was undertaken.

– Due to the proximity of Redfern station, the proposed rail mode share for the Sub-Precinct (47 per cent for residential and 62 per cent for non-residential) is forecast to be higher than the 2008 approved rail mode share (42 per cent), with a corresponding increase in rail trips. About 2,800 people are forecast to enter and exit the Sub-Precinct in the AM peak hour by rail.

  Over 120 train services operate through Redfern station during peak hours, with significant spare capacity on outbound services from Central Station. Although the planned Sydney Metro West will not stop at Redfern station, it provides an attractive alternative for citybound customers, which will likely provide additional capacity on Sydney Trains services via Redfern.

  There is forecast to be sufficient capacity at Redfern station to accommodate the increased number of trips, with the New Southern Concourse, currently under construction, providing a new station entrance on Little Eveleigh Street, an upgraded station entrance on Marian Street and a pedestrian bridge between the two with easy access to platforms 1 to 10 via new stairs and lifts, improving connections between the station and surrounding area, as well providing increased capacity.

– About 950 people are forecast to enter and exit the Sub-Precinct in the AM peak hour by walking. While this is an increase from the 2008 approved scheme, the internal pedestrian network has been designed to always accommodate pedestrians in a comfortable environment (Level of Service C or better).

  The impact on the external walking network is spread throughout the surrounding walkable network, and hence would not significantly change the environment in an adverse way. A key requirement for minimising the impact to Little Eveleigh Street residents is ensuring that most of the people moving between Redfern station and the Sub-Precinct use the direct access via Platform 0 through to the precinct. The connection should be designed as an attractive, convenient and spacious environment with clear wayfinding to attract customers from the natural desire line along Little Eveleigh Street.

– About 450 people are forecast to enter and exit the Sub-Precinct in the AM peak hour by riding. While this is an increase from the 2008 approved scheme, the Sub-Precinct is served by existing cycling connections, including a dedicated facility along Wilson Street, adjacent to the site. It is proposed that the Sub-Precinct cycle routes would integrate with the existing adjacent facilities, especially on Wilson Street, and it is considered that the surrounding cycle network would be able to accommodate this increase.

– Compared to the approved 2008 Concept Plan, there is forecast to be a 47 per cent reduction in peak hour vehicle trips from the Precinct – the 2008 Concept Plan was forecast to generate 880 peak hour vehicle trips, while the new proposal is forecast to generate 470 peak hour vehicle trips, of which the Paint Shop Sub-Precinct is forecast to generate 240 peak hour vehicle trips. Adding in point-to-point vehicles, which would enter and leave in the same hour, increases this forecast generation to 320 peak hour vehicle trips.

– This reduction is due to the lower trip rates adopted based on the parking rate rather than the gross floor area of the development, which is considered more appropriate given the constrained parking supply. Therefore, a reduced impact on the road network is forecast compared to what was approved in the 2008 Concept Plan.

  As current traffic and travel patterns are impacted by Covid-19 restrictions, it would not be appropriate to undertake traffic surveys now. The proposed approach, supported by the City of Sydney, is to submit the Planning Approval without traffic modelling. Traffic surveys and modelling will be undertaken and reported on in the Response to Submission phase, on the assumption that travel patterns have returned to something close to a pre-Covid normal. The modelling will confirm if any additional upgrades are required above those contained in the 2008 Concept Plan approval.

Conclusion

This report presents the Transport Strategy and Impact Assessment of the proposed changes to, and the potential impacts that may result within and surrounding, the Paint Shop Sub-Precinct. A vision and validate approach to the Precinct and adjacent street network has been used to develop a street user hierarchy, including movement and place considerations.

The conclusion is that the Transport and Pedestrian Management Modifications, the Transport and Traffic Statement of Commitments and the Construction Management Statement of Commitments contained in the 2008 Concept Plan Approval are suitable for the revised renewal approach for the Sub-Precinct, with the exception of the proposed changes contained in **Table ES-2**.

Table ES-2 Proposed changes to 2008 Concept Plan Approval

<table>
<tr><th colspan="2">2008 Concept Plan Approval</th><th colspan="2">Proposed changes (key changes underlined)</th></tr>
<tr><td colspan="4">Schedule 2 Recommended modifications to Concept Plan Approval</td></tr>
<tr><td colspan="2">Part A1 Development Description
(3) A maximum of 1,800 car parking spaces to service the mix of uses, including retention of existing car parking spaces allocated to the Carriageworks and Blacksmiths' Shop buildings, with the final amount to be determined at the detailed design stages using the following maximum car parking rates:</td><td colspan="2">Part A1 Development Description
(3) A maximum of 1,514 car parking spaces to service the mix of uses, including retention of existing provison of 66 parking spaces for Sydney Trains maintenance and operational use and retention of existing car parking spaces allocated to the Carriageworks and Blacksmiths' Shop buildings, with the final amount to be determined at the detailed design stages using the following maximum car parking rates:</td></tr>
<tr><td>Residential</td><td>Maximum car parking rate</td><td>Residential</td><td>Maximum car parking rate</td></tr>
<tr><td>Studio apartment</td><td>0.25 spaces / dwelling</td><td>Studio apartment</td><td>0.1 spaces / dwelling</td></tr>
<tr><td>1-bedroom apartment</td><td>0.50 spaces / dwelling</td><td>1-bedroom apartment</td><td>0.3 spaces / dwelling</td></tr>
<tr><td>2-bedroom apartment</td><td>1.2 spaces / dwelling</td><td>2-bedroom apartment</td><td>0.7 spaces / dwelling</td></tr>
<tr><td>3+ bedroom apartment</td><td>2 spaces / dwelling</td><td>3+ bedroom apartment</td><td>1 space / dwelling</td></tr>
<tr><td>Other</td><td></td><td>Other</td><td></td></tr>
<tr><td>Commercial, retail and cultural uses</td><td>1 space / 125m^2</td><td>Commercial, retail and cultural uses</td><td>1 space / 700m^2</td></tr>
<tr><td>New commercial / cultural uses (involving additional GFA) within the Carriageworks Building and the Blacksmiths' Shop Building</td><td>1 space / 125m^2</td><td>New commercial / cultural uses (involving additional GFA) within the Carriageworks Building and the Blacksmiths' Shop Building</td><td>1 space / 125m^2</td></tr>
<tr><td colspan="2">Part B3 Transport and Pedestrian Management
(1) (a) Identification of measures to support the achievement of a maximum of 40% mode share to car. The measures proposed should be to the satisfaction of the Ministry of Transport and may include enhancements to public transport, changes in parking allocation and /or pedestrian infrastructure, policy initiative or behaviour change programs.
(b) Detailed modelling of critical local and regional intersections are to be calibrated and reviewed in consultation with the RTA and Council. Trip generation, mode split assumptions and modelling methodology would also need to be undertaken in consultation with the RTA and Ministry of Transport. Both AM and PM peaks are to be modelled to determine the impact of any proposed works on intersection operation.</td><td colspan="2">Part B3 Transport and Pedestrian Management
(1) (a) Identification of measures to support the achievement of a maximum of 10% mode share to car. The measures proposed should be to the satisfaction of Transport for NSW and may include enhancements to public transport, changes in parking allocation and /or pedestrian infrastructure, policy initiative or behaviour change programs.
(b) Detailed modelling of critical local and regional intersections are to be calibrated and reviewed in consultation with Transport for NSW and Council. Trip generation, mode split assumptions and modelling methodology would also need to be undertaken in consultation with Transport for NSW. Both AM and PM peaks are to be modelled to determine the impact of any proposed works on intersection operation.</td></tr>
<tr><td colspan="4">Schedule 3 Proponent's Statement of Commitments</td></tr>
<tr><td colspan="2">– Access and Road Works
• The associated Road application will be submitted to the Roads and Traffic Authority or the relevant roads authority
• Undertaking detailed designs for the intersection improvement works identified in the Traffic Impact Assessment, prepared by Parsons Brinckerhoff</td><td colspan="2">– Access and Road Works
• The associated Road application will be submitted to Transport for NSW or the relevant roads authority
• Undertaking detailed designs for the intersection improvement works identified in the Traffic Impact Assessment prepared by SCT Consulting</td></tr>
</table>

2008 Concept Plan Approval	Proposed changes (key changes underlined)
– **Pedestrians and Cyclists** • Providing secure bicycle facilities in accordance with the provisions of the *South Sydney DCP No.11 Transport Guidelines for Development 1996*	– **Pedestrians and Cyclists** • Providing secure bicycle facilities in accordance with the provisions of the *City of Sydney Development Control Plan 2012*

1.0 Introduction

1.1 Context

SCT Consulting was engaged by Transport for NSW (Transport) to carry out a Transport Strategy and Impact Assessment for the Paint Shop Sub-Precinct within the Redfern North Eveleigh Precinct.

The NSW Government is investing in the renewal of the Redfern North Eveleigh Precinct to create a unique mixed-use development, located within the important heritage fabric of North Eveleigh. The strategic underpinning of this proposal arises from the Greater Sydney Region Plan and District Plan. These Plans focus on the integration of transport and land use planning, supporting the creation of jobs, housing and services to grow a strong and competitive Sydney.

The Redfern North Eveleigh Precinct is one of the most connected areas in Sydney, and will be a key location for Tech Central, planned to be Australia's biggest technology and innovation hub. Following the upgrading of Redfern station currently underway, the Precinct's renewal is aimed at creating a connected destination for living and working and an inclusive, active and sustainable place around the clock.

The Redfern North Eveleigh Precinct comprises three Sub-Precincts, each with its own distinct character:

– The Paint Shop Sub-Precinct which is the subject of this rezoning proposal

– The Carriageworks Sub-Precinct, reflecting the cultural heart of the Precinct where current uses will be retained

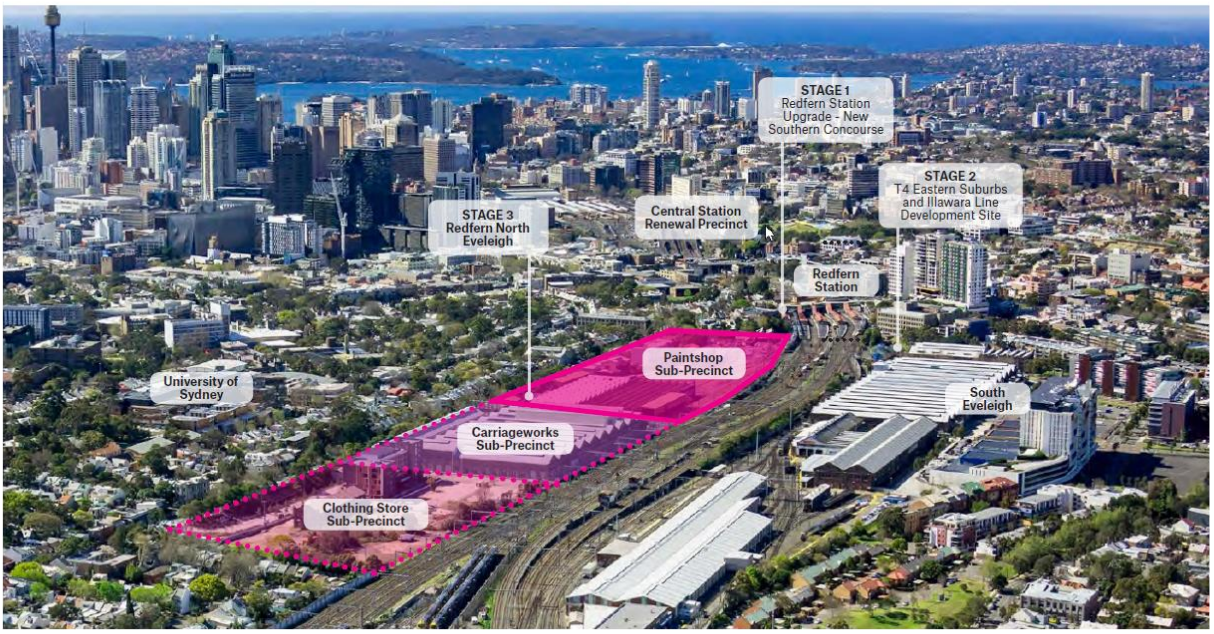
– The Clothing Store Sub-Precinct which is not subject to this rezoning proposal.

This State Significant Precinct (SSP) Study proposes amendments to the planning controls applicable to the Paint Shop Sub-Precinct to reflect changes in the strategic direction for the Sub-Precinct. The amendment is being undertaken as a State-led rezoning process, reflecting its status as part of a State Significant Precinct located within the *State Environmental Planning Policy (Precincts - Eastern Harbour City) 2021*.

The amended development controls will be located within the City of Sydney Local Environmental Plan. Study Requirements were issued by NSW Department of Planning and Environment (DPE) in December 2020 to guide the investigations to support the proposed new planning controls.

The Paint Shop Sub-Precinct in the context of the Redfern North Eveleigh SSP is shown in **Figure 1–1**.

Figure 1–1 Location of Redfern North Eveleigh SSP and Paint Shop Sub-Precinct



Source: Transport for NSW, 2021

Transport is also undertaking a program of works within the area, associated with this Precinct renewal:

– Stage 1 Redfern station Upgrade - New Southern Concourse: the provision of easy access to platforms 1 to 10 via new stairs and lifts, improving connections between the station and key destinations in the area, which is currently underway.

– Stage 2 T4 Eastern Suburbs & Illawarra Line Development site: investigation to provide access to underground platforms 11 and 12 through divestment of land above the T4 Eastern Suburbs & Illawarra Line.

– Stage 3 Redfern North Eveleigh Precinct Renewal: about 10 hectares located immediately southwest of Redfern station, comprising the former Eveleigh Railway Yards and the subject of this Strategic Vision.

Alongside Redfern North Eveleigh, Transport is delivering the Central Precinct Renewal, a major urban renewal program in Australia's busiest transport interchange. On the western fringe of Central Precinct will be the headquarters of Australia's largest tech company, Atlassian.

Together, the Renewal projects will revitalise 34 hectares of the city (24 hectares at Central Precinct and 10 hectares at Redfern North Eveleigh), creating a significant investment and one of the biggest government-led urban renewal projects in Australia.

1.2 Planning background

In 2008, a Concept Plan was approved for the Precinct following a design competition. The 2008 Concept Plan forms a set of planning controls over the Precinct. Due to significant changes in surrounding areas and the need to meet growth requirements, the renewal approach for the Precinct is being revised.

This State Significant Precinct (SSP) Study proposes amendments to the planning controls applicable to the Paint Shop Sub-Precinct to reflect changes in the strategic direction for the Sub-Precinct. The amendment is being undertaken as a State-led rezoning process, reflecting its status as part of a State Significant Precinct located within the *State Environmental Planning Policy (Precincts - Eastern Harbour City) 2021*.

The amended development controls will be located within the City of Sydney Local Environmental Plan. Study Requirements were issued by NSW Department of Planning and Environment (DPE) in December 2020 to guide the investigations to support the proposed new planning controls.

1.3 Purpose of this study

The purpose of this report is to provide a detailed Transport Strategy and Impact Assessment of the proposed changes and consider any potential impacts that may result within and surrounding the Paint Shop Sub-Precinct. This report addresses Study Requirement 7. Transport.

The relevant study requirements, considerations and consultation requirements, and location of where these have been responded to is outlined in **Table 1-1**.

Table 1-1 Study requirements, considerations and consultation requirements

Ref.	Study requirements	Relevant section(s) of this report
Scope and requirement		
7.1	Prepare a comprehensive Transport Strategy and Transport Impact Assessment for the precinct that:	
	– Identifies the existing situation, including constraints, opportunities and key issues;	Section 3.1 to 3.9
	– Reviews the trip generating potential for all proposed modes and purposes, develops mode share targets and measures to achieve these targets;	Section 4.3, 4.5, 4.6, 4.7 and 4.8
	– Provides an understanding of the travel behaviours and patterns (all modes) of future workers, visitors and residents of the proposal through benchmarking, forecast modelling tools and other sources of evidence;	Section 3.8, 4.6 and 4.8
	– Identifies and assesses the impacts resulting from the proposal with an appropriate level of pedestrian and traffic analysis;	Section 5.1 to 5.5

Ref.	Study requirements	Relevant section(s) of this report
	– Provides details of the proposed transport strategy including, any necessary transport infrastructure and servicing improvements; the proposed approach to pedestrian and bicycle facilities, car parking; and access and egress requirements; and	Section 4.4, 4.7 and 4.8
	– Informs and supports the preparation of the proposed planning framework including any recommended planning controls or DCP/Design Guideline provisions that would deliver an appropriate planning outcome.	Section 5.6

Considerations

The Study is to demonstrate consideration of:

- A "vision and validate" approach to the precinct and adjacent street network to develop a street user hierarchy, including movement and place considerations, for the precinct;
- Inclusion of pedestrian analysis at development and station access/egress points, at intersections with the road network along key desire lines;
- Measures to safeguard future transport infrastructure and traffic changes (for example any planned/future road closures, pedestrianised street sections, one way/ two-way traffic operation etc. to the adjacent transport network);
- The overall interchange function of the precinct, with priority to pedestrian access, safety, connectivity, wayfinding and signage;
- Limitation of parking and overall reduction in vehicular traffic;
- Access to key destinations and infrastructure in the local area, in particular schools, universities, community facilities and other local services;
- The safety of all road users, in particular pedestrians and cyclists;
- The performance of the existing and future cycling, public transport and road network surrounding the precinct, including potential improvements;
- Cumulative growth of the surrounding area based on committed and planned developments (such as development of Tech Central) and proposed infrastructure (such as WestConnex and associated projects);
- The role of shared vehicles in managing travel demand and implementation of shared vehicle solutions;
- Potential impacts of construction traffic including a strategic construction approach and potential staging;
- Access for people with disability, older people, pram users and people travelling with luggage;
- Bus stops, cycle parking areas, kerbside areas for 'kiss and ride' and day and late-night taxis (including secure taxi rank/PtP); and
- Integration with the cycle network, including consideration of direct and safe cycle ways along Wilson Street and provision of end of trip facilities.

Consultation

Consultation with the City of Sydney and the Greater Sydney Commission should be undertaken.

The City of Sydney should be consulted with, and agreement sought from City of Sydney and DPIE, on the methodology for the study.

Specific consultation should be undertaken with the City of Sydney in relation to its forthcoming Sydney 2050 reference document and on key matters such as mode share targets and study methodology.

Details of consultation undertaken can be found in ***Section 6****.*

Source: Department of Planning, Industry and Environment, December 2020 with responses by SCT Consulting, 2021

1.4 Report structure

This report has been structured as follows:

– **Section 2** considers the relevant transport planning context.

– **Section 3** describes the existing transport conditions for all modes of transport.

– **Section 4** presents the proposed development and its access strategy, as well as the parking requirements and the likely trip generation as a result of the proposed development.

– **Section 5** discusses the likely cumulative impacts for all transport modes and parking as a result of the proposed development.

– **Section 6** presents the consultation undertaken

– **Section 7** summarises the report content and presents the final conclusions.

2.0 Transport policy and planning context

A review of regional and local strategic documents was undertaken to identify relevant implications for the Precinct, including the Paint Shop Sub-Precinct. This section provides a summary of the key transport policy and planning context relevant for traffic and transport infrastructure and services to support the proposal. More detail on each document is provided in **Appendix A**.

The review covered:

– Key regional and district strategies

– Key precinct and local strategies

– Redfern North Eveleigh Precinct Vision and Principles

– Sydney Local Environmental Plan 2012 and City of Sydney Development Control Plan 2012

– North Eveleigh Concept Plan 2008 Approval Conditions.

Specific traffic and transport infrastructure and services discussed in the strategic documents may not service the site, and hence only relevant considerations for the precinct are documented. The specific traffic and transport infrastructure and services proposed to service the Sub-Precinct are discussed in **Section 4.0**.

2.1 Key regional / district strategies

The regional / district strategy documents reviewed, along with the implications for the Paint Shop Sub-Precinct, are summarised in **Table 2-1**. Some of the strategic transport objectives from these documents include:

– The development of a three-city metropolis for Greater Sydney by investing in transport infrastructure that provides high frequency and high-volume access to, and connectivity between, each of the three cities, while enhancing local amenity.

– Investment in transport infrastructure that is integrated with land use to create opportunities for agglomeration and enhance productivity, liveability and accessibility, in support of the policy goal of a '30-minute city'.

– Further development of the Sydney rail network with new rail links and system-wide upgrades.

– Development of extensive on-road rapid transit networks and active transport links to support the mass transit system.

– The development of regional hubs by enhancing their accessibility and connectivity via major north-south and east west links.

– Encouragement of travel patterns that are tailored to the capacity of the network and help to manage congestion with mobility pricing reform and demand management initiatives.

– Re-allocation of road space in key commuter corridors to give priority to the most productive and sustainable transport modes, improve the integration of services across modes, remove network bottlenecks and upgrade operational systems and infrastructure.

Table 2-1 Summary of regional / district strategy implications

Regional / district strategy	Implications for the Paint Shop Sub-Precinct
Greater Sydney Regional Plan: A Metropolis of Three Cities	The Eastern Economic Corridor from Macquarie Park to Sydney Airport, within which the Sub-Precinct is located, is the State's largest economic asset – contributing two-thirds of NSW's economic growth in the 2015-16 financial year. The corridor has strong financial, professional, health, education and innovation sectors. The Eastern Harbour City has significant rail projects underway aimed at increasing its global competitiveness, boosting business-to-business connections and attracting skilled workers with faster commuting times. Sydney Metro City & Southwest will connect to Chatswood and Sydenham-Bankstown, while Sydney Metro West will provide faster and more frequent trips to and from Greater Parramatta.

Regional / district strategy	Implications for the Paint Shop Sub-Precinct
State Infrastructure Strategy (SIS) 2018-2038	For the Eastern Harbour City, the SIS aims to improve access to international gateways, mass transit connections to the CBD (especially from the west and southeast), active transport, cultural infrastructure and provide more educational learning spaces. The SIS recognises that urban renewal will occur to the south and west of the city – in the Central to Eveleigh Precinct, within which the Sub-Precinct is located – and The Bays Precinct.
Eastern City District Plan	The Eastern City District Plan is a 20-year plan to manage growth in the context of economic, social and environmental matters to achieve the 40-year vision for Greater Sydney. It contains the planning priorities and actions for implementing the Greater Sydney Region Plan. The Plan directs the Camperdown–Ultimo Collaboration Area to upgrade the public domain with place-making initiatives, improve transport, walking and cycling connections between key hubs, particularly in response to student and job growth.
Future Transport Strategy 2056	Future Transport 2056 is a 40-year strategy, supported by plans for regional NSW and for Greater Sydney. The vision for Greater Sydney, where people can access the majority of jobs and services within 30 minutes, will require a sustained and staged investment program to protect corridors and then develop an integrated transport system that includes city-shaping, city-serving, centre-serving and strategic freight networks. The transport networks are proposed to expand to provide improved access to each metropolitan centre, including the safe and reliable movement of freight. These networks will be progressively developed through a range of infrastructure investments that will make key improvements to the city-shaping and road networks as well as upgrade local roads, walking and bicycle paths, as detailed in the Greater Sydney Services and Infrastructure Plan.
Greater Sydney Services and Infrastructure Plan	Building on the transport outcomes identified in Future Transport Strategy 2056, the Plan establishes the specific outcomes transport customers in Greater Sydney can expect and identifies the policy, service and infrastructure initiatives to achieve these. The plan defines the network required to achieve the service outcomes.
Better Placed: Aligning Movement and Place	This outline introduces the Movement and Place Framework and sets out a better approach to aligning movement and place in the design, planning, construction and operation of NSW's overall transport network. The plan aims to facilitate and encourage sustainable transport modes including walking, cycling and public transport and minimising the space dedicated to vehicle movement
Practitioners Guide to Movement and Place	This guide provides practitioners with a collaborative, iterative process that can guide consultation, analysis, decision-making, and evaluation throughout the life cycle of a plan or project. It details the importance of considering the whole street, which includes people walking and cycling, as well as people spending time in places.
Road User Allocation Policy	By implementing this Policy, Transport ensures that the allocation of road user space is a deliberate exercise that considers the place, function and movement requirements of roads to achieve the strategic intent and outcomes as set out in state-wide, metropolitan and regional strategies and plans. An action that assists in achieving these objectives is to optimise how space is allocated throughout the day, week or year, including the dynamic control of space, access, level of priority, speed and kerbside use through signage, signals, and other technology. It also notes that when allocating road user space based on the network vision and road functions, we should consider all road users in order of: walking (including equitable access for people of all abilities); cycling (including larger legal micro-mobility devices); public transport; freight and deliveries; and point to point transport ahead of general traffic and on-street parking for private motorised vehicles.

2.2 Key precinct / local strategies

The precinct / local strategy documents reviewed, along with the implications for the Paint Shop Sub-Precinct, are summarised in **Table 2-2**. Some of the transport implications from these documents include:

- Within the Central to Eveleigh corridor, the NSW Government has committed to creating a globally competitive innovation and technology precinct. Top priorities for the Central to Eveleigh Urban Transformation Strategy include the upgrade of Central Station and improvements to Redfern station, which are currently underway. The transformation efforts will provide a platform for better physical connections across the rail corridor, better collaboration between industry and higher education, and greener, more walkable neighbourhoods.
- The Precinct will support innovation, collaboration and jobs for the future as part of the NSW government's commitment to facilitate a technology hub at Tech Central. Stretching from Central Station to Camperdown, Tech Central will house start-ups, scale-ups and innovation ecosystem partners. Tech Central will also create great public spaces improving walking and cycling connections as part of urban renewal projects in the Precinct.
- The Precinct is served by major city-shaping assets including the heavy rail system, with Central and Redfern transport interchanges serving the T1 North Shore & Western Lines, T2 Inner West & Leppington Line, T3 Bankstown Line, T4 Eastern Suburbs & Illawarra Line and T8 Airport & South Line; and Central Station serving existing and new light rail services and the proposed Sydney Metro City & Southwest line.
- Transport is undertaking a program of works within North Eveleigh, associated with this Precinct renewal:
    - Stage 1 Redfern station Upgrade - New Southern Concourse: the provision of easy access to platforms 1 to 10 via new stairs and lifts, improving connections between the station and key destinations in the area. This is currently underway.
    - Stage 2 T4 Eastern Suburbs & Illawarra Line Development site: investigation to provide access to underground platforms 11 and 12 through divestment of land above the T4 Eastern Suburbs & Illawarra Line
    - Stage 3 Redfern North Eveleigh Precinct Renewal: About 10 hectares located immediately south-west of Redfern station, comprising the former Eveleigh Railway Yards and the subject of this Strategic Vision
- Transport is focused on completing key missing links in the bicycle network within 10 kilometres of metropolitan centres and establishing the Principal Bicycle Network (PBN).
- The Sustainable Sydney 2030 and Community Strategic Plan has set a target of increasing trips to work using public transport by 80 per cent for both residents of the city and those travelling to the city from elsewhere.
- The Disability Action Plan aims to review the current provision of mobility parking spaces in the City of Sydney and develop strategies to maximise the access and inclusion outcomes associated with mobility parking. It also intends to continue to provide information about the locations of mobility parking spaces in the City and include additional information about their features.
- The City of Sydney Cycling Strategy and Action Plan 2018-2030 outlines actions include completing the 11 regional bike routes and the local bike network, as well as improving the safety and access within the precinct.
- Similarly, the City of Sydney Walking Strategy and Action Plan 2015-2030 sets various short-, medium- and long-term actions to improve overall walkability and pedestrian priority.

Table 2-2 Summary of precinct / local strategy implications

Precinct / local strategy	Implications for the Paint Shop Sub-Precinct
Central to Eveleigh Urban Transformation Strategy	The Strategy demonstrates the contribution that the urban transformation of government-owned land can make to realising public benefit in the Central to Eveleigh area. Top priorities for the Strategy are the upgrade of Central Station and potential improvements to Redfern station (currently underway). The transformation efforts will provide a platform for better physical connections across the rail corridor, better collaboration between industry and higher education, and greener, more walkable neighbourhoods. Particularly, North Eveleigh could provide new homes close to community facilities and cultural, education and work opportunities while retaining its important role in the operation of the rail network.

Precinct / local strategy	Implications for the Paint Shop Sub-Precinct
Tech Central	Tech Central is an innovation and technology precinct that has investment from the NSW Government to provide up to 250,000 square metres of affordable space for start-ups and scale-ups to provide the building blocks for the creation of the biggest technology hub in Australia. The Tech Central Precinct encompasses the Redfern North Eveleigh Precinct, including the Paint Shop Sub-Precinct.
Collaboration Area Camperdown-Ultimo Place Strategy	The Camperdown–Ultimo Collaboration Area stretches from Camperdown to Ultimo and covers Darlington and Eveleigh, most of Haymarket, Ultimo and Camperdown and parts of Glebe, Forest Lodge, Newtown, Redfern and Surry Hills. The Strategy defines the collaboration area as Australia's innovation and technology capital by 2036. It provides accessible public transport, walking and cycling to guide growth and change. Additionally, Transport is focused on completing key missing links in the bicycle network within 10 kilometres of metropolitan centres and establishing the Principal Bicycle Network
City Plan 2036: Local Strategic Planning Statement	This Local Strategic Planning Statement reinforces the links between the NSW Government's strategic plans and the City's community strategic plan, Sustainable Sydney 2030, and the planning controls that guide development in the city. It recognises that Redfern is part of the Innovation Corridor and acknowledges that the area has experienced strong employment growth and will continue to do so.
Sustainable Sydney 2030 and Community Strategic Plan	Sustainable Sydney 2030 expresses the community's vision to plan a green, global and connected city. This strategy sets a target of increasing trips to work using public transport by 80 per cent, for both residents of the city and those travelling to the city from elsewhere. It also aims to allow at least 10 per cent of total trips to be cycling and 50 per cent by pedestrian movement. The plan emphasises the importance of providing enough footpath space for people to walk comfortably and intersections that function efficiently for all users.
A City for All Inclusion (Disability) Action Plan 2017-2021 (City of Sydney)	This plan includes a series of actions designed to actively address barriers faced by people with disability in all age groups. The plan aims to review the current provision of mobility parking spaces in the City of Sydney and develop strategies to maximise the access and inclusion outcomes associated with mobility parking. It also intends to continue to provide information about the locations of mobility parking spaces in the City and include additional information about their features.
Central Sydney Planning Framework 2016 – 2036 (City of Sydney)	The Framework is a growth strategy that revises a number of previous planning controls and aims to deliver on the Sustainable Sydney 2030 program for a green, global and connected city. The Framework outlines 10 key moves and aims to balance the opportunities for development to meet the demand of population growth to 2036 and beyond with the changing needs of workers, residents and visitors. The key changes proposed seek to facilitate amendments to controls that govern additional height and density in suitable locations, and broadly opportunities to unlock additional capacity for economic and employment growth, as well as ensuring that new development achieves design excellence.
Connecting Our City: Transport Strategy and Action Plan (City of Sydney)	The Transport Strategy and Action Plan is a framework for action by the Council and Government to improve transport and access to better connect our City. Following the Sustainable Sydney 2030, this plan addresses concerns related to transport and access. In relation to the Precinct, the plan proposes that the NSW Government examines the options for a new rail station at Waterloo on the Green Square line, to provide improved access to the Redfern-Waterloo Development and to the Australian Technology Park at Redfern.
City of Sydney Cycling Strategy and Action Plan 2018-2030	The City of Sydney Cycling Strategy and Action Plan proposes the next steps of integrating Sydney's cycling network. It outlines actions include completing the 11 regional bike routes and the local bike network, as well as improving the safety and access within the Central to Eveleigh Precinct.

Precinct / local strategy	Implications for the Paint Shop Sub-Precinct
City of Sydney Walking Strategy and Action Plan 2015-2030	The City of Sydney supports walking as a mode of transport to meet the environmental, economic and social objectives set in Sustainable Sydney 2030 and Connecting Our City. This strategy includes targets based on a review of trends and forecasts and sets various short-, medium- and long-term actions to improve overall walkability and pedestrian priority
Legible Sydney – Wayfinding Strategy	The overall objective of this Strategy is to develop a Wayfinding System that allows the delivery of a more legible public domain that encourages people to walk with comfort and confidence around the City of Sydney.
The Heathy Liveable Communities Urban Liveability Checklist	The Urban Liveability Checklist is a tool for use in established or proposed urban areas to assess liveability and opportunities to improve health and wellbeing. The major transport related domains listed in the document include walkability and public transport.
Heart Foundation Heathy Active by Design	The Heart Foundation defines a neighbourhood on the move as one that has a network of integrated walking, cycling and public transport routes. Movement networks within a neighbourhood, and connecting to other neighbourhoods, need to be accessible, safe and cohesive.

2.3 Redfern North Eveleigh Precinct Vision and Principles

The Redfern North Eveleigh Strategic Vision was prepared by Transport in 2021 and was the first part of the new strategic planning process for the Precinct's renewal. The Vision was developed to:

– Set the vision, key strategic planning and urban design considerations for the Precinct

– Understand and reflect the unique character of the Precinct

– Identify priorities and principles to guide the renewal

– Provide flexibility in the development approach to accommodate changing needs and technology and to account for the renewal evolving over time.

The preparation of the Vision was informed by:

– Feedback from stakeholder and community engagement undertaken throughout 2020 and from previous planning processes in the area

– Analysis of previous investigations undertaken for the Precinct prior to Transport taking the lead on the project as well as relevant state and local government strategic planning policies

– Site and design analysis to understand Redfern North Eveleigh and its surrounds

– Design input, including the State Design Review Panel led by Government Architect NSW.

The Vision is:

The Redfern North Eveleigh Precinct will be a connected centre for living, creativity and employment opportunities that support the jobs of the future. An inclusive, active and sustainable place for everyone, where communities gather.

Next to one of the busiest train stations in NSW, the Precinct will comprise a dynamic mix of uses including housing, creative and office spaces, retail, local business, social enterprise and open space. Renewal will draw on the past, adaptively re-using heritage buildings in the Precinct and will acknowledge Redfern's existing character and particular significance to Aboriginal peoples, culture and communities across Australia. The Precinct will evolve as a local place contributing to a global context.

To enable the vision for the Precinct, the following principles were developed, grouped into six key themes:

1. Great place for community
2. Jobs for the future
3. Creative
4. Aboriginal past, present and future
5. Culture and history
6. Connected people and places.

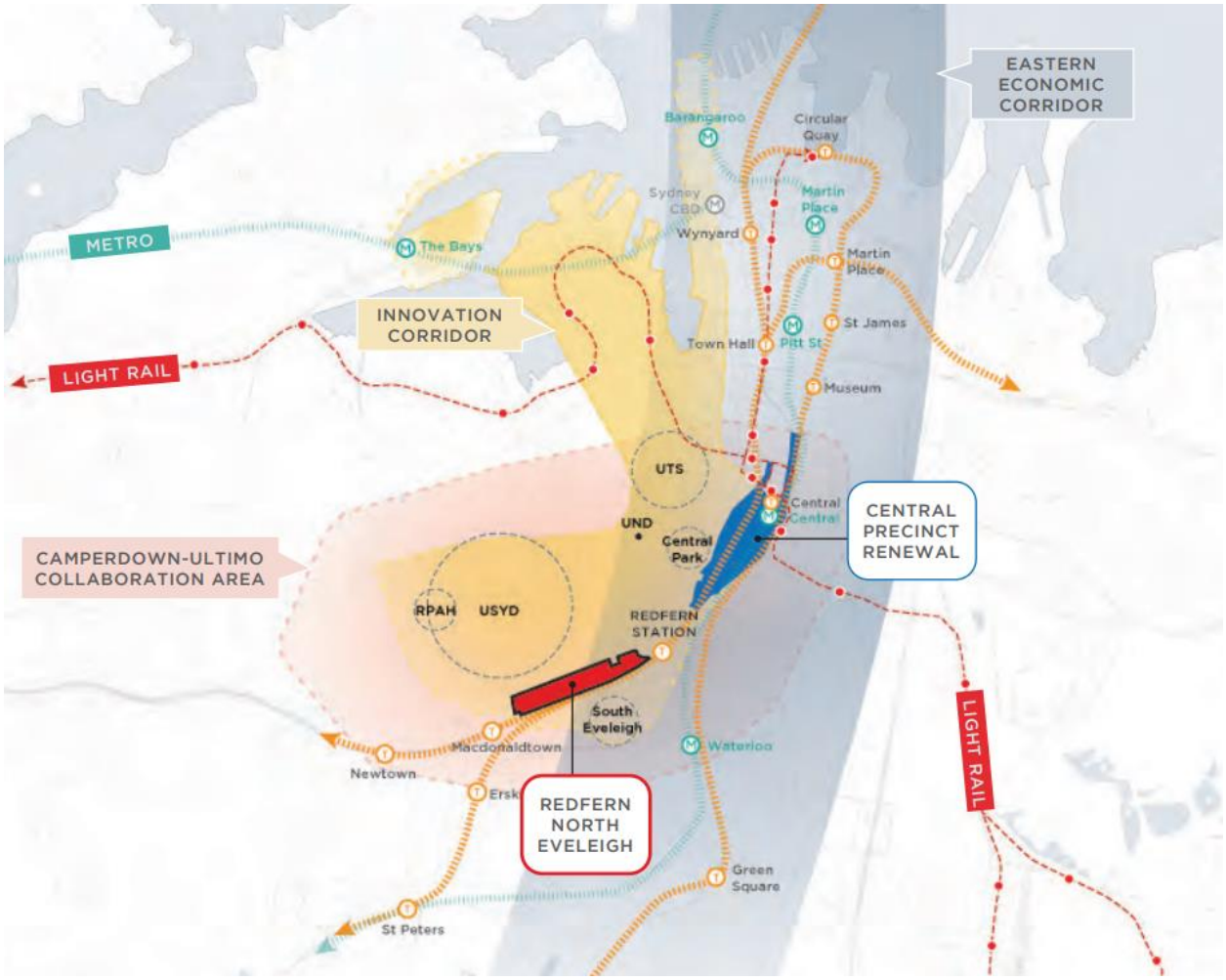
The Precinct is centrally located close to Redfern station, Macdonaldtown station, the Royal Prince Alfred Hospital, Sydney University, the University of Technology, Sydney, South Eveleigh and within the broader Tech Central – a NSW Government commitment to create the biggest innovation and technology hub in Australia.

Alongside Redfern North Eveleigh, Transport is delivering the Central Precinct Renewal, a major urban renewal program in Australia's busiest transport interchange – Sydney's Central Station.

To maximise the Precinct's connections, the Vision states a set of priorities including providing a direct link from the Precinct to the New Southern Concourse at Redfern station; improved access to the T4 Eastern Suburbs & Illawarra Line platforms 11 and 12; walking and cycling connections to and through the Precinct; and the feasibility of a second pedestrian rail crossing via a bridge or the reuse of tunnels between North Eveleigh and South Eveleigh. The location of the Redfern North Eveleigh precinct and the surrounding rail network is illustrated in **Figure 2–1**.

The Vision and Principles will guide future development on the site and inform key considerations in the assessment of future proposals, including the Paint Shop Sub-Precinct.

Figure 2–1 Location of Redfern North Eveleigh Precinct and the surrounding rail network



Source: NSW Government 2021

2.4 Sydney Local Environmental Plan 2012

The Sydney Local Environmental Plan (LEP) 2012 aims to make local environmental planning provisions for land in the City of Sydney in accordance with the relevant standard environmental planning instrument under section 33A of the Act.

A key transport related aim of the plan is to ensure that the pattern of land use and density in the City of Sydney reflects the existing and future capacity of the transport network and facilitates walking, cycling and the use of public transport. This is also emphasised in the objectives for Metropolitan Centres.

The Precinct has not been classified as a special character area, with the area south (and station) classified as restricted retail development. The Floor Space Ratio within the region is relatively low currently, ranging between 0.8-3.0, and maximum building heights in the surrounding area range between 8-18m.

Regarding parking, the area surrounding the Precinct has been classified as Category B for residential. Category B land uses require a minimum of 1 car share space for every 60 car spaces provided.

2.5 City of Sydney Development Control Plan 2012

The purpose of this Development Control Plan (DCP) is to supplement the Sydney LEP 2012 and provide more detailed provisions to guide development. This DCP has been made in accordance with Section 74C of the Environmental Planning & Assessment Act 1979 (the Act) and must be read in conjunction with the provisions of Sydney LEP 2012.

Section 3 of the plan addresses transport and parking components of the plan. Some of the key objectives include:

– Ensure that the demand for transport generated by development is managed in a sustainable manner.

– Ensure that bike parking is considered in all development and provided in appropriately scaled developments with facilities, such as change rooms, showers and secure areas for bike parking.

– Establish requirements for car share schemes for the benefit of people living and or working within a development.

– Design vehicle access and basement layouts and levels to maximise pedestrian safety and create high quality ground level relationships between the building and the public domain.

– Provide accessible car parking.

Schedule 7 Transport, parking and access of the DCP contains information on how to prepare reports required by the DCP, including Transport Impact Studies, Parking and Access Reports, Green Travel Plans and Transport Access Guides. Other relevant items include:

– Active frontages have been identified along the intersection of Abercrombie Street and Lawson Street and along parts of King Street and Regent Street

– The maximum height for buildings in the surrounding regions ranges from 2 to 10 storeys, although Council has indicated at a recent Council meeting that they wish to increase heights.

– There are no nearby late-night trading areas identified in the region.

Overall, the DCP aims to provide streets that prioritise pedestrians, cycling and transit use. Footpaths are to be designed in accordance with the Sydney Streets Design code to allow pedestrians to move comfortably and safely. The provision of cycleways is to be consistent with the locations identified in the Cycle Strategy and Action Plan 2007-2017.

2.6 Approval Conditions for the 2008 Concept Plan for the Redevelopment of the Former Eveleigh Carriageworks Site, North Eveleigh

The 2008 Concept Plan for the Redevelopment of the Former Eveleigh Carriageworks Site, North Eveleigh was approved with future development being subject to the following traffic and transport controls and requirements:

– A maximum of 1,800 car parking spaces to service the mix of uses, including retention of existing car parking spaces allocated to the Carriageworks and Blacksmiths' Shop buildings, with the final amount to be determined at the detailed design stages using the following maximum car parking rates:

Residential	**Maximum car parking rates**
Studio apartment	0.25 spaces / dwelling
1-bedroom apartment	0.50 spaces / dwelling
2-bedroom apartment	1.2 spaces / dwelling
3+ bedroom apartment	2 spaces / dwelling
Other	
Commercial, retail and cultural uses	1 space / 125m^2
New commercial / cultural uses (involving additional GFA) within the Carriageworks Building and the Blacksmiths' Shop Building	1 space / 125m^2

– Additional on-street parking for 75 car parking spaces on the newly created roadways within the site (subject to Council approval, if dedicated)

– Roadways and intersection improvements and vehicle and pedestrian access to the site.

– A Transport Management and Accessibility Plan (TMAP) is to be prepared prior to or concurrently with the project application that includes new floor space for the site and should include:

  - Identification of measures to support the achievement of a maximum of 40% mode share to car. The measures proposed should be to the satisfaction of the Ministry of Transport and may include enhancements to public transport, changes in parking allocation and /or pedestrian infrastructure, policy initiative or behaviour change programs.
  - Detailed modelling of critical local and regional intersections are to be calibrated and reviewed in consultation with the RTA and Council. Trip generation, mode split assumptions and modelling methodology would also need to be undertaken in consultation with the RTA and Ministry of Transport. Both AM and PM peaks are to be modelled to determine the impact of any proposed works on intersection operation.
  - Funding mechanisms and timing of road and intersection upgrades
  - The method of achieving restriction to traffic generated by site staff and delivery vehicles during the AM and PM peak periods.

  The TMAP is to be submitted to the Ministry of Transport for approval.

– Notwithstanding the above, the following are to be incorporated into the final TMAP:

  - Any recommended modifications to existing intersections controlled by traffic signals require assessment by the RTA's Network Operations Section.
  - The extension of existing left and right turning lanes in Abercrombie and Lawson Street may involve the removal of on-street parking and will require the concurrence of the City of Sydney Local Traffic Committee.
  - Further investigation into the feasibility of extending the existing right turn bay on Cleveland Street into Shepherd Street.
  - Costs associated with any road improvements are to be borne by the Proponent
  - Further information regarding the consequences for pedestrians, if any, by removing the pedestrian scramble phase at the intersection of Abercrombie and Shepherd Streets.

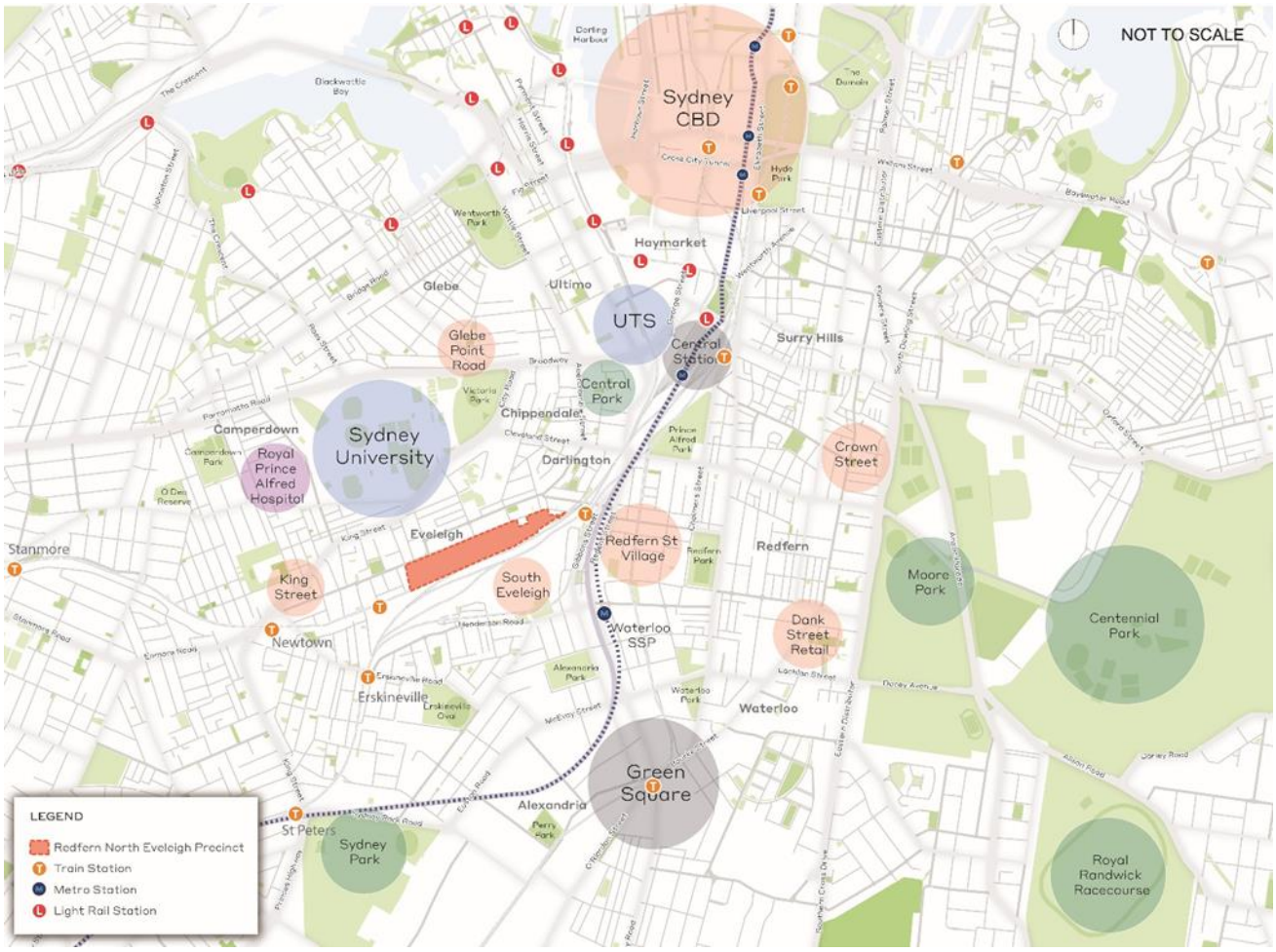
3.0 Existing conditions

3.1 Site context

3.1.1 Location

The Redfern North Eveleigh Precinct is located about 3km south-west of the Sydney CBD in the suburb of Eveleigh (refer to **Figure 3–1**). It is located entirely within the City of Sydney local government area (LGA) on government-owned land. The Precinct has an approximate gross site area of 10.95 hectares and comprises land bounded by Wilson Street and residential uses to the north, an active railway corridor to the south, residential uses and Macdonaldtown station to the west, and Redfern station located immediately to the east of the Precinct. The Precinct is also centrally located close to well-known destinations including Sydney University, Victoria Park, Royal Prince Alfred Hospital, the University of Technology, Sydney and South Eveleigh, forming part of the broader Tech Central District.

Figure 3–1 Location of Redfern North Eveleigh Precinct

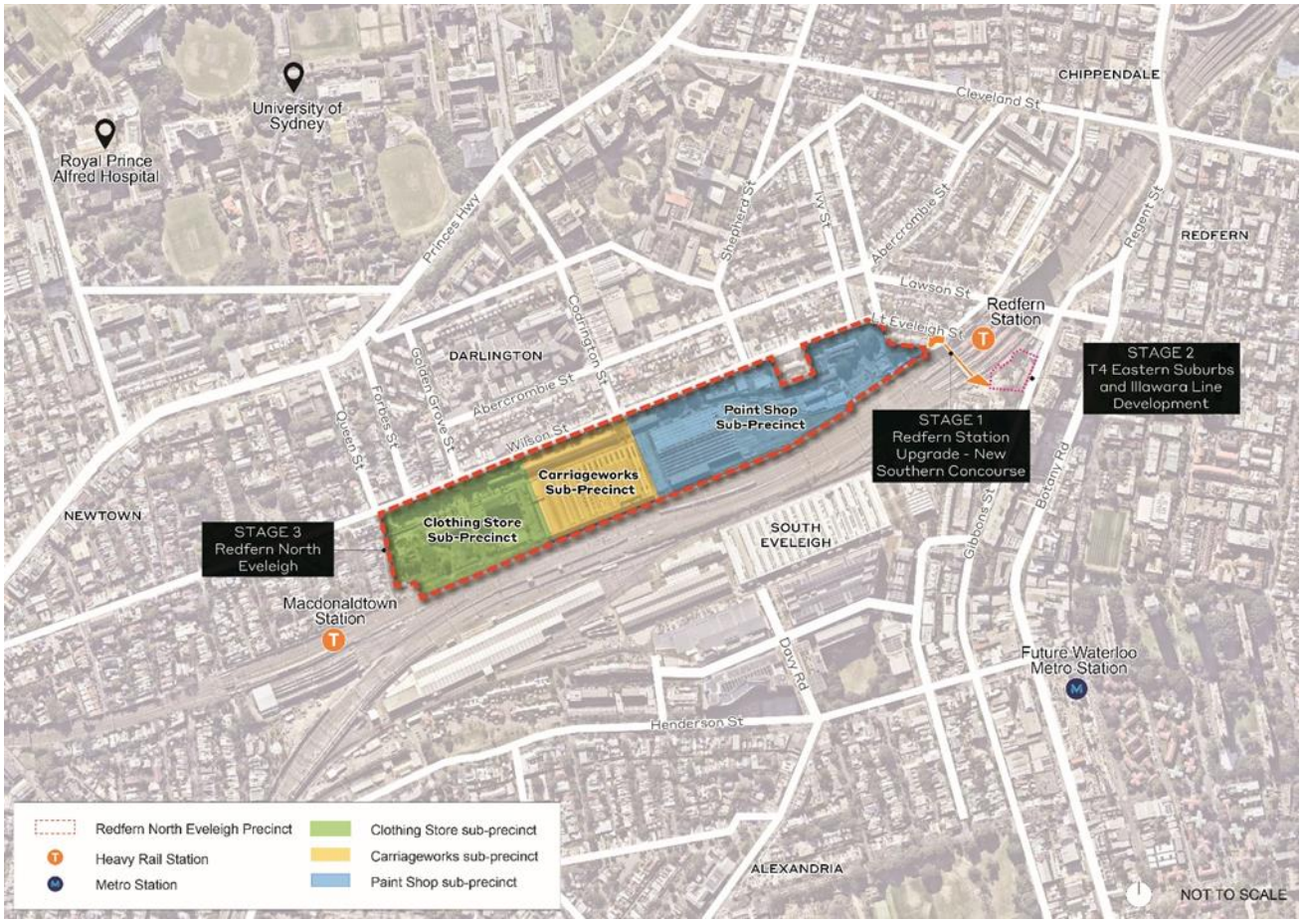


Source: Ethos Urban, 2021

The Precinct is located within the State Heritage-listed curtilage of Eveleigh Railway Workshops and currently comprises the Platform Apartments with 88 private dwellings, Sydney Trains infrastructure and key state heritage buildings including the Paint Shop, Chief Mechanical Engineer's Building, and the Carriageworks and Blacksmith Shop which provide shared community spaces for events including the Carriageworks Farmers Markets.

A map of the Precinct and relevant boundaries is illustrated in **Figure 3–2**.

Figure 3–2 Redfern North Eveleigh Sub-Precincts



Source: Ethos Urban, 2021

3.1.2 Redfern North Eveleigh Paint Shop Sub-Precinct

The Redfern North Eveleigh Paint Shop Sub-Precinct is approximately 5.15 hectares and is bounded by Wilson Street to the north, residential terraces and Redfern station to the east, the Western Line rail corridor to the south and the Carriageworks Sub-Precinct to the west. The Sub-Precinct has a significant level change from a Reduced Level (RL) height of RL25 metres to RL29 metres on Wilson Street.

The Paint Shop Sub-Precinct currently hosts a number of items of heritage significance, including the Paint Shop Building, Fan of Tracks, Science Lab Building, Telecommunications Building, and Chief Mechanical Engineer's Building. The Sub-Precinct has a number of disused spaces adjacent to the rail corridor as well as functioning Sydney Trains' infrastructure, offices and operational space. Vehicle and pedestrian access to this area is used by Sydney Trains. The site has a clear visual relationship to South Eveleigh and the Eveleigh Locomotive Workshops across the active rail corridor.

3.1.3 Land use

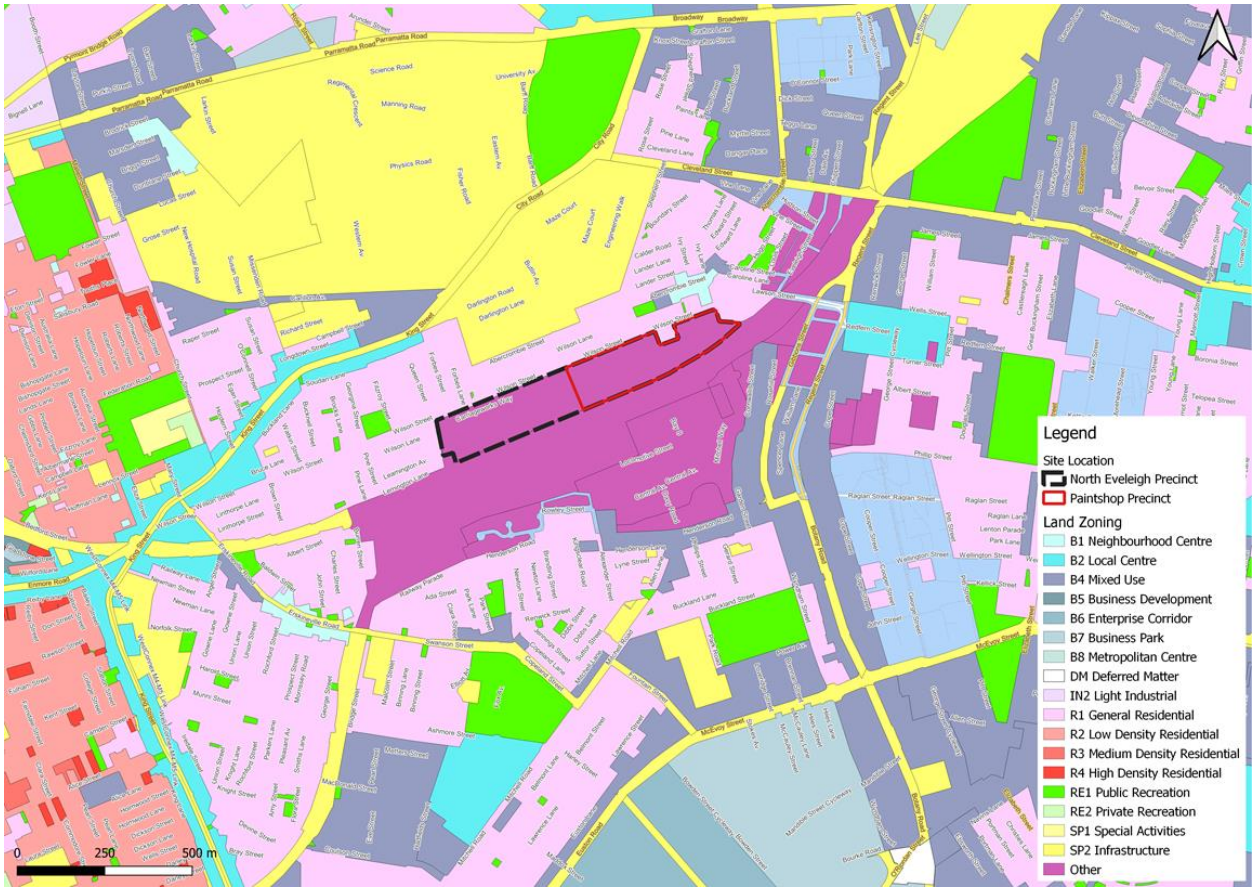
A review of the Environmental Planning Instrument – Land Zoning (accessed July 2021) was undertaken, and the current land use is illustrated in **Figure 3–3**. Key observations include:

– The Redfern North Eveleigh Precinct land zone is currently not classified

– The Precinct is surrounded by general residential zones, some public recreation, mixed use areas and a neighbourhood centre

– Key land uses surrounding the precinct include Redfern station, Macdonaldtown station, University of Sydney Campus, Australian Technology Park and the King Street Local Centre.

Figure 3–3 Land zoning around the Precinct



3.1.4 Redfern station

Bounded by Little Eveleigh St to the west, Lawson St to the north and Gibbons St to the east, Redfern station is located adjacent to the Precinct. Pedestrians can walk along Wilson Street and enter the station via the entry point on Little Eveleigh Street, about 10 minutes' walk from the centre of the Precinct.

Multiple facilities are provided at Redfern station including bike racks, a bike shed, a kiss and ride stopping area, a taxi rank, Opal Card machines and wheelchair accessible toilets.

See **section 3.4.1** for more details on services and upgrades at Redfern station.

3.1.5 Macdonaldtown station

Located to the west of the Redfern North Eveleigh precinct, Macdonaldtown station is also about 10 minutes' walk away from the centre of the Precinct. Pedestrians can walk along Wilson Street and access the station via the entry point on Leamington Lane.

Macdonaldtown station has facilities including bike racks and Opal Card machines.

3.2 Walking

The walking network in the vicinity of the Precinct is generally good with pedestrian facilities, such as footpaths, pram ramps, etc, provided on most of the walking routes and pedestrian crossings provided at intersections. The rail line does restrict east-west routes due to the limited crossing opportunities, with the closest crossings located at Lawson Street at Redfern station and Burren Street at Macdonaldtown station.

There is a significant pedestrian demand along Lawson Street and Abercrombie Street between Redfern station and the university campuses.

Typically customers will be willing to walk up to 800m to a transport node, however customers walk up to 2km for walk only trips between their origin and destination. **Figure 3–4** illustrates the walking catchment of the Precinct.

The following public transport options are within 800m of the Precinct:

– Redfern station (Sydney Trains)

– Bus stops on:

- Redfern Street
- Gibbons Street | Regent Street
- King Street | City Road
- Cleveland Street.

Glebe, Ultimo, Haymarket, Newtown and Waterloo are within the 2km walking catchment of the Precinct.

Figure 3–4 Walking catchment of the Precinct

3.3 Cycling

The Sub-Precinct is served by existing cycling connections including a dedicated cycle facility along Wilson Street (adjacent to the site), as indicated in **Figure 3–5**.

Residents would be able to cycle to and from the following entirely on separated off-road cycleways or shared paths:

– Central Station

– Redfern station

– Macdonaldtown station

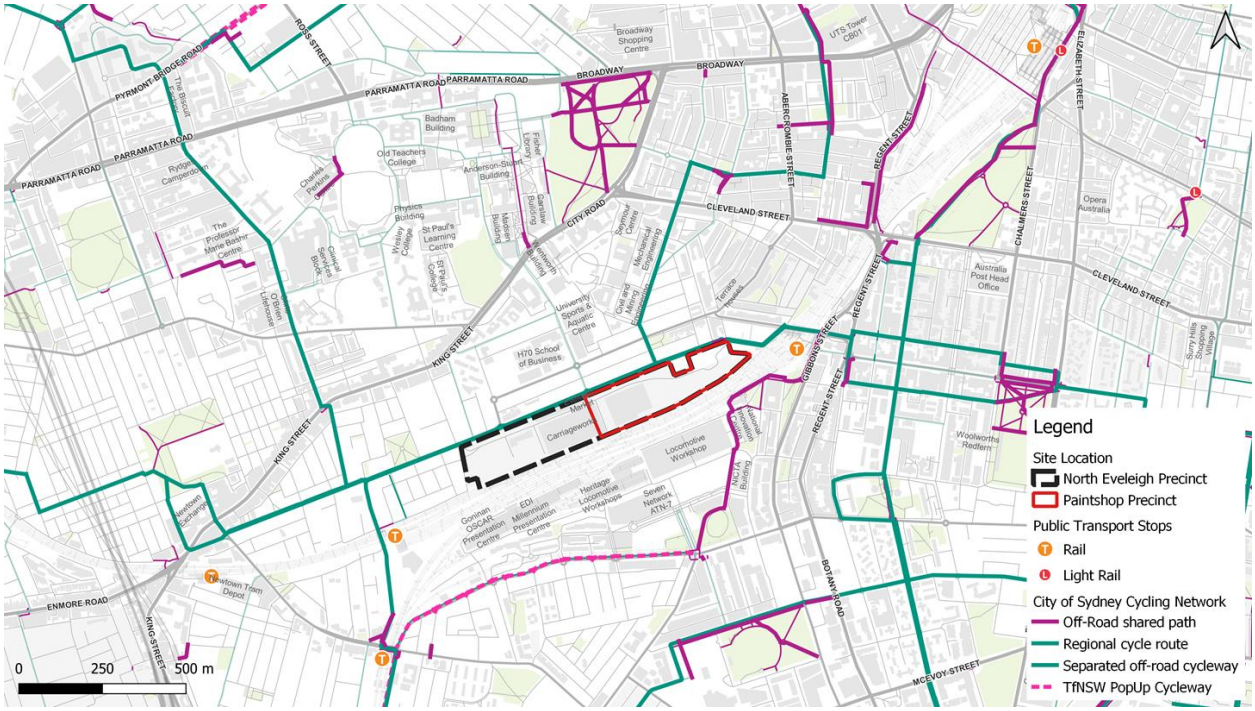
– Newtown Station

– University of Sydney

– Australia Technology Park

Residents would be able to cycle to Erskineville Station mostly along off-street cycle paths.

Figure 3–5 Cycle network in the vicinity of the Precinct

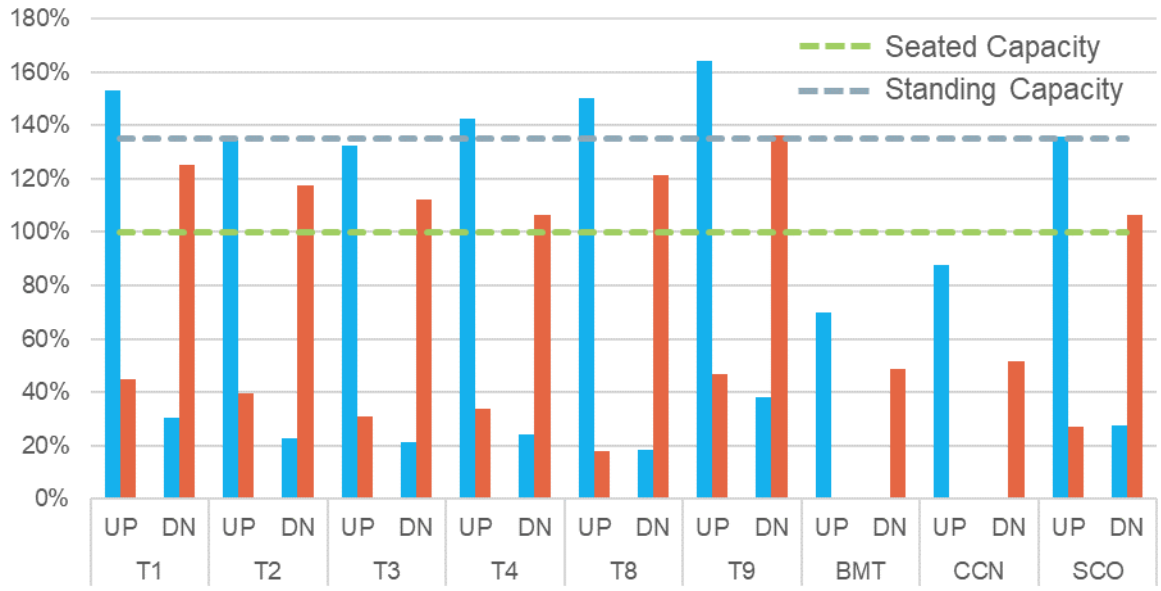


3.4 Public transport

3.4.1 Rail network

The precinct is served well by Sydney Trains services. Over 120 train services operate through Redfern station during peak hours, and it is the sixth busiest station in NSW. A review of available train capacity at Redfern station for September 2019 is presented in **Figure 3–6**.

Figure 3–6 Redfern station train capacity



Source: Rail Opal Assignment Model (September 2019) from Transport for NSW OpenData

Observations of existing and future conditions are:

– During the AM peak hour, metropolitan services operating towards Central (Up line) are generally at or above comfortable standing capacity

– Significant spare capacity exists on outbound services from Central (Down line) during the AM peak, which would cater for customers from the north and north-west.

– Sydney Metro West will provide additional capacity along the:

  - T1 North Shore & Western Lines (western component from Parramatta)
  - T2 Inner West & Leppington Line (inner west and western component from Parramatta)
  - T9 Northern Line (from North Strathfield)

– Although Sydney Metro West will not stop at Redfern station, it provides an attractive alternative for citybound customers which will likely free up capacity on Sydney Trains services via Redfern.

– Sydney Metro City & Southwest will replace the T3 Bankstown Line and no longer operate through Redfern, with the following implications:

  - Increased train paths available through the City Circle, which may result in increased T8 Airport & South Line services, and available capacity, via Sydenham/Redfern
  - Existing T3 Bankstown Line customers may interchange at Sydenham onto T8 Airport & South Line services or T4 Eastern Suburbs & Illawarra Line to access Redfern. Alternatively they may opt for less crowded services and interchange at Central for an outbound (Down line) service.

– The Redfern station Upgrade – New Southern Concourse, which is currently under construction, will provide a new station entrance on Little Eveleigh Street, an upgraded station entrance on Marian Street and pedestrian bridge between the two with easy access to platforms 1 to 10 via new stairs and lifts, improving connections between the station and key destinations in the area.

3.4.1.1 Station capacity

Based on observations of Redfern station, the Redfern station Upgrade documentation and a review of Opal data for March 2019, it is evident that Redfern station infrastructure, namely platform vertical transport, approaches capacity during peak periods.

These constraints are driven by the relatively high egress and interchange customer demand during the AM peak period.

The New Southern Concourse currently under construction would significantly alleviate these constraints through the provision of:

– An additional concourse to facilitate interchange, entry and egress

– Increased vertical transport from platforms to improve platform clearance time and provide spare capacity

– Additional entry and egress locations with appropriately sized ticket facilitates (gates and poles).

Based on the pedestrian assessment undertaken for the New Southern Concourse, it significantly improves the pedestrian environment (and capacity).

As part of the modelling, future scenarios were assessed based on forecast demand data to inform the design. It is assumed future forecasts include a level of land use uplift within the Redfern area, which may include a proportion of the Redfern North Eveleigh precinct based on the 2008 approved scheme.

3.4.2 Bus network

Buses along King Street / City Road are accessible within 800m of the precincts and have more than 20 services running along them in the morning peak period, as shown on **Figure 3–7**.

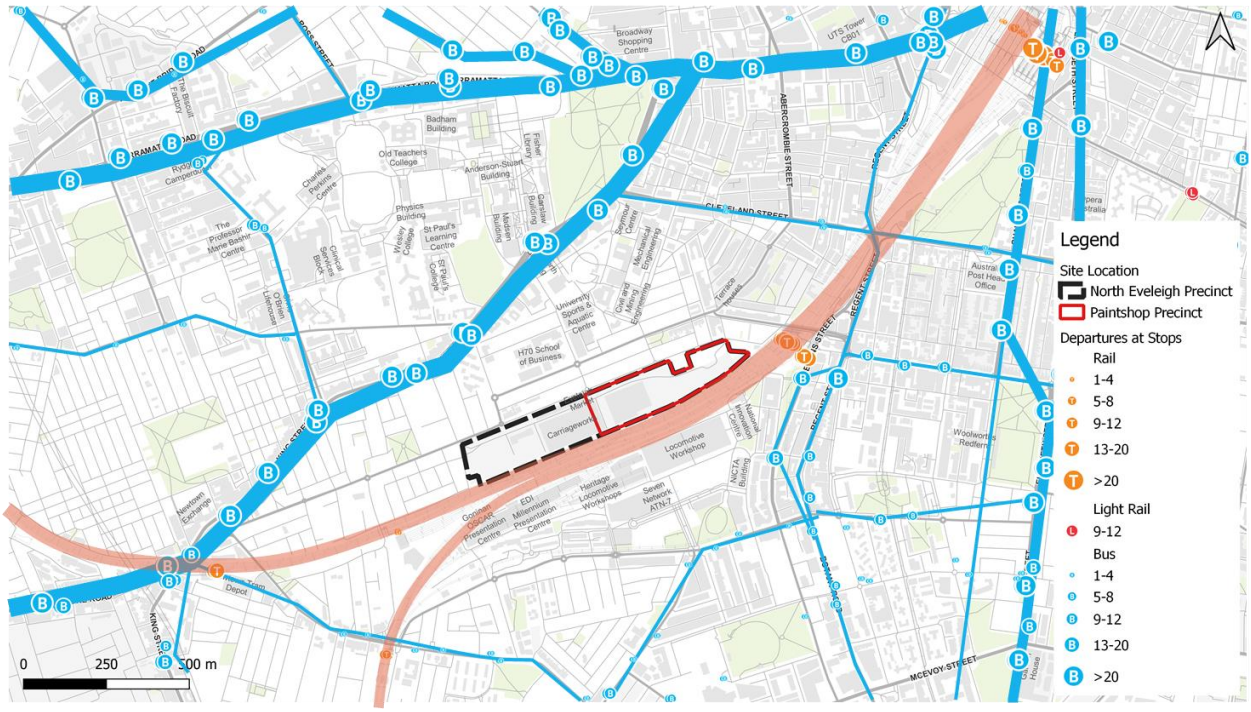
On a typical weekday from 8-9AM, there are up to:

– 48 bus services running inbound on City Road to Sydney CBD

– 25 bus services running outbound on City Road from Sydney CBD.

A review of Bus Opal Assignment Model (September 2019) data for services along King Street and Elizabeth Street buses indicates buses operate with some spare capacity during the peak periods. In the Up direction (towards CBD) have standing room, with some routes with seated capacity as well during the AM peak hour. In the Down direction (from CBD), services typically have significant capacity.

Figure 3–7 Bus network and services in the vicinity of the Precinct



3.5 Street network

3.5.1 General description

As indicated on **Figure 3–8**, access to and from the Precinct will be predominately through Abercrombie Street and Wilson Street. Connectivity to other regions is facilitated through:

– Cleveland Street towards the Eastern Suburbs.

– King Street or Gibbons Street/ Botany Road, higher-order arterials that provide routes through to Princess Highway and the M5 and M8 motorways in the south and south-west.

– King Street, Enmore Road and Salisbury Road to the inner west.

– Parramatta Road through to the M4 Motorway in the west.

– Abercrombie Street and Regent Street through to Anzac Bridge and Harbour Bridge in the north.

Certain roads around the precinct are approved routes for heavy vehicles of various sizes. Performance Based Standard (PBS) Level 1 vehicles, which includes a 19m prime mover and semitrailer (NTC, 2007), can operate on the key primary and arterial roads as highlighted in **Figure 3–9**.

Heavy vehicles can also operate on other roads for last-mile purposes to connect to their origin or destination.

Figure 3–8 Road network in the vicinity of the Precinct

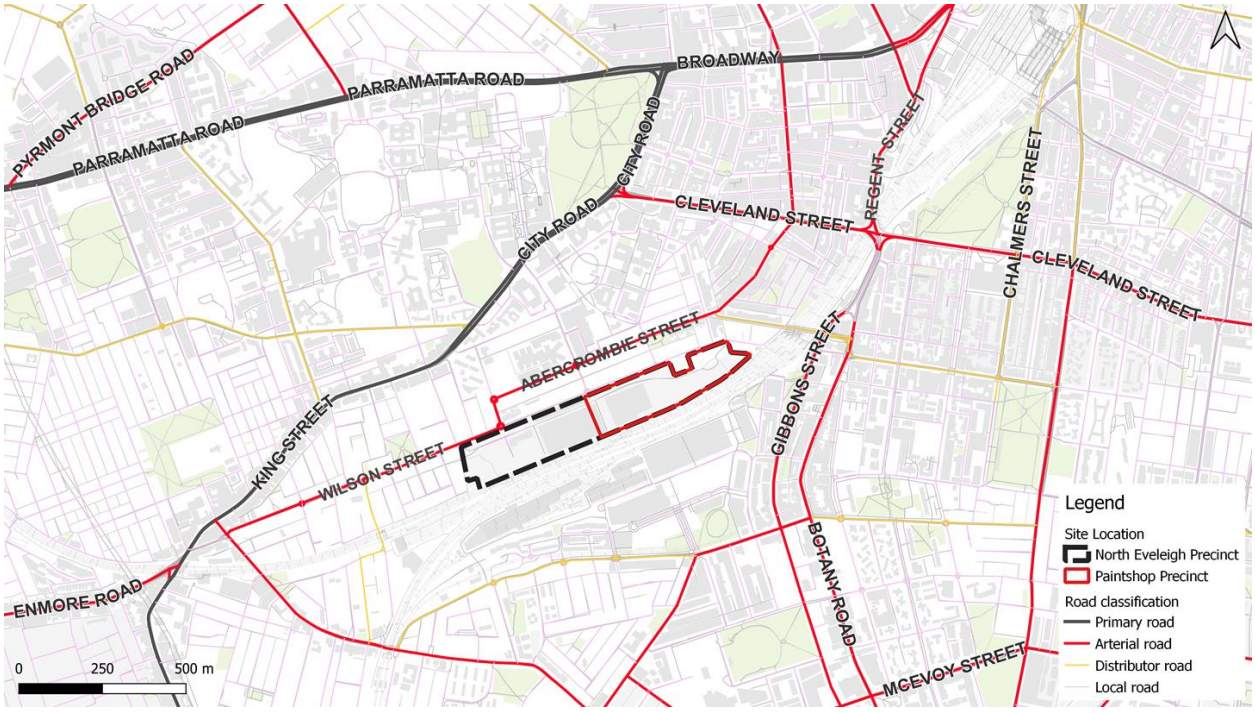
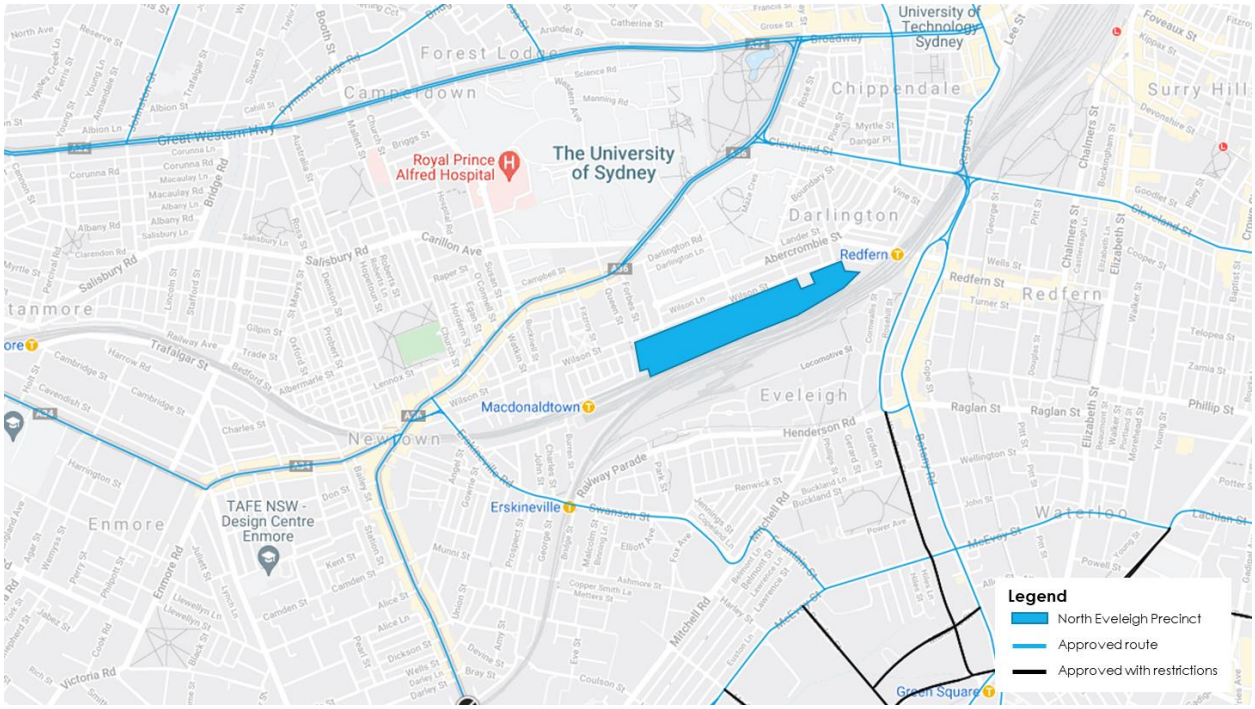


Figure 3–9 Heavy vehicle approved routes in the vicinity of the Precinct



Source: Transport for NSW Restricted Access Vehicle map (accessed July 2021)

3.5.2 Movement and Place street classifications

Classification, as part of the Movement and Place process, involves characterising a given segment of a road or street for a specific project purpose, such as identifying priority areas or priority needs. Classification into the following four street environments can help to provide a quick understanding of where movement and place interact:

- **Civic spaces** are streets at the heart of our communities and have a significant meaning, activity function, or built environment. They are often in our major centres, our tourist and leisure destinations, and our community hubs. These streets are often pedestrian priority, shared spaces.
- **Local streets** are the majority of streets within our transport networks and often have important local place qualities. Activity levels are less intense; however, these streets can have significant meaning for local people.
- **Main streets** have both significant movement functions and place qualities. Balancing the functions of these streets is a common challenge.
- **Main roads** are routes central to the efficient movement of people and freight. They include motorways, primary freight corridors, major public transport routes, the principal bicycle network, and key urban pedestrian corridors. Place activity levels are less intense; however, these roads and routes can have significant meaning to local people.

The majority of the streets in the vicinity of the Precinct would be local streets and main streets, with a combination of movement functions and place qualities. Streets within the Precinct can function as civic spaces, especially at times when there are events on at Carriageworks.

King Street, City Road, Cleveland Street and Regent Street would be considered as main roads to the north and east of the Precinct.

3.5.3 Existing traffic conditions

Traffic modelling was undertaken in the 2008 Concept Plan, which indicated that intersections in the vicinity of the Precinct were operating at a level of service (LoS) C or better. A traffic review of that modelling, undertaken at the time, indicated that some of the intersections may be operating at LoS F at peak periods.

A review of traffic volumes on King Street indicates that there has been minimal growth in traffic between 2016 and 2019.

Modelling of road capacities was done by Infrastructure Australia in 2019, which reported that, while the project area is well connected to the wider regional road network, key routes from the west, south-west and west are at or near capacity during the AM peak, as shown on **Figure 3–10**, including:

– City Road

– Parramatta Road

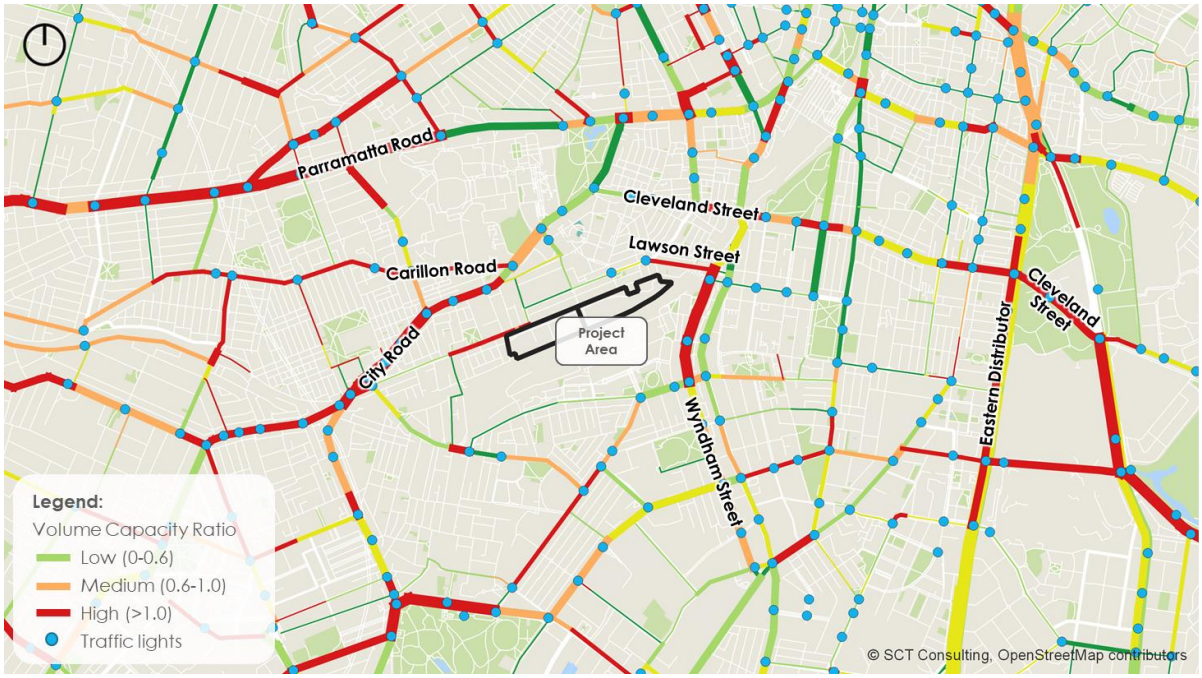
– Gibbons Street-Wyndham Street

– Cleveland Street

– Eastern Distributor.

During the PM peak, congestion generally reverses in direction (outbound from City). This subsequently includes one-way pairs, such as Regents Street-Botany Road.

Figure 3–10 Road network congestion in the vicinity of the Precinct



Source: Infrastructure Australia 2019 – AM peak congestion (existing volume capacity ratio)

3.6 Car parking

On-street parking spaces are available close to the Precinct on Wilson Street, Abercrombie Street, Wilson Lane, Little Eveleigh Street, Shepherd Street, Codrington Street and Golden Grove Street.

On Wilson Street, there are parallel parking spaces available on both sides of the road with a one-hour time limit between 8am and 10pm, permit holders excepted. For Little Eveleigh Street and Wilson Lane, on-street parking is only available on one side of the road. Similar to Wilson Street, the on-street parking spaces on Little Eveleigh Street, Golden Grove Street and Wilson Lane have a one-hour time limit between 8am and 10pm, permit holders excepted.

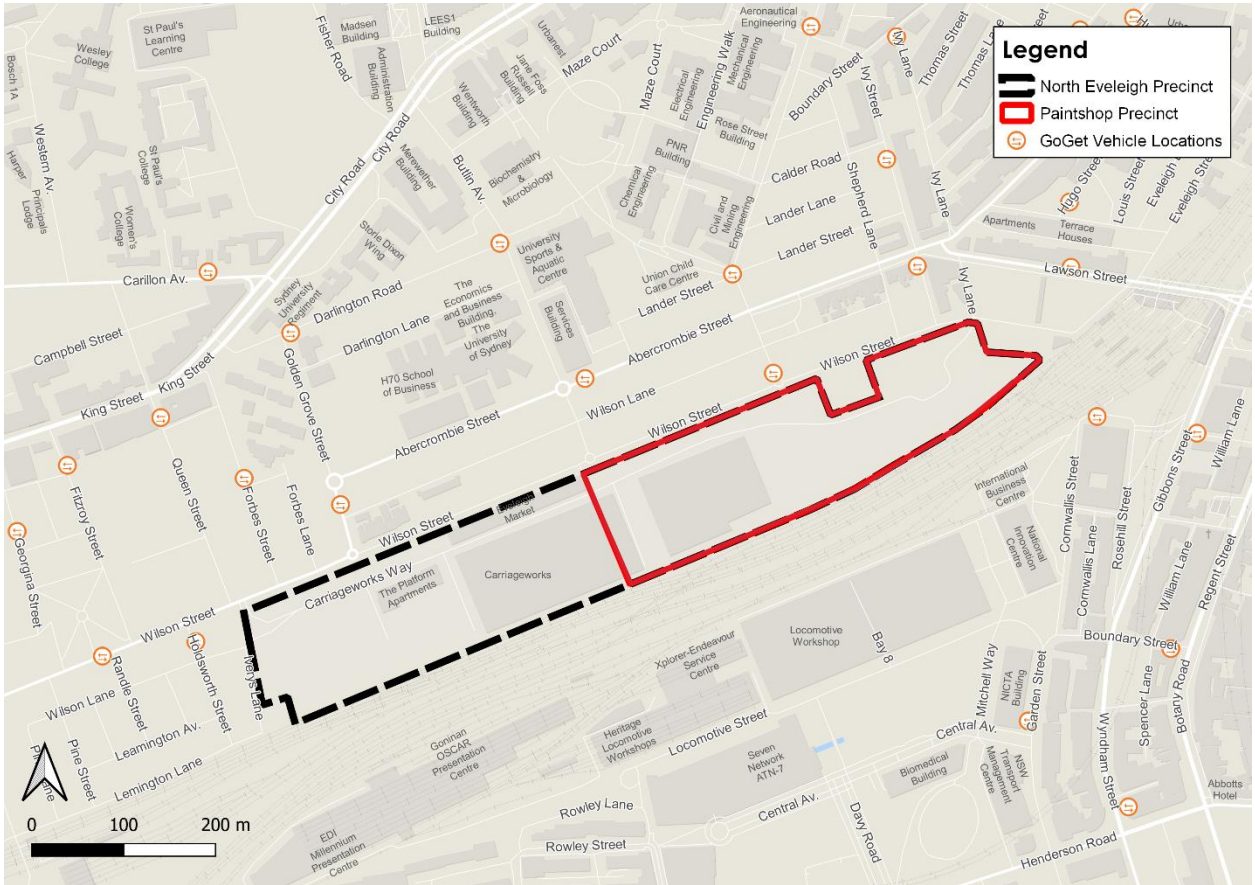
Abercrombie Street, Shepherd Street and Codrington Street have parallel parking spaces available on both sides of the road with a two-hour time limit between 8am and 10pm, permit holders excepted.

Generally, there is free, but time-restricted, on-street parking available along the majority of the roads in the vicinity of the Precinct. Within the Precinct, there are limited on-street parking bays used by the current tenants of the buildings on site.

3.7 Share vehicles

GoGet car share vehicles are available close to the Precinct, specifically on Wilson Street, Pine Lane, Forbes Street, Golden Grove Street and Lawson Street, as indicated on **Figure 3–11**. In general, there are about two GoGet vehicles available on each nearby street.

Figure 3–11 GoGet car share locations



Source: GoGet CarShare, 2021

3.8 Travel behaviour

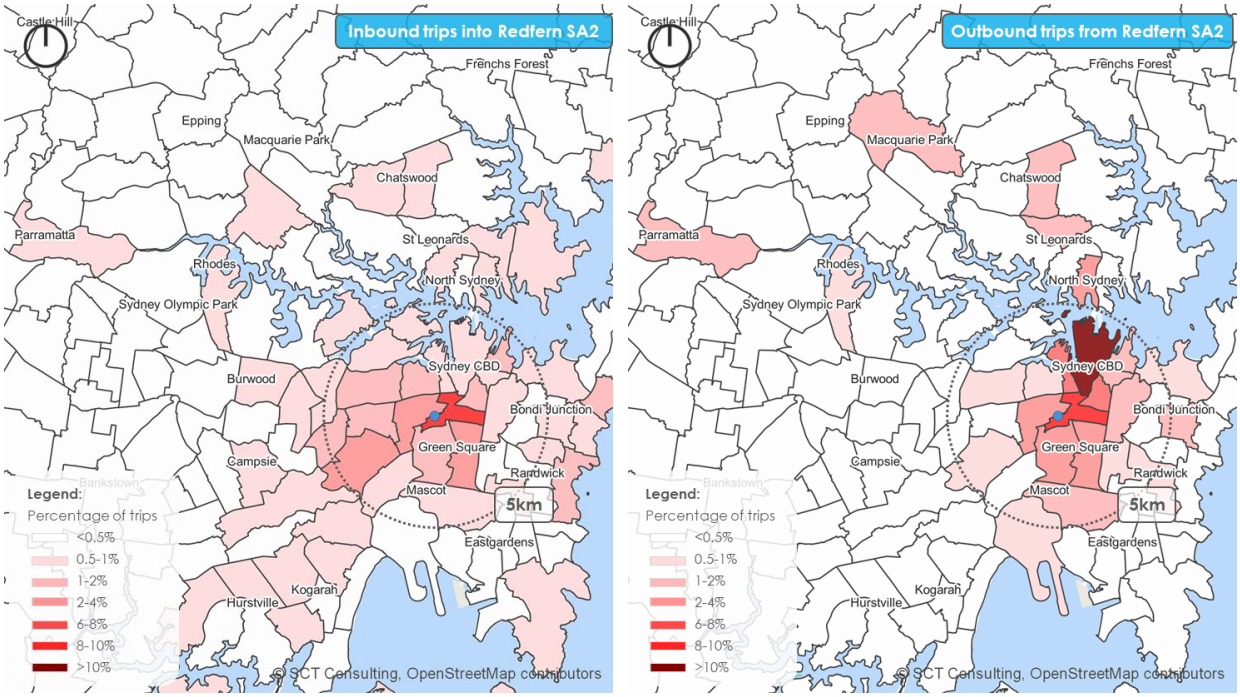
3.8.1 Journey to work data

3.8.1.1 Origins and destinations

A review of Journey to Walk (2016) data for the Redfern SA2 found that ~35% of outbound trips by residents and ~70% of inbound trips by workers were within 5kms of the project site (see **Figure 3–12**). This indicates many trips are relatively short in duration. A significant proportion (~10%) of trips are intrazonal (or self-contained within Redfern-Chippendale).

Additionally key origins and destinations are located along existing rail corridors. Hence, the Precinct is a prime candidate for sustainable modes including walking, cycling and public transport.

Figure 3–12 Journey to work origins and destinations



Source: Journey to Work 2016 (Redfern-Chippendale SA2) data

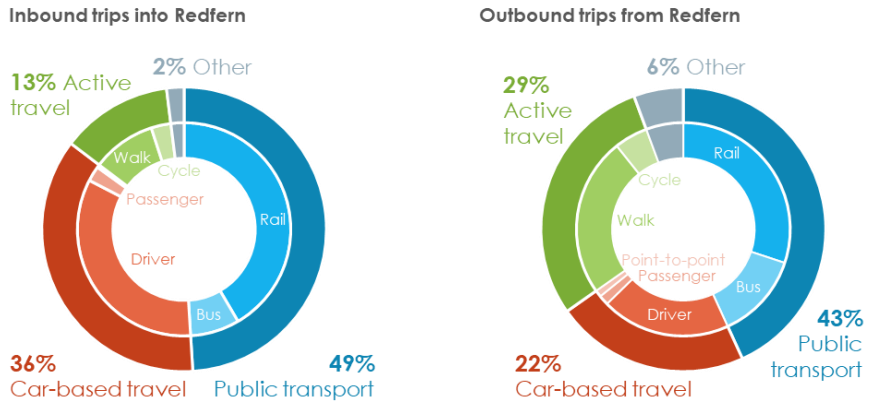
3.8.1.2 Existing Journey to Work mode share

As shown in **Figure 3–13**, public transport is the main travel mode for commute trips. The western portion of the statistical area (SA2) is better served by buses compared to the rest of the precinct, but this reduced bus coverage is offset by the proximity to Redfern station.

Private vehicle use (especially as a driver) is common, which could be attributed to the high proportion of mixed-use and light industrial land-uses, which typically have on-site parking.

For outbound trips, i.e. residents of Redfern-Chippendale, walking is the second most common mode after public transport indicating a willingness to walk and cycle due to the environment (relatively flat with some low traffic streets), infrastructure and mixed land uses, which promote short, connected trips.

Figure 3–13 Journey to work mode share

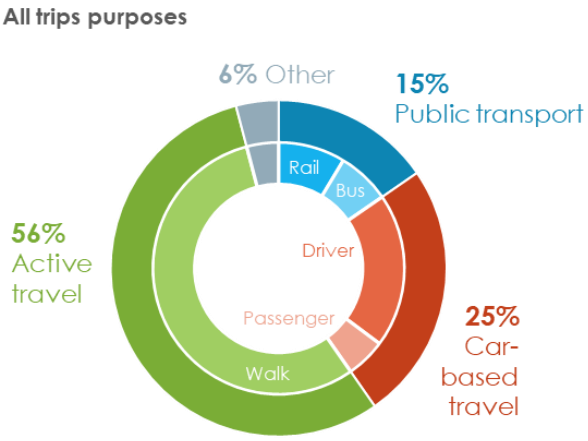


Source: Journey to Work 2016 (Redfern-Chippendale SA2) data

3.8.2 Household Travel Survey

The proportion of walk trips, assumed to also include cycle since it is not listed as mode, increases significantly when all trip-purposes are considered. These include work-related, education, shopping and recreation, while journey to work data considers only commute-related trips. As shown in **Figure 3–14**, active transport accounts for more than half of all trips by residents of the area.

Figure 3–14 All trip purpose mode share



Source: Household Travel Survey 2018/2019 (Inner Sydney SA3)

3.8.3 Customer demographics

A review of customer demographics in the area surrounding the Precinct, illustrated in **Figure 3–15**, indicates that:

– More than 50 per cent of the population is 18–34-year-old, which includes people studying at a tertiary education and young people in the workforce

– There is a low proportion of young families (less than 10 per cent under 17 years).

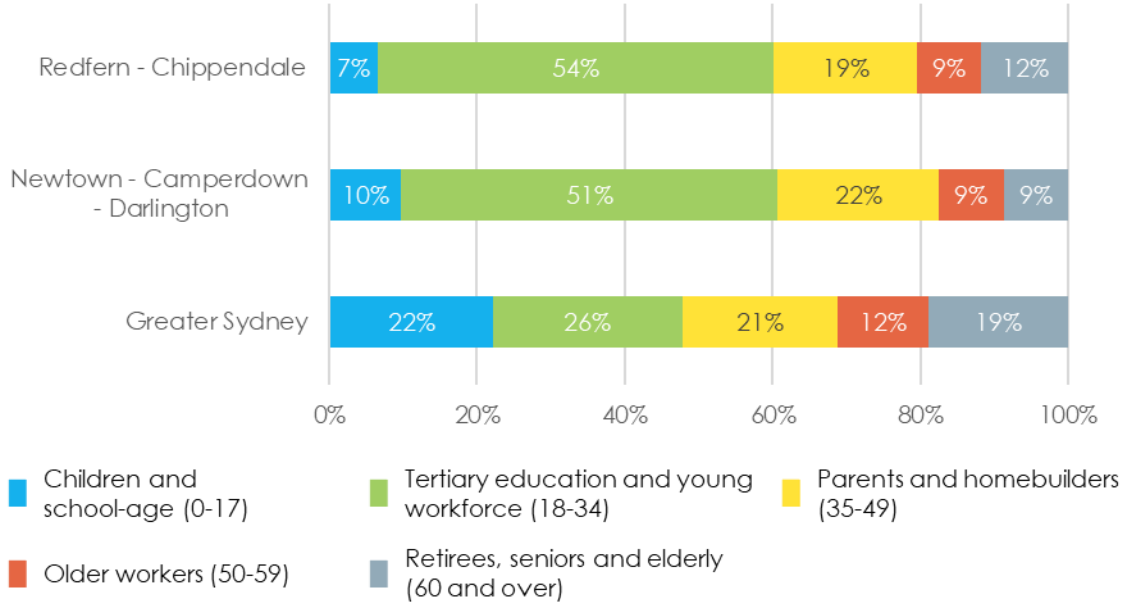
A review of motor vehicle ownership for households in the area surrounding the Precinct, illustrated in **Figure 3–16**, indicates that households in the area are less likely to own a motor vehicle, with:

– No ownership almost four times higher than the Greater Sydney average

– More than one vehicle ownership is four times lower than the Greater Sydney average.

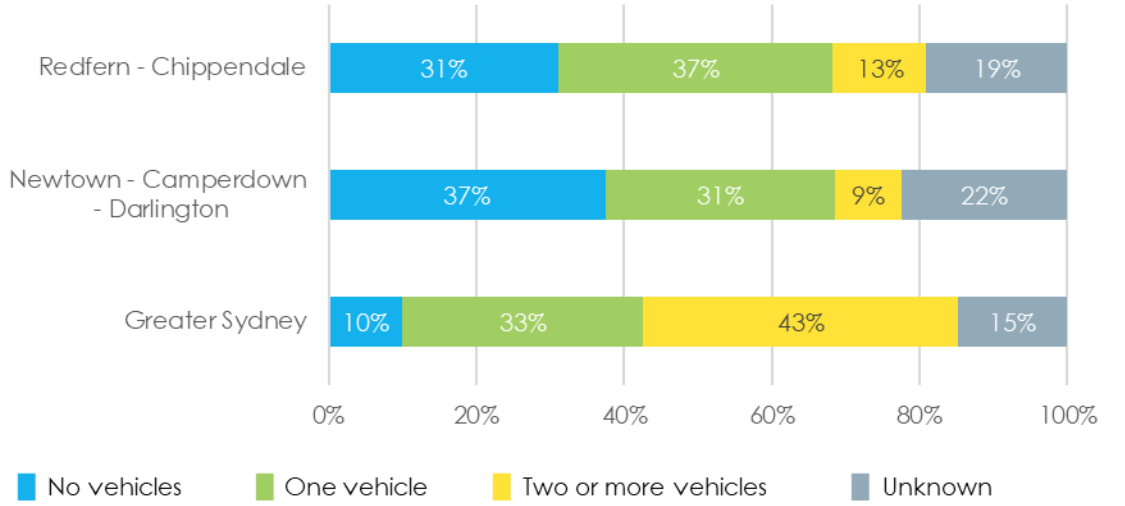
These two factors combined suggest that the population is more likely to use public transport or walk/cycle.

Figure 3–15 Population distribution comparison



Source: Australian Bureau of Statistics,2016

Figure 3–16 Motor vehicle ownership



Source: Australian Bureau of Statistics,2016

3.9 Summary of issues and opportunities

Based on the review of the existing transport conditions, the following is a summary of issues and opportunities:

– The Precinct is served by existing cycling connections, including a dedicated facility along Wilson Street, adjacent to the site.

– The Precinct is located adjacent to Redfern station and within a 10-minute walk distance of Macdonaldtown station and bus stops on City Road / King Street. Over 120 train services operate through Redfern station during peak hours, with significant spare capacity on outbound services from Central Station.

– Although the planned Sydney Metro West will not stop at Redfern station, it provides an attractive alternative for citybound customers, which will likely provide additional capacity on Sydney Trains services via Redfern.

– The Redfern station Upgrade – New Southern Concourse, which is currently under construction, will provide a new station entrance on Little Eveleigh Street, an upgraded station entrance on Marian Street and pedestrian bridge between the two with easy access to platforms 1 to 10 via new stairs and lifts, improving connections between the station and key destinations in the area, as well as providing increased capacity.

– Traffic volumes on King Street indicates that there has been minimal growth in traffic between 2016 and 2019. However, the higher-order road network in the surrounding area is congested at peak periods limiting the amount of traffic that could be accommodated in the future.

– There is minimal long-term on-street parking available, but there are numerous share cars close to the Precinct.

– Existing commute data indicates that key origins and destinations are located within 5km of the Precinct and along existing rail corridors, and so the Precinct is a prime candidate for sustainable modes including walking, cycling and public transport. Public transport is the main travel mode for commute trips in the Redfern area and active transport is second most common mode, indicating a willingness to walk and cycle. For all trip purposes, active transport accounts for more than half of all trips by residents of the area.

– The area surrounding the precinct has low car ownership and a young demographic, which suggests the surrounding population has greater potential to use public transport or walk / cycle than the general Sydney population.

4.0 Redfern North Eveleigh Precinct

4.1 Overview

The Redfern North Eveleigh Paint Shop Sub-Precinct will be a connected centre for living, creativity and employment opportunities that support the jobs of the future, as well as providing an inclusive, active and sustainable place for everyone, where communities gather.

Next to one of the busiest train stations in NSW, the Sub-Precinct will comprise a dynamic mix of uses including housing, creative and office spaces, retail, local business, social enterprise and open space. Renewal will draw on the past, adaptively re-using heritage buildings in the Sub-Precinct and will acknowledge Redfern's existing character and particular significance to Aboriginal peoples, culture and communities across Australia. The Sub-Precinct will evolve as a local place contributing to a global context.

4.2 Paint Shop Sub-Precinct proposal

An Urban Design and Public Domain Study has been prepared to establish the urban design framework for the Redfern North Eveleigh Paint Shop Sub-Precinct. The Urban Design and Public Domain Study provides a comprehensive urban design vision and strategy to guide future development of the Sub-Precinct and has informed the proposed planning framework of the SSP Study.

The Urban Design Framework for the Paint Shop Sub-Precinct comprises:

- Approximately 1.4 hectares of publicly accessible open space comprising:
  - A public square – a 7,910 square metre public square fronting Wilson Street
  - An eastern park – a 3,871 square metre park located adjacent to the Chief Mechanical Engineer's Building and the new eastern entry from Platform 1 of the Redfern station
  - Traverser No1 - a 2,525 square metre public square edged by Carriageworks and the Paint Shop.
- Retention of over 90% of existing high value trees.
- An overall greening coverage of 40% of the Sub-Precinct.
- A maximum of 142,650 square metre gross floor area (GFA), comprising:
  - between 103,700 - 109,550 square metres of gross floor area (GFA) for employment and community facility floor space (minimum 2,500 square metres). This will support approximately 6,200 direct jobs on the site across numerous industries including the innovation, commercial and creative sectors.
  - between 33,100 - 38,950 square metres of GFA for residential accommodation, providing for between 381 and 449 new homes (including 15% for the purposes of affordable housing).
- New active transport infrastructure and routes to better connect the Paint Shop Sub-Precinct with other parts of Tech Central and the surrounding localities.
- Direct pedestrian connections to the new Southern Concourse at Redfern station.
- Residential parking rates comprising:
  - Studio at 0.1 per dwelling
  - 1 Bed at 0.3 per dwelling
  - 2 Bed at 0.7 per dwelling
  - 3 Bed at 1.0 per dwelling
- Non-residential car parking spaces (including disabled and car share) are to be provided at a rate of 1 space per 700 square metres of GFA.
- 66 car spaces are designated for Sydney Trains maintenance and operational use.

The key features of the Urban Design Framework, include:

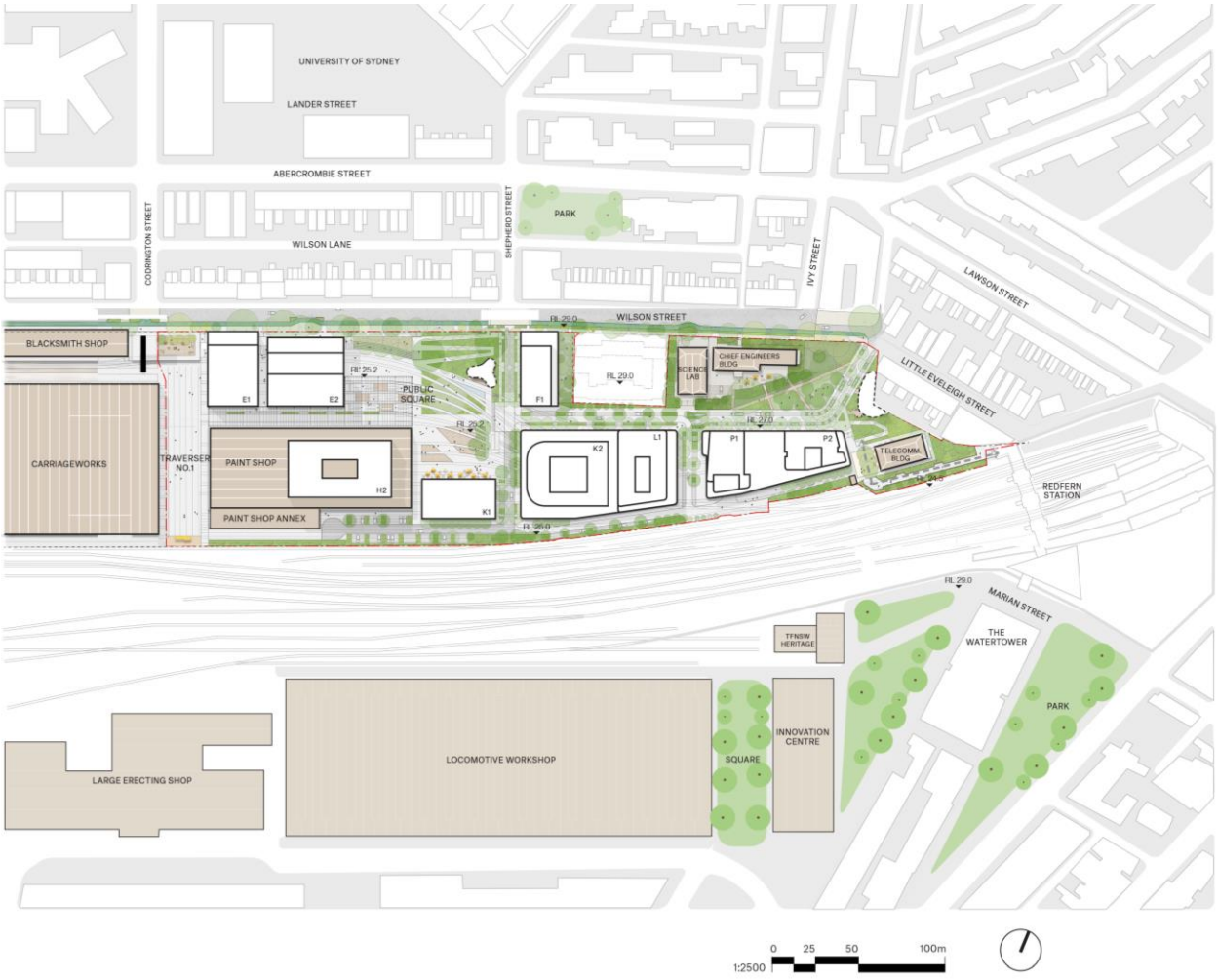
- The creation of a new public square with direct pedestrian access from Wilson Street to provide a new social and urban hub to promote outdoor gatherings that will accommodate break out spaces and a pavilion structure.
- An eastern park with direct access from Redfern station and Little Eveleigh Street, which will provide a high amenity public space with good sunlight access, comfortable wind conditions and community character.
- Upgraded spatial quality of the Traverser No1 yard, retaining the heritage setting, and incorporating complementary uses and good access along Wilson Street to serve as a cultural linkage between Carriageworks and the Paint Shop Building.
- The establishment of an east-west pedestrian thoroughfare with new public domain and pedestrian links.
- A range of Water Sensitive Urban Design (WSUD) features.
- Activated ground level frontages with commercial, retail, food and beverage and community and cultural uses.
- Adaptive reuse of heritage buildings for employment, cultural and community uses.
- New buildings for the Sub-Precinct, including:
    - Commercial buildings along the rail corridor that range between 3 and 26 occupied storeys
    - Mixed use buildings along the rail corridor, comprising a three-storey non-residential podium with residential towers ranging between 18 to 28 occupied storeys
    - Mixed use buildings (commercial and residential uses) along Wilson Street with a four-storey street wall fronting Wilson Street and upper levels at a maximum of 9 occupied storeys that are set back from the street wall alignment
    - A commercial building on the corner of Wilson Street and Traverser No.1 with a four-storey street wall fronting Wilson Street and upper levels at a maximum of 8 occupied storeys that are set back from the street wall alignment. There is flexibility to allow this building to transition to a mixed-use building with active uses at ground level and residential uses above
    - Potential options for an addition to the Paint Shop Building comprising of commercial uses. These options (all providing for the same GFA) include:
        - A 5-storey commercial addition to the Paint Shop Building with a 3m vertical clearance, with the adjacent development site to the east comprising a standalone 3-storey commercial building
        - A 3-storey commercial addition to the Paint Shop Building with a 3m vertical clearance which extends and connects to the commercial building on the adjacent development site to the east
        - No addition to the Paint Shop Building, with the adjacent development site to the east comprising a standalone 12-storey commercial building.
- Commotment to a 5 Star Green Star Communities rating, with minimum 5 Star Green Star Buildings rating.
- All proposed buildings are below the Procedures for Air Navigation Services – Aircraft Operations (PANS-OPS) to ensure Sydney Airport operations remain unaffected.

The proposed land allocation for the Paint Shop Sub-Precinct is described in **Table 4-1**, while the Indicative Concept Proposal for the Paint Shop Sub-Precinct is illustrated in **Figure 4–1**.

Table 4-1 Breakdown of allocation of land within the Paint Shop Sub-Precinct

Land allocation	Existing	Proposed
Developed area	15,723 sqm / 30% of total site area	20,824 sqm / 40% of total site area
Public open space	Area not publicly accessible	14,306 sqm / 28% of total site area
Other publicly domain areas (including streets, shared zones, pedestrian paths and vehicular zones)	Area not publicly accessible	15,149 sqm / 29% of total site area (Excludes privately accessible public links and private spaces ~ 3% of total site area)

Figure 4–1 Indicative Concept Proposal



Source: Bates Smart, 2022

4.3 Transport objectives

The transport objectives developed for the Paint Shop Sub-Precinct are:

1. Encourage and facilitate the increased uptake of sustainable modes (rail, walk and cycle) through improved integration, accessibility and permeability.
2. Minimise car-based impacts to surrounding area and network:
    a. Reduction of vehicle trip generation from the North Eveleigh Concept Plan 2008 by at least 40%
    b. Constrained parking provisions on-site (<10% of mode share)
3. Balance the on-street environment to provide:
    a. Permeable, prioritised and safe environment for customers who walk or cycle
    b. Sufficient on-street parking to support mobility-impaired customers, short-turn around parking and on-demand services.
    c. Activation of the street-level environment throughout the day.
    d. Provision of dedicated spaces for freight and point-to-point.

4.4 Proposed movement network and street types

4.4.1 Movement network

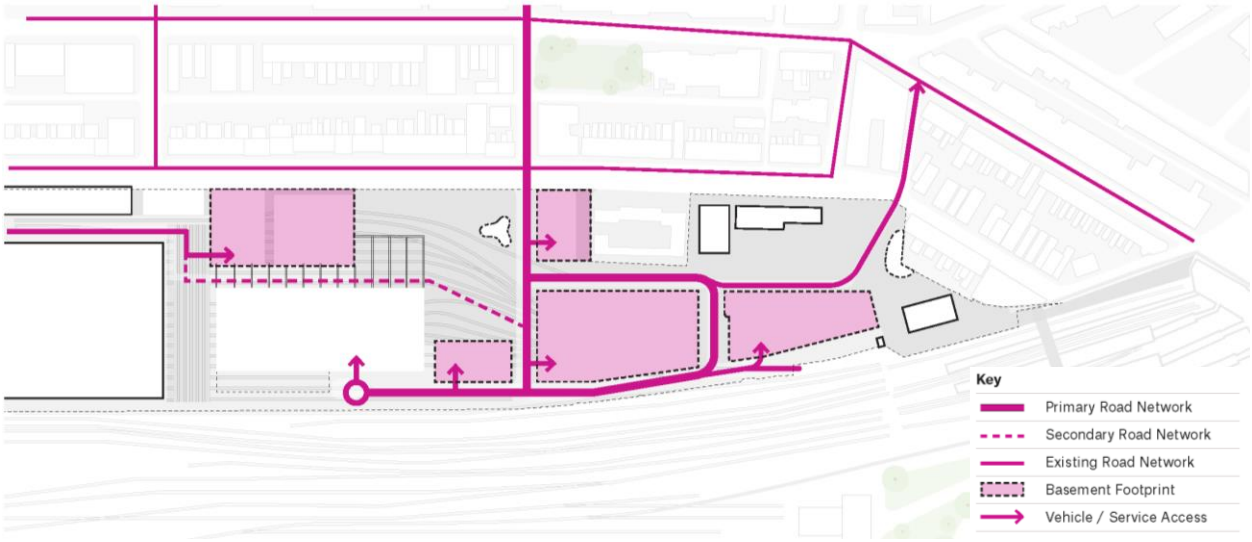
The movement network within the Paint Shop Sub-Precinct is shown in **Figure 4–2**. The internal movement network extends from the existing surrounding street network and is well-connected to Wilson Street, Carriageworks Way and Little Eveleigh Street. The network is designed to reduce vehicular traffic through the site and to promote walking and cycling movement network with pedestrian priority.

The main access to the Paint Shop Sub-Precinct is at the intersection of Wilson Street and Shepherd Street. The extension of Shepherd Street will provide a primary vehicle access into the Sub-Precinct, with this primary vehicle access ending at the Paint Shop Annex, providing access to the majority of the off-street parking areas and reducing traffic loading on the secondary shared street network.

A secondary street network continues from the Shepherd Street extension to service development at the eastern end of the Sub-Precinct. The eastern part of the secondary street network is a one-way network designed for low traffic volumes and catering for high volumes of pedestrians between Redfern station and the development. Hence, the east-west spine road between Shepherd Street extension and Little Eveleigh Street is designed as a shared zone environment that gives pedestrians priority.

The east-west spine road between Traversal Plaza and Shepherd Street will be a time-limited shared zone – shared by general traffic and pedestrians on market days when Carriageworks Way is closed to traffic. On non-market days, this section of the east-west spine road will be restricted to emergency vehicle access only.

Figure 4–2 Proposed movement network

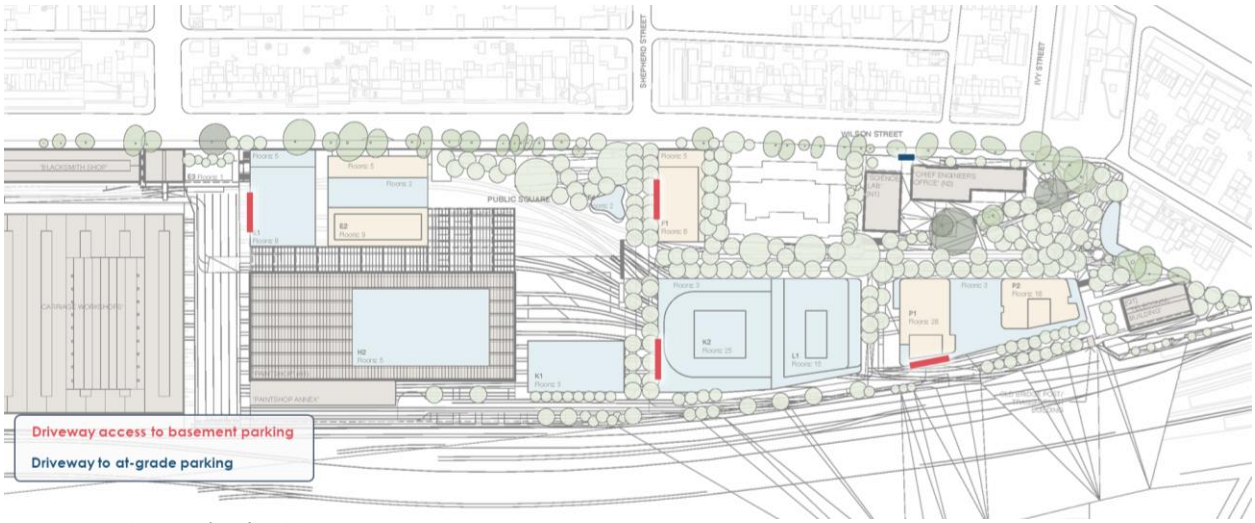


Source: Bates Smart and Turf, 2022

4.4.2 Vehicular and servicing access

Loading areas and vehicular access points for the development have generally been located to avoid conflicts with high pedestrian activity areas. While the exact location of each access point will be determined during the detailed design of individual buildings, the concept design has considered the most appropriate zones for access points, as shown in **Figure 4–3**.

Figure 4–3 Proposed car park and servicing access



Source: Bates Smart and Turf, 2022

The majority of these access points are located either along Wilson Street or Shepherd Street extension to minimise traffic loading and circulation on the secondary shared street network.

The car park and servicing accesses are proposed for:

– The Chief Engineers Building and the Science Lab via a driveway at Wilson Street to the off-street parking area

– Block F1 via an access at Shepherd Street extension, north of the east-west spine road to minimise conflicts with high pedestrian volumes along the east-west spine road

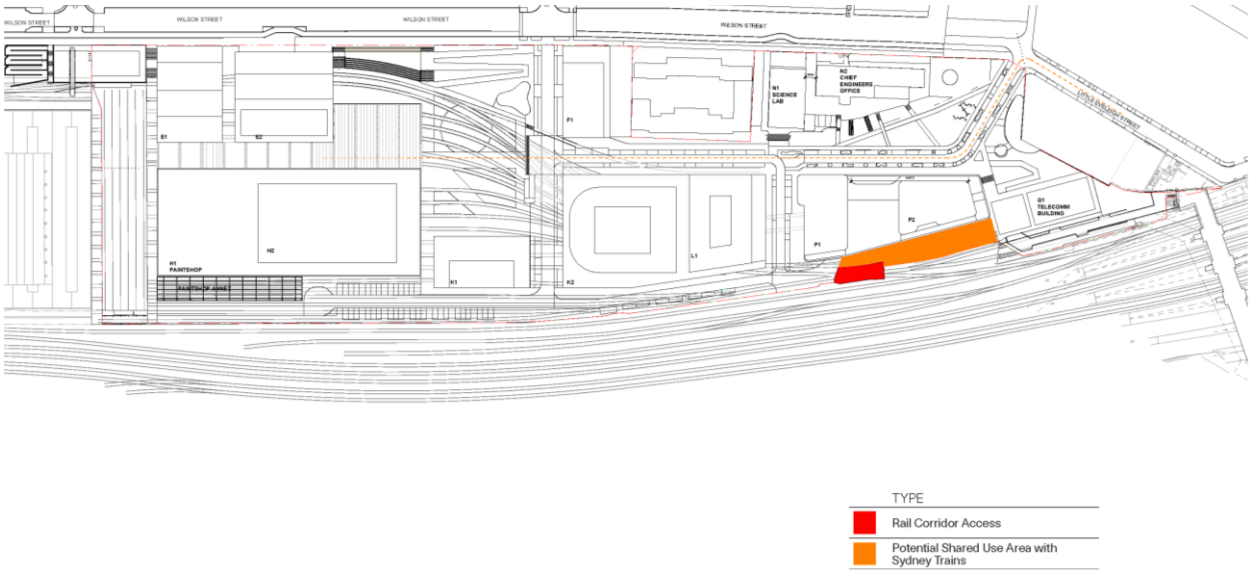
– Blocks H2, K1, K2 and L1 shared basement via an access at Shepherd Street extension, south of the east-west spine road for a common basement car park serving the two blocks

– Block P1 and Block P2 via an access to the south of Block P1 for a basement car park serving the two blocks

– Block E1, Block E2 and Block E4 via an access to the west of Block E1 for a basement car park serving the three blocks.

In addition to vehicular access to the future development blocks, the extension of Shepherd Street will also maintain heavy vehicle access (up to 19m articulated truck) to the rail corridor during maintenance periods, as shown in **Figure 4–4**.

Figure 4–4 Proposed rail corridor access



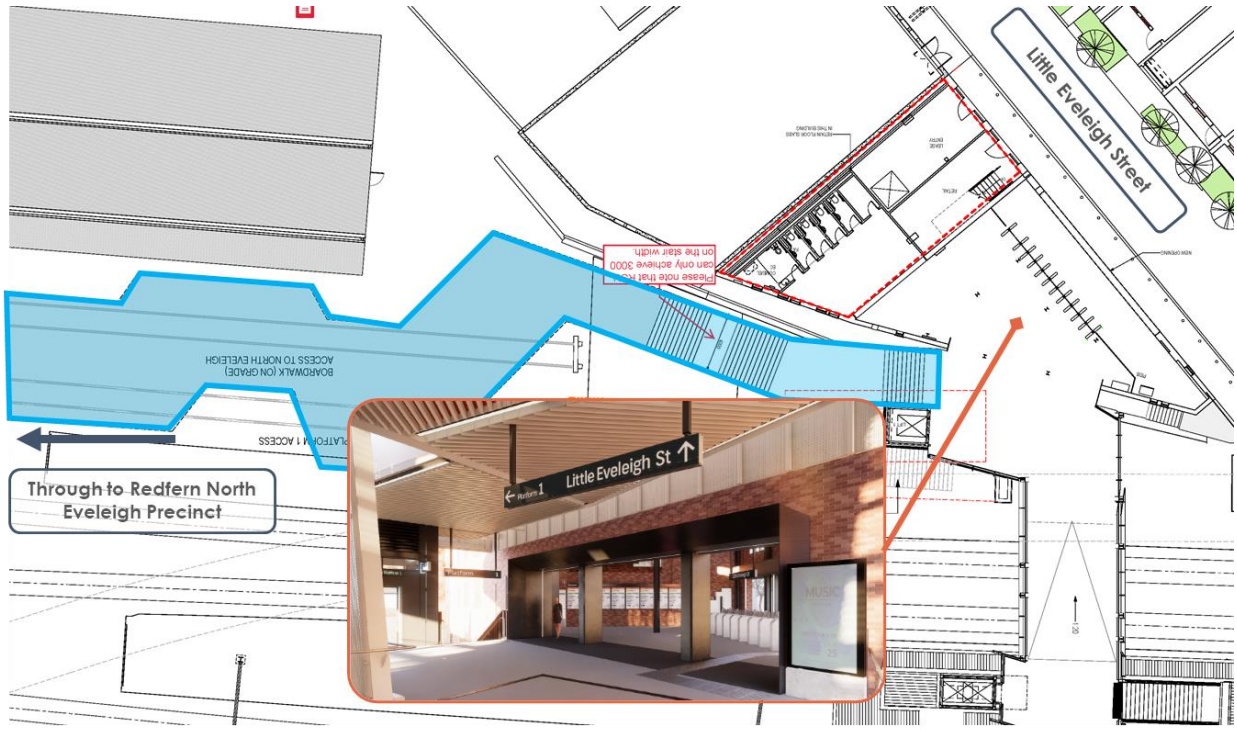
Source: Bates Smart and Turf, 2022

4.4.3 Public transport access

The Precinct is located within walking distance of both Redfern station and Macdonaldtown station. However, the Paint Shop Sub-Precinct is located immediately to the west of Redfern station, which has access to significantly more train services and destinations than Macdonaldtown station, and it is most likely that the majority of future residents and employees would use Redfern station to enter and exit the Sub-Precinct via the New Southern Concourse.

Precinct customers would be able to access the New Southern Concourse via a direct connection to Platform 0 (highlighted in blue in **Figure 4–5**) or the new street level access on Little Eveleigh Street.

Figure 4–5 Proposed connection between Redfern station and the Precinct



Design source: Redfern station (Design Inc, Novo Rail Alliance)

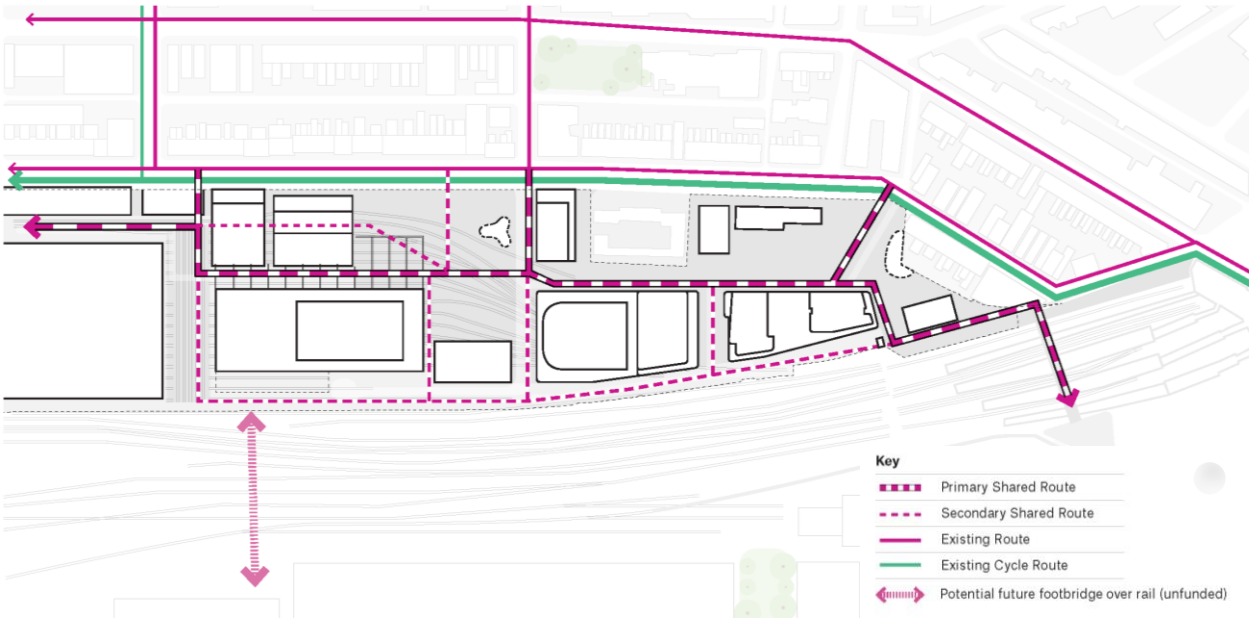
Access to bus services would most likely be at bus stops along King Street that connect future residents and employees of the Sub-Precinct to Sydney CBD to the east and the Inner West suburbs to the west.

Taxi ranks are currently provided on Carriageworks Way and at Redfern station. An additional 4 spaces is proposed at the primary vehicle access (Shepherd Street extension) outside Block K1 and outside Block F1. This will provide access for customers to both the retail, residential and public spaces. The taxi rank may be time limited / staged depending on the roll out of the precinct. For equitable access, the taxi rank would be designed to be DDA compliant.

4.4.4 Pedestrian and cyclist access

The proposed pedestrian and cyclist access routes within the Sub-Precinct and their connections to the surrounding network are shown in **Figure 4–6**.

Figure 4–6 Proposed pedestrian and cyclist access routes



Source: Bates Smart and Turf, 2022

Given the Sub-Precinct's proximity to Redfern station, the majority of future residents and employees of the Sub-Precinct will arrive or depart via the station's southern concourse. The Sub-Precinct would be connected to Redfern station via a new boardwalk access via Platform 0 to the southern concourse (shown in **Figure 4–5**) or via Little Eveleigh Street, which is being converted to a shared zone by Transport.

These two connections to Redfern station are extended through the Paint Shop Sub-Precinct via an east-west spine shared zone, providing an active street with pedestrian priority through the whole Sub-Precinct.

Other future residents and employees of the Paint Shop Sub-Precinct would arrive or depart via Shepherd Street, Codrington Street and/or Wilson Street to access the University of Sydney or bus stops along King Street.

It is proposed that the cycle routes would integrate with the existing adjacent facilities, especially on Wilson Street.

In addition to the connections shown in **Figure 4–6**, the design does not preclude an additional active transport connection across the rail corridor to South Eveleigh. Indicatively, the crossing could be provided landing in the Traversal Plaza between the Carriageworks and Paint Shop Sub-Precincts to align with previous feasibility studies completed.

4.4.5 Street typology

The proposed typology within the Sub-Precinct is presented in **Figure 4–7** and consists of four types of streets:

– Shared street: Designed with a 4m one-way travel lane for vehicles, while allowing counterflow cycle movements, it would have a 10km/h speed limit that provides a high level of comfort for pedestrians and cyclists. This will include Little Eveleigh Street and encompass the streets in the east half of the Sub-Precinct. The eastern end of the shared zone will connect into the Little Eveleigh Street shared zone and traffic exiting the precinct via Little Eveligh Street will only be allowed to travel onto Ivy Lane.

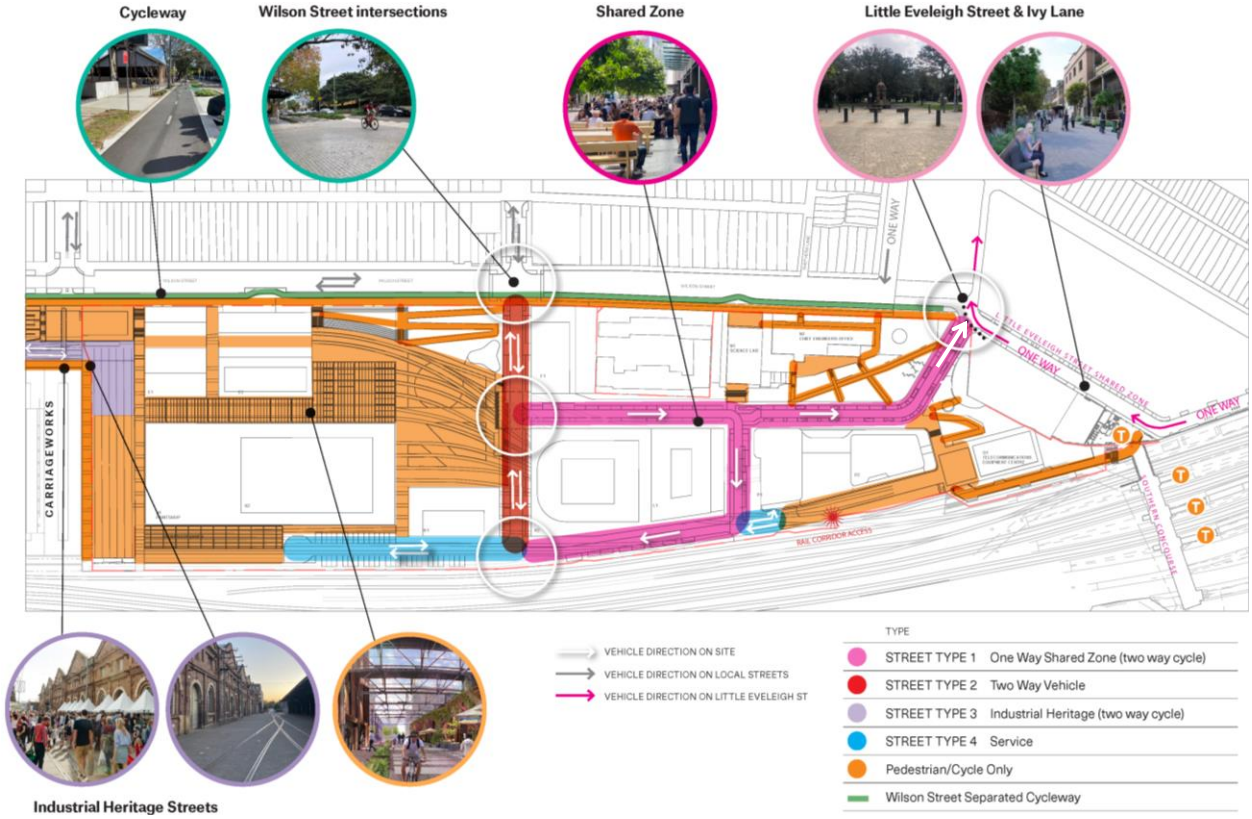
– Two-way vehicle street: This is the main vehicular and service entry and exit for the Sub-Precinct, which connects to Wilson Street opposite Shepherd Street. It would provide a high level of amenity for pedestrians on defined footpaths on both sides of the street, while providing vehicle and service access to new building, basements and loading docks.

– Industrial heritage street: This connects the Sub-Precinct to the Carriageworks Sub-Precinct. It would maintain the existing heritage conditions and surface, while providing a high level of comfort and amenity for pedestrians and cyclists. Vehicle access may be restricted at times.

– Service street: Running parallel to the adjacent rail line, these street sections provide vehicle and service access to new building, basements and loading docks, while providing emergency services access.

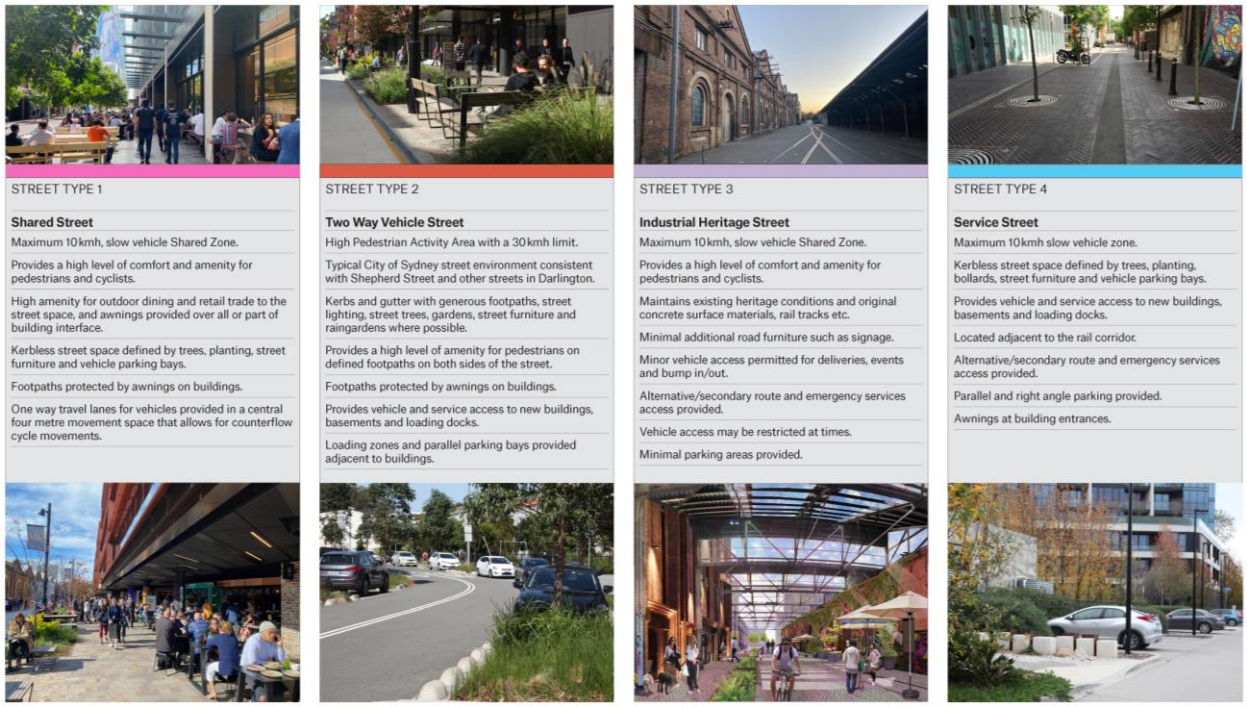
The remainder of the network in the Sub-Precinct is proposed as pedestrian only links and spaces. Further details on street types and cross-sections are provided in **Figure 4–8**.

Figure 4–7 Proposed street typologies



Source: Bates Smart and Turf, 2022

Figure 4–8 Proposed street types and cross-sections



Source: Bates Smart and Turf, 2022

4.5 Travel Demand Management

Sustainable transport and Travel Demand Management (TDM) strategies involve the application of policies, objectives, measures and targets to influence travel behaviour, to encourage uptake of sustainable forms of transport, i.e. non-car modes, wherever possible.

TDM measures have proven to reduce congestion created by growth within urban areas and unlock urban renewal opportunities. They result in travel behaviour that uses less road space than a single occupant vehicle commute and takes advantage of spare transport capacity outside the morning and afternoon peaks.

TDM strategies generally guide all relevant customers (residents, employees and visitors) in changing the travel behaviour in the following ways:

– Reduce travel

– Re-mode (consideration of travel via alternative modes)

– Re-time (consideration of travel at alternative times)

– Re-route.

Transport has set up a framework for encouraging more sustainable travel, which has been used as a key principle of planning for the development. A Travel Plan should be developed by future developers and monitored by strata management for the community to deliver best practice travel programs and initiatives to manage travel demand for a transit-oriented development. Key initiatives and measures of TDM strategies should be strongly suggested and further developed into a Travel Plan to:

– Reduce the need to travel

  - Planning of the wider Redfern North Eveleigh SSP as a mixed-use community to maximise trip containment within the precinct and encourage use of active transport (walking and cycling) for short trips.

– Re-think the mode of travel

  - Walking and cycling:
    - A highly permeable and safe pedestrian network throughout the development
    - Dedicated cycle routes that connect to the regional routes and major transport hubs
    - Key design principles to integrate walking and cycling network and facilities into the planning and delivery of the development
    - High quality, safe and accessible end-of-trip facilities (centralised cycle hubs that are integrated within development at convenient locations, on-street secure bicycle storage located conveniently at end of cycle destinations, parking hubs for shared bikes, lockers and showers)
    - Promotion of bicycle initiatives – such as cycle-to-work day, free bike check-up events.
  - Public transport:
    - Provision of frequent public transport services to establish a non-car travel behaviour
    - Good quality public transport stops in the vicinity of the development
    - Tailored information with clear mapping and walking catchments at public transport stops
    - Provision of public transport information from home via television channel or community app.
  - Parking measures to encourage alternative modes of travel:
    - Reduced parking rates with flexibility in parking arrangements such as shared parking between non-conflicting uses, shared vehicles parking and / or carpooling to accommodate parking needs of all employees
    - Parking spaces dedicated to electric vehicles, with charging stations (as required in the SSP Study requirements). The design to consider the future ability of spaces to link to electrical systems / power supply within the structure
    - Parking spaces dedicated to car share scheme and community car-share vehicles, both on-street and incorporated in easily accessed public car parks.

– Re-time and Re-route journeys:

- Development of specific community engagement program to enable changing travel behaviour which includes:
    - Active and public transport maps
    - Personalised journey planner
    - Notifications to latest travel information
    - Shared vehicles information
    - Car-pooling opportunities
    - Other precinct-related information.
- Real-time information embedded into development and public transport stops.

While it is important to develop a Travel Plan that is aimed at managing travel demand and reducing reliance on car travel, it is more important to monitor and evaluate the effectiveness of individual measures and the need to adjust the measures. The planning and implementation of a targeted Travel Plan with the above green travel initiatives / principles could support the delivery of a transit-oriented development at the Paint Shop Sub-Precinct that provides significant opportunities for alternative travel options and reduces the need for car travel.

At the SSP stage, there is no means to enforce the delivery of Green Travel Plan actions. It is recommended that subsequent development applications be given the requirement to develop green travel plans to realise the benefits of access to Redfern station.

4.6 Mode share targets

To align with the transport objectives developed for the Sub-Precinct (as shown in **Section 4.3**) and to take full advantage of the site's proximity to Redfern station and its current upgrade of the Southern Concourse while minimising the reliance on private vehicle trips, a set of aspirational mode share targets has been developed in consultation with City of Sydney.

Table 4-2 presents the existing travel mode shares for the surrounding area (Redfern-Chippendale SA2 and South Eveleigh) and the 2008 approved mode share targets for the overall Redfern North Eveleigh Precinct compared to the mode share targets for the Paint Shop Sub-Precinct, along with justifications for any changes in mode share as shown in **Table 4-3**. The general trend is a reduction in the car mode share target and an increase in the rail and active transport mode share targets

Table 4-2 Existing mode share and proposed mode share targets

Mode	Existing (2016 JTW) Redfern-Chippendale SA2		South Eveleigh 2021	Approved RNE Concept Plan (2008) *	Proposed Paint Shop Sub-Precinct	
	Inbound	Outbound			Residential	Non-Residential
Walk	10%	24%	12%	10%	30%	20%
Cycle	3%	5%		5%	10%	10%
Rail	42%	30%	54%	42%	47%	62%
Bus	7%	13%	16%	3%	3%	3%
Total non-vehicle	***62%***	***72%***	***82%***	***60%***	***90%***	***95%***
Vehicle	***36%***	***22%***	***18%***	***40%***	***10%***	***5%***
Other	2%	6%	-	-	-	-
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

* Note: It is assumed that the 2008 approved mode share targets for the Precinct will continue to be applied to the Clothing Store and Carriageworks Sub-Precincts

Table 4-3 Justification for proposed mode share targets

Mode	Proposed Paint Shop Sub-Precinct		Justification
	Residential	Non-Residential	
Walk	30%	20%	Increase from 2008 approved targets to align with CoS 2030 Strategy. A higher residential walk mode-share has been adopted in-line with the 2016 JTW outbound trends. As discussed in Section 3.8, the Household Travel survey also indicates that walk trips are more common for other non-commute trips including recreation, retail and education, hence supporting a higher mode-share for residential.
Cycle	10%	10%	Increase from 2008 approved targets to align with CoS 2030 Strategy. The increase prevalence of cycling infrastructure within the region, connecting to other key origins and destinations paired with the low car ownership and restricted parking will contribute to the higher mode-share.
Rail	47%	62%	A mode share consistent with observations from South Eveleigh has been adopted due to the proximity to Redfern station.
Bus	3%	3%	Consistent with 2008 approved targets and existing mode-share. The mode-share has not been increased due to the limited bus connectivity immediately adjacent to the precinct.
Total non-vehicle	***90%***	***95%***	***-***
Vehicle	***10%***	***5%***	***Constrained by parking provision and aim to minimise private vehicles***
Other	-	-	-
Total	**100%**	**100%**	**-**

4.7 Parking requirements and provision

4.7.1 Car parking facilities

Transit-oriented developments aim to adopt car parking rates that provide a balance between meeting car parking demand while encouraging sustainable and active transport by residents. New developments are encouraged to reduce car parking provision and demonstrate the inclusion of transport alternatives or strategies to discourage and minimise private motor vehicle use.

The 2008 Concept Plan Approval stipulated a cap of 1,800 spaces across the Precinct, which is broken down as:

– Clothes Store Sub-Precinct – 776 spaces

– Carriageworks Sub-Precinct – 238 spaces

– Paint Shop Sub-Precinct – 786 spaces.

To fully align with the aspirational mode share targets and the objective to achieve a 10 per cent private vehicle mode share target, it is the intent to constrain the car parking provision rate for the Paint Shop Sub-Precinct. The cap of 786 spaces for the Sub-Precinct has been further reduced even though the development GFA has increased. The parking rates proposed for the Sub-Precinct would be reduced from the 2008 approved rates.

4.7.1.1 Residential car parking provision

To manage private vehicle travel demand and trip generation, the residential car parking rates have been reduced from those that were specified in the 2008 approved concept plan to those specified as Category A in the City of Sydney LEP requirements, as summarised in **Table 4-4**. With the proposed 381 apartments, the maximum cap for residential car spaces is 244 spaces (inclusive of accessible and car share parking spaces) across the Paint Shop Sub-Precinct.

Table 4-4 Benchmarking of residential car parking rates

Residential	2008 approved rates	City of Sydney Category A rates
Studio	0.25 spaces / dwelling	0.1 spaces / dwelling
1-bedroom apartment	0.5 spaces / dwelling	0.3 spaces / dwelling
2-bedroom apartment	1.2 spaces / dwelling	0.7 spaces / dwelling
3+ bedroom apartment	2 spaces / dwelling	1 space / dwelling
Visitor	Not specified	Not applicable

Source: City of Sydney LEP 2012

4.7.1.2 Non-residential car parking provision

A review of non-residential car parking provision in similar locations in Sydney and specifications in the City of Sydney DCP was undertaken, as presented in **Table 4-5**. The non-residential car parking rate proposed is 1 space per 700m^2, which is the lowest of equivalent and recent developments within Sydney and North Sydney CBDs. This low level of parking is adopted to address CoS's feedback such that the network impact is kept to minimal given the site's excellent accessibility to public transport. Any further lowering would be subject to market feasibility.

Table 4-5 Benchmarking of non-residential car parking rates

Commercial uses	Parking rates (1 space per m^2 GFA)
North Eveleigh 2008 (approved scheme)	125m^2
Australian Technology Park (Redfern) as constructed	155m^2
Occupied building – Eclipse (60 Station St, Parramatta)	178m^2
Blackwattle Bay	~200m^2
Occupied building – North Sydney (near the train station)	230m^2
City of Sydney Council DCP (formula – Category D)	~230m^2
North Sydney Council DCP	400m^2
Victoria Cross OSD (approved scheme)	410m^2
Barangaroo	600m^2
Proposed Paint Shop Sub-Precinct	**700m^2**

With the proposed 109,547m^2 GFA of non-residential floorspace, the maximum cap for non-residential car spaces is 156 spaces (inclusive of accessible and car share parking spaces) across the Paint Shop Sub-Precinct. Of the 156 non-residential car spaces, three of these spaces (including one accessible parking space) are allocated for the Chief Engineer's Building.

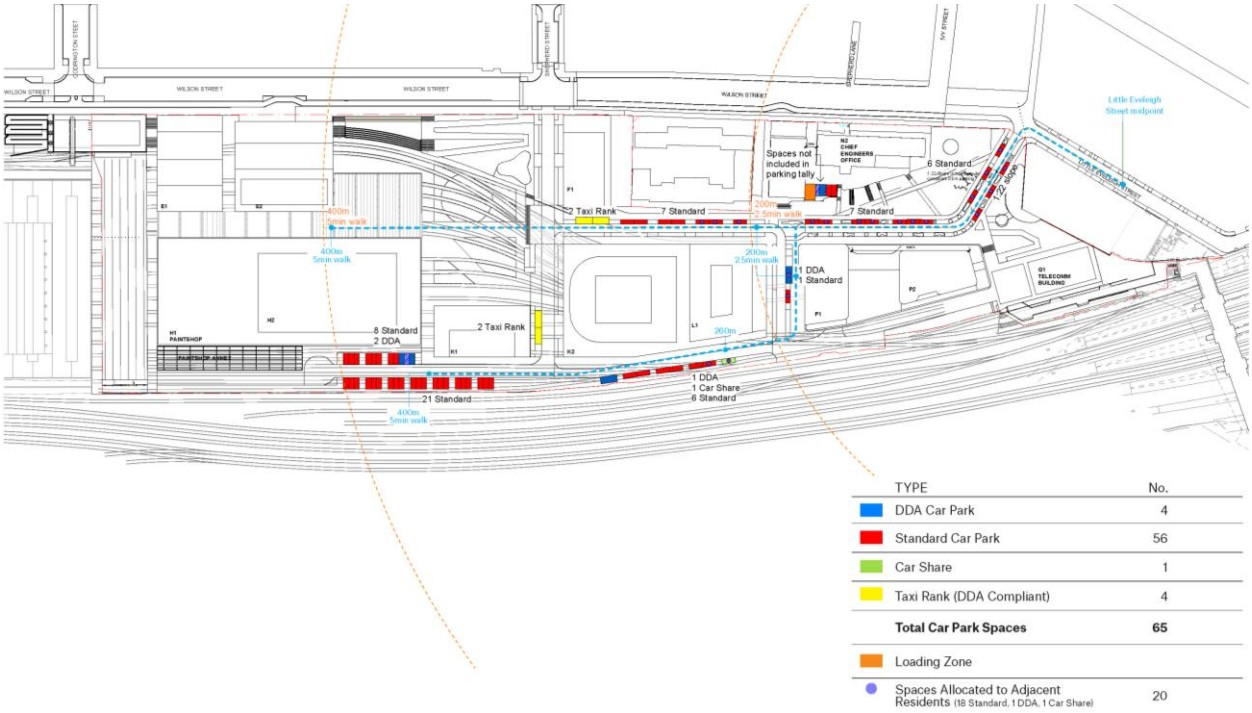
To retain the existing provision of parking for Sydney Trains maintenance and operational use, 66 car spaces will be provided within the future precinct development (Buildings P1 and P2).

4.7.1.3 On-street parking

Based on the 2008 Concept Plan approval, an additional 75 on-street parking spaces should be provided on the newly created roadways across the whole Precinct. As part of Transport for NSW commitments to the local residents of Little Eveleigh Street, the loss of 20 on-street parking spaces as a result of conversion of Little Eveleigh Street to a shared zone will be relocated to the Paint Shop Sub-Precinct. Hence, a total of 95 on-street parking spaces is to be accommodated across the whole Precinct.

Assuming 30 on-street spaces can still be accommodated in the Clothes Store Sub-Precinct, 65 on-street parking spaces are to be provided in the Paint Shop Sub-Precinct. The proposed location of the 65 on-street parking spaces is shown in **Figure 4–9**.

Figure 4–9 Proposed on-street parking spaces



Source: Bates Smart and Turf, 2022

The 65 on-street parking spaces created within the Sub-Precinct would cater for:

– Accessible parking spaces that cannot be provided within the basement of individual buildings, such as the Paint Shop, and to satisfy other mobility needs

– Taxi rank

– Point-to-point transport (pick up and drop off)

– Short-term visitors

– Shared vehicles.

Of the 65 on-street parking spaces, 20 spaces would be allocated to adjacent residents (including one accessible and one shared vehicle space).

4.7.2 Bicycle parking facilities

Bike parking spaces for new developments are to be provided in accordance with the minimum rates specified in **Table 4-6**, according to the City of Sydney DCP (2012).

Table 4-6 Bike parking rates

Uses	Residents / employees	Customers / visitors
Residential	1 per dwelling	1 per 10 dwellings
Office premises or business premises	1 per 150sqm GFA	1 per 400sqm GFA

Secure bike parking facilities are to be provided in accordance with the following:

– Class 1 bike lockers for occupants of residential buildings

– Class 2 bike facilities for staff/employees of any land use

– Class 3 bike rails for visitors of any land use.

End of trip facilities are to be provided where there are allocated bicycle parking facilities associated with commercial or retail development at the following rates according to the City of Sydney DCP (2012):

– One personal locker for each bike parking space
– One shower and change cubicle for up to 10 bike parking spaces
– 2 showers and change cubicles for 11 to 20 bike parking spaces
– 2 additional showers and cubicles for each additional 20 bike parking spaces or part thereof
– Showers and change facilities may be provided in the form of shower and change cubicles in a unisex area in both female and male change rooms
– Locker, change room and shower facilities are to be located close to the bike parking area, entry and exit points and within an area of security camera surveillance where there are such building security systems.

4.7.3 Other parking requirements

4.7.3.1 Accessible parking

Accessible parking spaces are to be provided in accordance with the 'Disability (Access to Premises — Buildings) Standards 2010' and the City of Sydney DCP (2012). The 2010 Disability Standards states that a disabled parking space need not be designated where there is less than 5 car parking spaces. While this would apply in the case of the CME / Science building, one disabled parking space would still be provided for the CME / Science building.

The following accessible parking spaces are proposed to be provided (included as part of the total parking provision) at the following rates:

– Non-residential uses – one space per 100 spaces
– Residential – one space per 20 car parking spaces, or part thereof. Accessible car parking spaces are to be allocated to adaptable units or as visitor parking. Accessible car parking spaces allocated to adaptable dwelling units are to be a part lot to an adaptable unit in the strata plan.
– On-street disabled parking spaces for general access are not defined against a level of provision. The residential requirement of 1 in 20 spaces could be applied to on-street parking, which would equate to 5 spaces across the entire Paint Shop Sub-Precinct.

4.7.3.2 Motorbike parking

In all buildings that provide onsite parking, one motorcycle parking space for every 12 car parking spaces is to be provided, according to City of Sydney DCP (2012).

Each motorcycle parking space is to be designated and located so that parked motorcycles are not vulnerable to being struck by a manoeuvring vehicle.

4.7.3.3 Car share parking

Car share spaces are to be provided at a rate of one space per 60 car spaces for residential and one space per 40 car spaces for non-residential, according to the City of Sydney DCP (2012). A total of 8 car share spaces should be provided (included as part of the total parking provision) across the Paint Shop Sub-Precinct.

Car share spaces are for the exclusive use of car share scheme vehicles and included in the number of car parking spaces permitted on a site. The car share parking spaces are to be:

– Located within basement car parks or at on-street parking spaces within or near the Sub-Precinct
– Grouped together in the most convenient locations relative to car parking entrances and pedestrian lifts or access points
– Located in well-lit places that allow for casual surveillance
– Signposted for use only by car share vehicles
– Made known to building occupants and car share members through appropriate signage, which indicates the availability of the scheme and promotes its use as an alternative mode of transport.

An on-street car share space is to be relocated from Little Eveleigh Street to a dedicated space outside Building L1.

4.7.3.4 Service vehicle parking and loading areas

The following minimum requirements for service vehicle parking apply to development in the Paint Shop Sub-Precinct:

– Residential buildings:
  - One space for the first 50 dwellings; plus
  - 0.5 spaces for every 50 dwellings or part thereafter.

– Commercial uses:
  - One space per 3,300sqm GFA, or part thereof, for the first 50,000sqm; plus
  - One space per 6,600sqm, or part thereof, for additional floor area over 50,000sqm and under 100,000sqm; plus
  - One space per 13,200sqm, or part thereof, for additional floor area over 100,000sqm.

Service and waste collection vehicle zones must be sufficient dimensioned to accommodate a standard 12.5m long HRV and allow for all access and manoeuvring to occur within the zone. Waste collection vehicles are assumed to be a 9.25m Council garbage truck.

4.7.3.5 Electric charging stations

A minimum of 10 per cent of the total number of spaces is to be provided for electric vehicle charging stations.

4.7.4 Parking summary

The Paint Shop Sub-Precinct would provide a total of 466 parking spaces, a 40 per cent reduction of parking spaces when compared to the 786 spaces in the 2008 scheme. The reduction of parking spaces from those approved in the 2008 scheme is aimed to further minimise traffic generation and impacts on the surrounding road network.

Transport is submitting a development scheme that can deliver a different mix for Building E1 where there could be an additional 67 apartments (total of 448 apartments) and a reduction of 6,750m^2 GFA of non-residential floorspace. Based on the parking rates adopted (Section 4.7.1), the alternative land-use mix (where Building E1 has more residential yield) could yield the provision of a maximum of 500 car parking spaces in the Paint Shop Sub-Precinct.

A breakdown of parking spaces by type and land uses for the Paint Shop Sub-Precinct is summarised in **Table 4-7**.

Table 4-7 Total Paint Shop Sub-Precinct parking provision

Uses	Total parking spaces	
	Building E1 with 381 apartments and 109,547m^2 GFA of non-residential	Building E1 with 448 apartments and 102,797m^2 GFA of non-residential
Residential	244	287
Non-residential	156	147
Sydney Trains maintenance and operational use	66	66
Paint Shop Sub-Precinct total	**466**	**500**
Clothes Store Sub-Precinct (no change from 2008 approved scheme)	776	
Carriageworks Sub-Precinct (no change from 2008 approved scheme)	238	
Precinct total	**1,480**	**1,514**

Hence, the maximum car parking provision of the precinct would be 1,514 spaces.

4.8 Trip generation

Trip generation for the Precinct was reconsidered with the updated assumptions for the Paint Shop Sub-Precinct, such as GFA and parking provision, to understand the likely infrastructure requirements to support the proposed

development. The person trip generation rates used in this assessment are presented in **Table 4-8**, while the vehicle trip generation rates are described in **Table 4-9**, along with the rationale for their use.

Table 4-8 Person trip generation rates

Uses	Person trip rate (peak hour)		Rationale
	AM	PM	
Trip rate per 100 square metres of Gross Floor Area			
Commercial	4.0	2.9	Based on TDT 2013/04a, with an assumed commercial density[1] of 1:18m^2
Retail	0.4	0.7	Based on TDT 2013/04a, with 90% of trips assumed to be linked trips within the precinct
Cultural / community	0.4	0.3	Based on TDT 2013/04a, with an assumed employee density of 1:200m^2
Trip rate per apartment			
Residential: 1 bedroom (including studio)	0.4	0.3	Based on TDT 2013/04a
Residential: 2 bedrooms	0.8	0.6	Based on TDT 2013/04a
Residential: 3 or more bedrooms	1.1	0.9	Based on TDT 2013/04a

Note: Commercial density based on similar developments currently proposed. Previous proposal (2008) was approximately 1:20 GFA m^2 based on forecast employment and GFA quoted in documentation.

Table 4-9 Vehicle trip generation rates

Uses	Vehicle trip rate per parking space (peak hour)		Rationale
	AM	PM	
Commercial / Retail / Cultural / community	0.81	0.62	Based on ATP rate. Linked to parking provision rather than GFA
Residential: 1 bedroom (including studio)	0.15	0.15	Linked to parking provision rather than GFA
Residential: 2 bedrooms			
Residential: 3 or more bedrooms			

4.8.1 Total Precinct trips

As discussed in Section 4.7.4, Transport is submitting a development scheme that can deliver a different mix for Building E1. Trip generation for both alternatives of Building E1 has been considered and the development scheme where Building E1 has a higher non-residential mix (381 apartments and 109,547m^2 GFA of non-residential) is expected to have a higher (worst case) total trip generation. This is due to higher trip generation rates for non-residential uses than residential one. The alternative development mix of Building E1 with 448 apartments and 102,797m^2 GFA of non-residential is expected to generate about 4 per cent fewer trips across the whole precinct during each of the peak hours.

Hence all the trip generation and demand figures presented in the rest of this section of the report, are the worst case scenario where Building E1 has a higher non-residential mix with 381 apartments and 109,547m^2 GFA of non-residential.

Based on the trip generation assumptions in **Table 4-8**, the Precinct is expected to generate about 4,800 person trips in the AM peak and 3,700 person trips in the PM peak, based on the highest trip generation scenario where Building E1 has a higher non-residential mix with 381 apartments and 109,547m^2 GFA of non-residential. The Paint Shop Sub-Precinct is expected to generate the majority (about 88 per cent) of the total trip demand across the Precinct.

Table 4-10 Total precinct trip generation (all modes)

Land Uses	Yield *	AM peak Person trip rate (peak hour)	AM peak Total person trips	PM peak Person trip rate (peak hour)	PM peak Total person trips
Paint Shop Sub-Precinct					
Residential	381	0.4 (1B) / 0.8 (2B) / 1.1 (3B)	272	0.3 (1B) / 0.6 (2B) / 0.9 (3B)	224
Commercial	98,557 m^2	4.0 (per 100 m^2 of GFA)	3,902	2.9 (per 100 m^2 of GFA)	2,892
Retail	8,472 m^2	0.4 (per 100 m^2 of GFA)	30	0.7 (per 100 m^2 of GFA)	63
Cultural / community	2,518 m^2	0.4 (per 100 m^2 of GFA)	9	0.3 (per 100 m^2 of GFA)	7
Sub-total			*4,213*		*3,186*
Carriageworks Sub-Precinct					
Cultural / community	34,588 m^2	0.4 (per 100 m^2 of GFA)	123	0.3 (per 100 m^2 of GFA)	91
Sub-total			*123*		*91*
Clothing Store Sub-Precinct					
Residential	710	0.4 (1B) / 0.8 (2B) / 1.1 (3B)	465	0.3 (1B) / 0.6 (2B) / 0.9 (3B)	384
Sub-total			*465*		*384*
Total			**4,801**		**3,662**

*- Based on the development mix where Building E1 has a higher non-residential mix with 381 apartments and 109,547m^2 GFA of non-residential

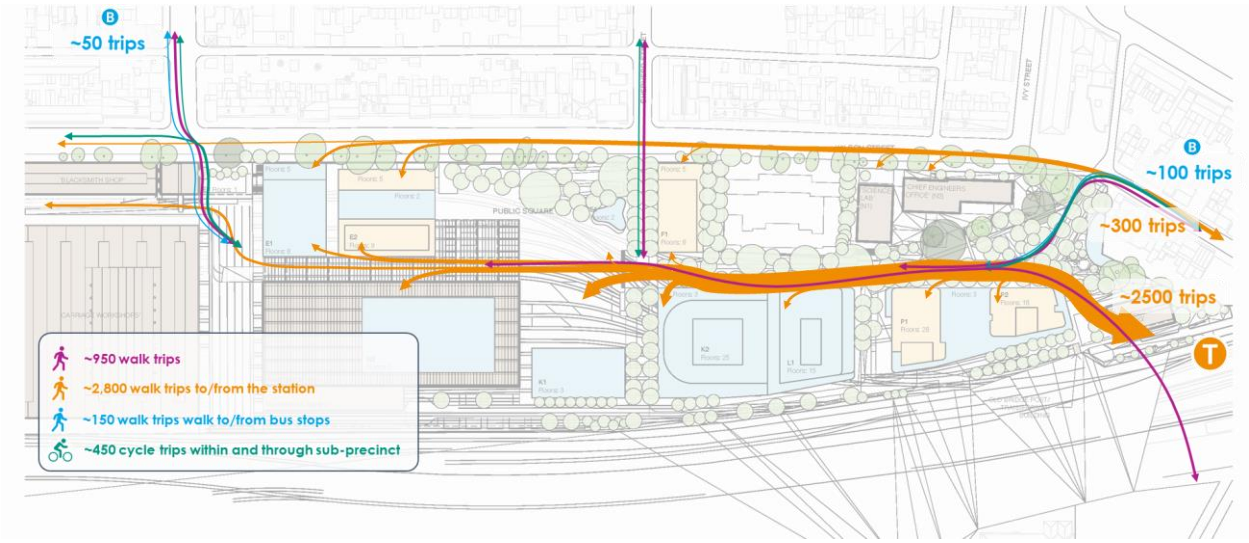
Using the 2008 approved mode shares for the Clothing Store and Carriageworks Sub-Precincts and the proposed mode share for the Paint Shop Sub-Precinct, as shown in **Table 4-11**, the total Precinct is forecast to generate about 470 vehicle trips and about 4,300 non-vehicle trips during the AM peak hour. The Paint Shop Sub-Precinct is forecast to generate about 240 vehicle trips and about 4,000 non-vehicle trips during the AM peak hour.

The total AM peak hour trip generation by mode for the Precinct is illustrated in **Table 4-11**.

Table 4-11 Total precinct trip generation by modes (AM peak)

Mode	Carriageworks | Clothing Store Sub-Precincts		Paint Shop Sub-Precinct				Total
	Approved mode share (2008)	AM peak hour trips	Proposed residential mode share	AM peak hour residential trips	Proposed non-residential mode share	AM peak hour non-residential trips	
Walk	10%	59	30%	81	20%	788	929
Cycle	5%	29	10%	27	10%	394	451
Rail	42%	247	47%	128	62%	2,435	2,810
Bus	3%	18	3%	8	3%	118	144
Total non-vehicle	*60%*	*353*	*90%*	*244*	*95%*	*3,736*	*4,333*
Vehicle	*40%*	*235*	*10%*	*27*	*5%*	*206*	*468*
Total	**100%**	**588**	**100%**	**273**	**100%**	**3,942**	**4,801**

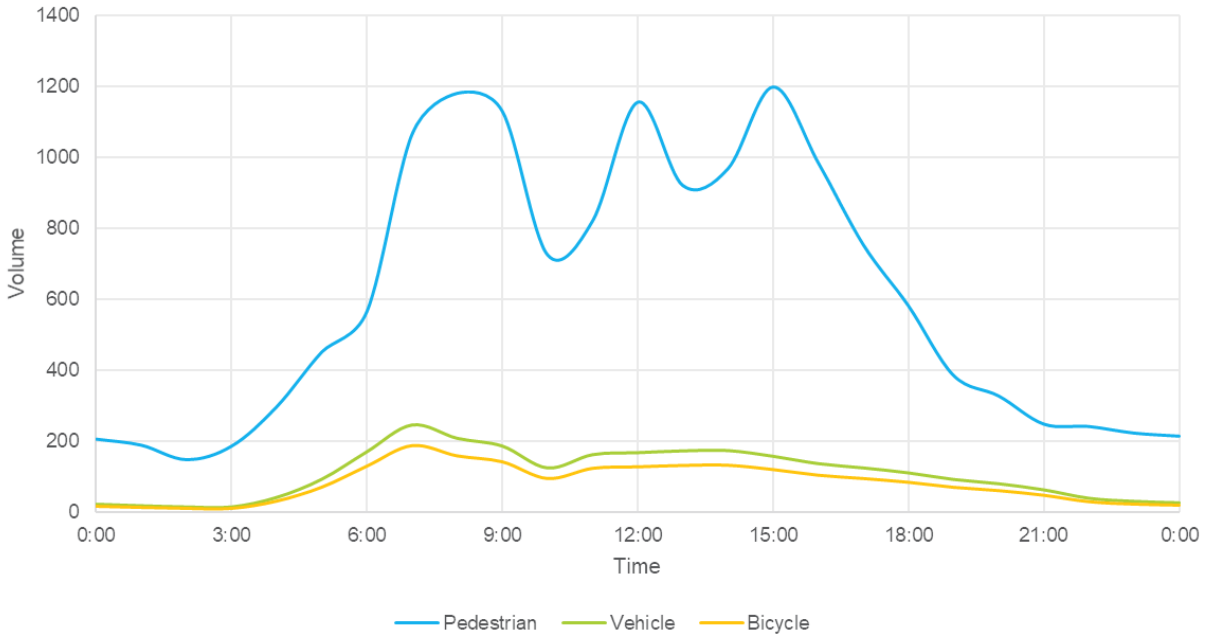
Figure 4–10 Total Precinct trip generation by mode (AM peak hour)



As shown in **Figure 4–10**, the majority of future residents and employees arriving and departing the precinct by rail would be accessing Redfern station via the east-west spine road (~2,500 trips) and Wilson Street / Little Eveleigh Street (300 trips). The three per cent of future residents and employees arriving and departing the precinct by bus would enter and leave the precinct via Butlin Avenue to access bus stops on City Road / King Street and via Little Eveleigh Street to access bus stops on Gibbons Street.

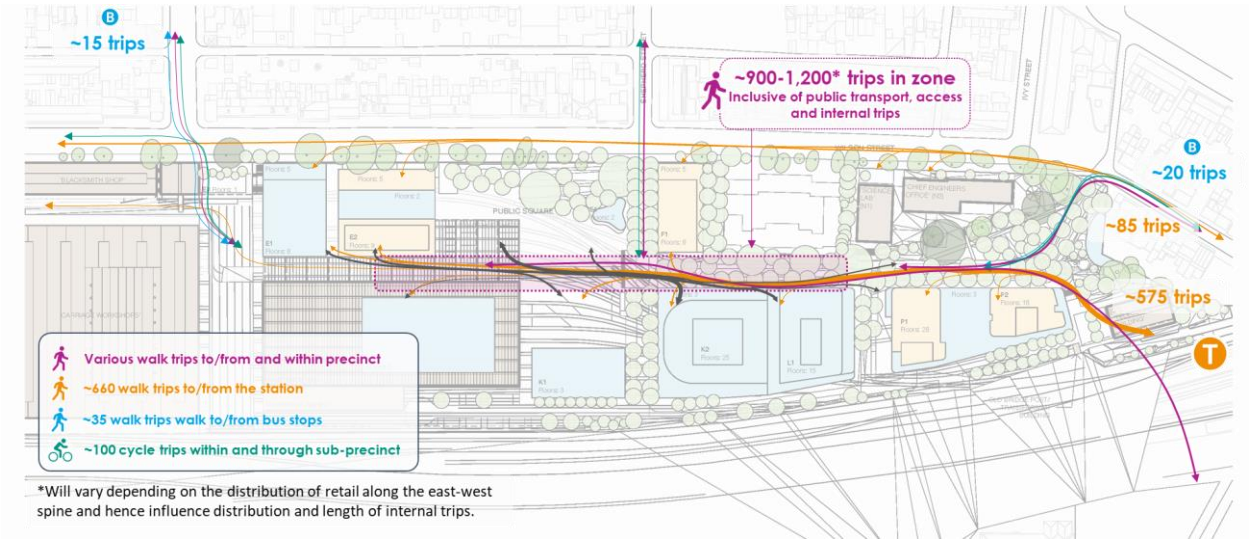
Trip demand will vary across the day. **Figure 4–11** shows the forecast trip demand by hour at the intersection of Shepherd Street extension and the east-west spine road.

Figure 4–11 Trip demand by hour at the intersection of Shepherd Street extension and the east-west spine road



Based on the daily profile of the trip demands of vehicles, pedestrians and cyclists, the trip demand by all modes in the mid-morning and early afternoon is shown in **Figure 4–12**.

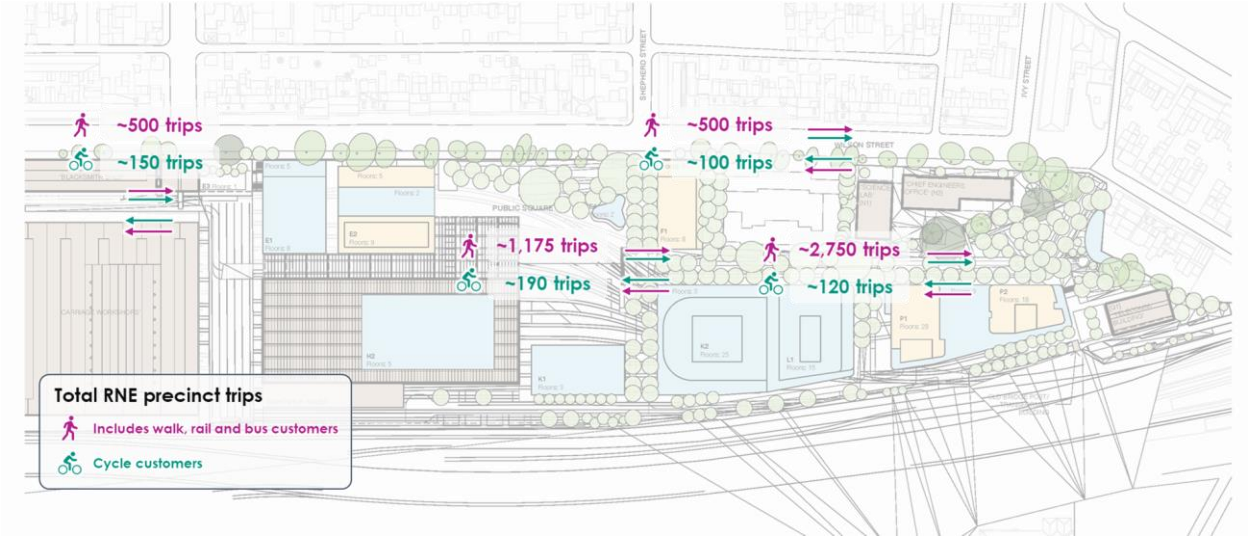
Figure 4–12 Paint Shop Sub-Precinct trip demand (Mid-morning and early afternoon – internal Sub-Precinct)



4.8.2 Pedestrian and cycling demand

Figure 4–13 shows the distribution of walking and cycling trips throughout the Paint Shop Sub-Precinct including the east-west spine road and Wilson Street. Trips illustrated include walking and cycling trips for the entire precinct.

Figure 4–13 Paint Shop Sub-Precinct walking and cycling trip demand (AM peak – internal Sub-Precinct)



4.8.3 Vehicle trip demand

Of the 240 vehicle trips forecast to be generated by the Sub-Precinct in the AM peak hour, about 80 of them are forecast to be point-to-point trips while the rest would be parking in the off-street car parks. The 80 point-to-point trips would be entering and leaving the Sub-Precinct in the same hour; so the total AM peak hour trip generation would be about 320 trips.

Within the Sub-Precinct, the 320 vehicular trips were distributed based on their origins / destinations as shown in **Figure 4–14**. Since the majority of the basement car parks are designed to be accessed via Shepherd Street extension, the Shepherd Street extension would carry the highest volume of traffic within the Sub-Precinct – up to 250 vehicles per hour just south of Wilson Street. The east west spine is only expected to carry up to 60 vehicles per hour, catering for a mix of point-to-point traffic and vehicles accessing the car parks of Blocks P1 and P2.

Figure 4–15 also illustrates the vehicle trip demand within the Sub-Precinct during a mid-morning and early afternoon hour. These traffic volumes are estimated based on the daily profile as shown in **Figure 4–11**. The Shepherd Street extension would be expected to carry less than 100 vehicles per hour in each direction.

Figure 4–14 Paint Shop Sub-Precinct vehicle trip demand (AM peak – internal Sub-Precinct)

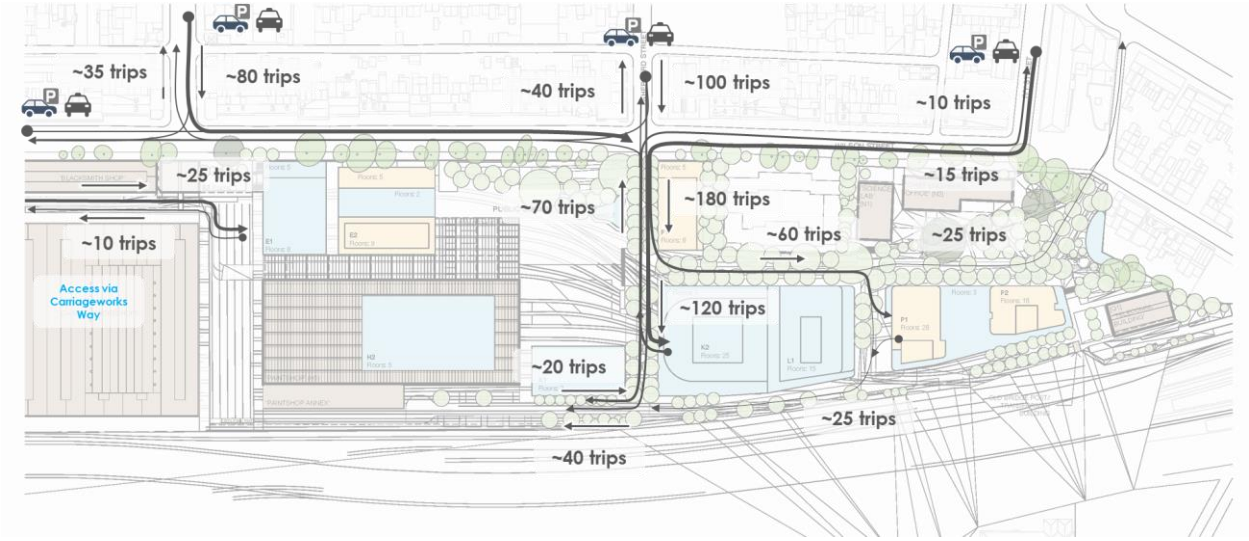
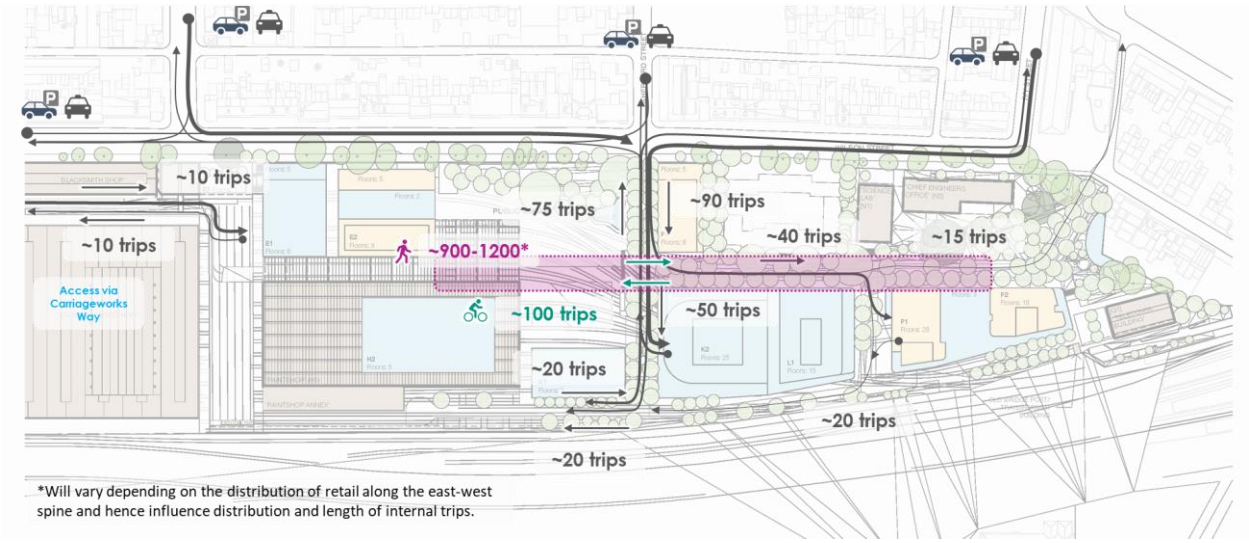


Figure 4–15 Paint Shop Sub-Precinct vehicle trip demand (Mid-morning and early afternoon – internal Sub-Precinct)



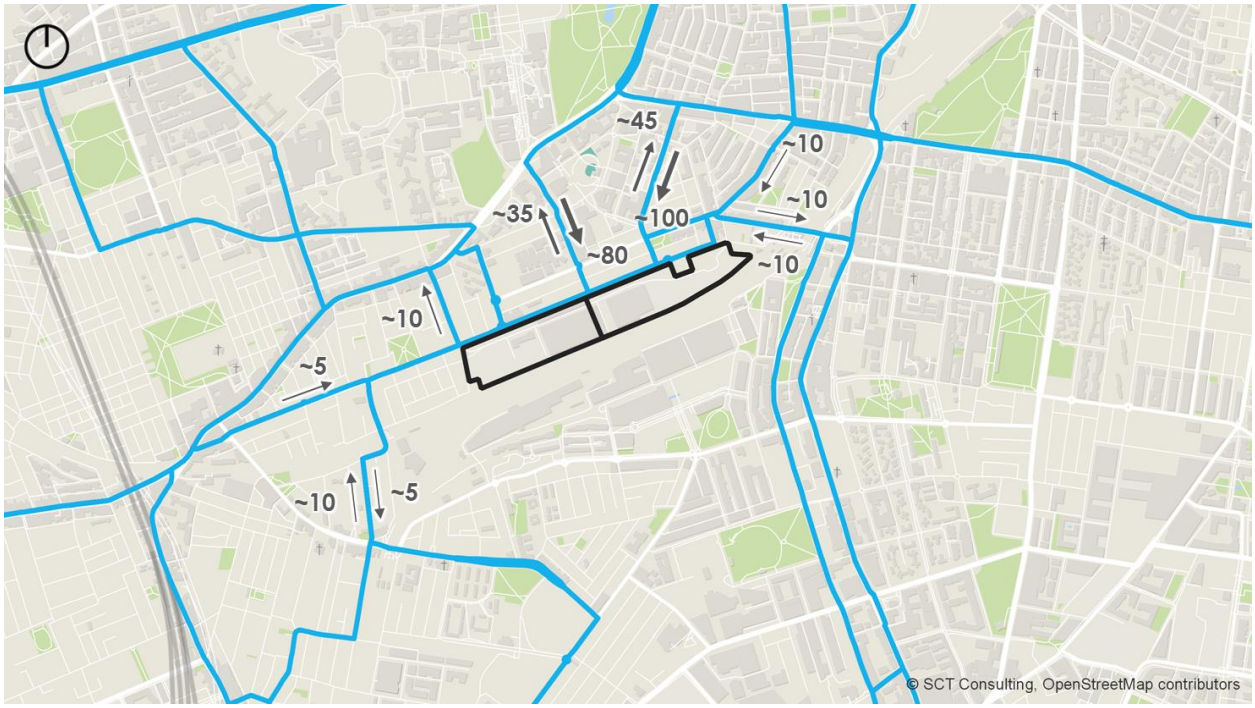
External to the Precinct, the 320 vehicular trips were distributed to the external road network based on the Journey to Walk (2016) data for the Redfern SA2, as summarised in **Table 4-12**.

Table 4-12 External trip distribution pattern

Direction	Typical origins / destinations	Origin – proportion of trips	Origin - number of trips	Destination – proportion of trips	Destination - number of trips
West	Inner West, Hurstville, Kogarah, Rockdale	12%	5	2%	13
East	Eastern Suburbs, South Eastern Sydney	10%	14	7%	11
North	North Shore, Northern Beaches, North Western Sydney	73%	183	88%	80
South	Sutherland, South Western Sydney	5%	7	3%	5
Total		**100%**	**209**	**100%**	**109**

These vehicular trips were distributed onto the surrounding road network based on their origins / destinations external to the precinct, as shown in **Figure 4–16**. The highest increases in traffic on the surrounding road network are expected to be on Wilson Street, Shepherd Street and Bultin Avenue / Codrington Street, with up to 100 additional vehicles travelling inbound towards the Sub-Precinct on each of these three approach roads during the AM peak hour.

Figure 4–16 Paint Shop Sub-Precinct vehicle trip demand (AM peak – external network)



5.0 Traffic and transport impact assessment

5.1 Impacts on public transport

The bus mode share is forecast to be the same as the 2008 approved mode share and is only likely to be a fairly small component of the movement to and from the Sub-Precinct. Subsequently, the small increase could be accommodated within the spare standing (and some seated) capacity identified on existing bus routes.

Due to the proximity of Redfern station, the rail mode share for the Sub-Precinct (47 per cent for residential and 62 per cent for non-residential) is forecast to be higher than the 2008 approved rail mode share (42 per cent), with a corresponding increase in rail trips. A total of about 2,800 people are forecast to enter and exit the Sub-Precinct in the AM peak hour by rail.

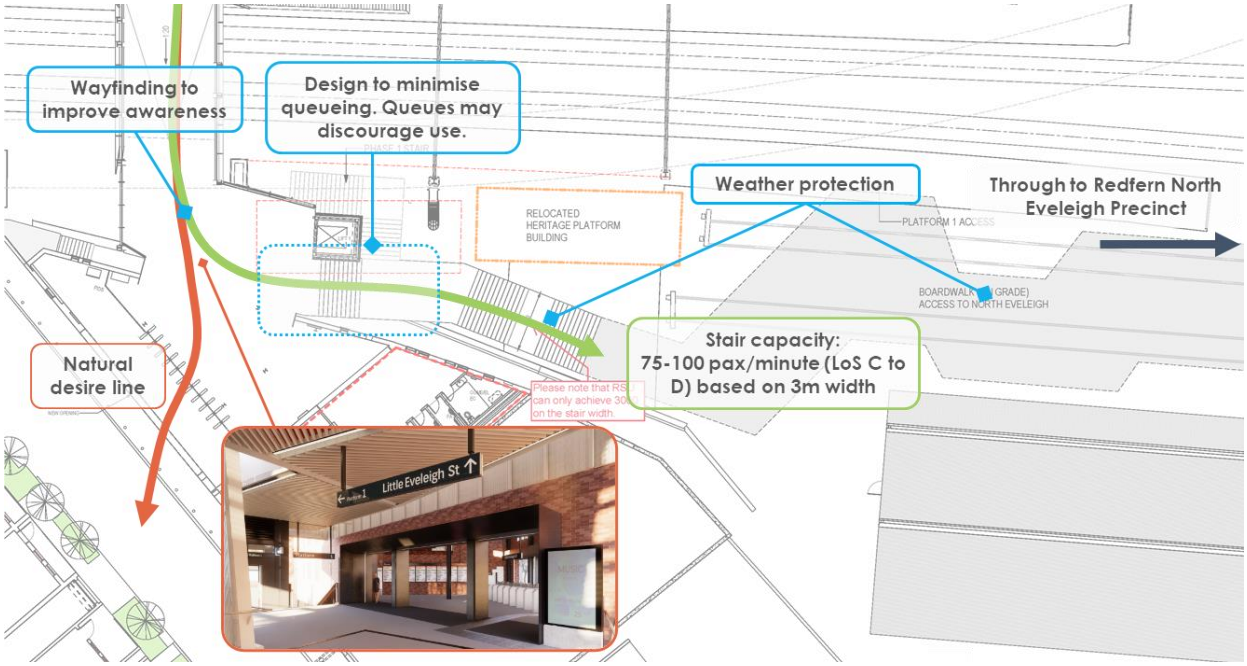
It is assumed future forecasts (and associated assessment) of Redfern station include a level of land use uplift within the Redfern area, which may include a proportion of the Redfern North Eveleigh precinct as per the approved 2008 scheme. Based on the mode-share and land-use in the 2008 scheme, this equates to approximately 1,200 forecast rail trips. Consequently, the revised scheme increases rail trips by 1,600 during the AM peak hour.

Over 120 train services operate through Redfern station during peak hours, with significant spare capacity on outbound services from Central Station. Although the planned Sydney Metro West will not stop at Redfern station, it provides an attractive alternative for citybound customers, which will likely provide additional capacity on Sydney Trains services via Redfern.

Spread across the myriad of platforms and services operating from each of these services, the increase will be relatively minor to each individual service (and platform clearance). Over 120 train services operate through Redfern station during peak hours, and if customers are assumed to use and be spread across ~75% of these services this increase equates to less 20 customers per service. With the capacity relief due to Sydney Metro City & Southwest and the increase vertical transport capacity provided by the new Southern Concourse, the station itself is likely to be able to accommodate the increased demand with no tangible impact on operations.

The key location will be the connection between Redfern station and the precinct, as this customer demand will be consolidated in one location and direction. As illustrated in **Figure 5–1**, the southern concourse designs at Redfern station have been space proofed to accommodate stairs to a boardwalk connection on Platform 0 through to the Redfern North Eveleigh Precinct. The capacity of the proposed stairs (75-100 customers per minute) is higher than the forecast Precinct-related rail customer demand (equates to about 50-65 customers per minute).

Figure 5–1 Redfern station Southern Concourse – integration with the Precinct



Design source: Redfern station (Design Inc, Novo Rail Alliance)

Minor changes can be made as identified in **Figure 5–1** to improve the attractiveness of the boardwalk connection to divert customers from the natural desire line of Little Eveleigh Street and minimise the impact to residents.

To accommodate the additional customers travelling between Platform 0 and the Redfern North Eveleigh Precinct, additional Opal tap-on / tap-off poles would need to be provided. Based on an Opal pole capacity of 15 customers per minute, approximately 3-4 additional poles would be required to accommodate the peak flow of 50-65 customers per minute. In line with TfNSW design guidelines, these poles should be placed:

– Within the view of the station entry point

– Away from the circulation paths

– Such that they are protected from inclement weather (if reasonable).

Consequently, the Opal poles should be placed on the boardwalk near the base of the of the stairs. They should be positioned on either side of the customer desire line to/from the stairs to minimise conflict. To stagger queues, it is recommended that the Opal pole is not placed in the middle of the access (as shown in Figure 5–2). Instead, it is recommended the Opal poles are spaced a couple metres apart along either side of the boardwalk.

Figure 5–2 Example arrangement of Opal poles at Redfern Station (Marian Street access near ATP)

Figure Source: Google Street View (September 2020)

5.2 Impacts on people who walk

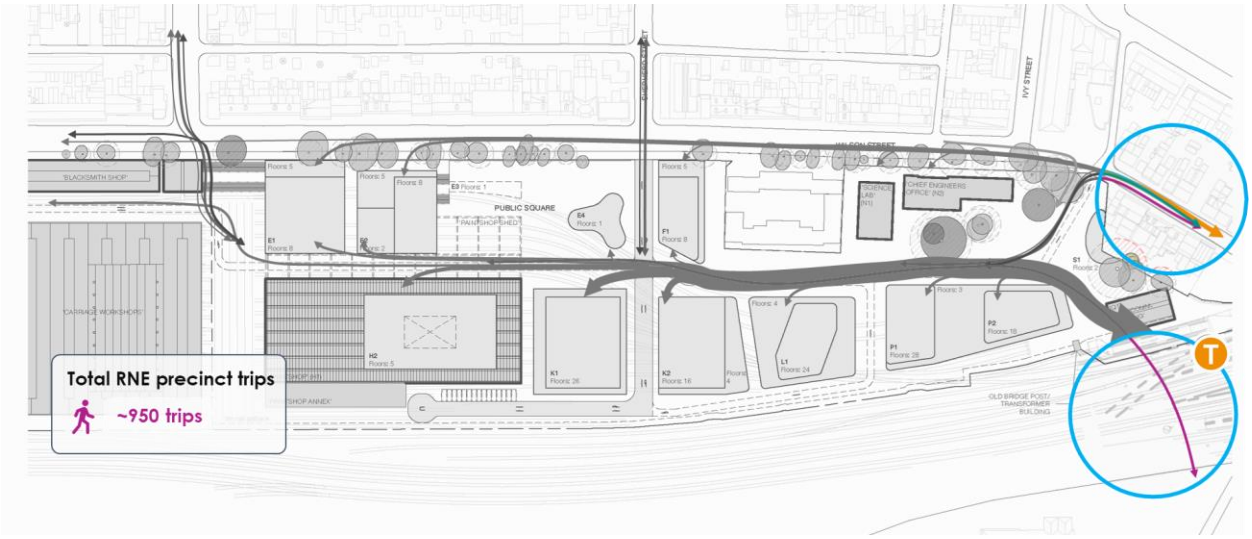
A total of about 950 people are forecast to enter and exit the Precinct in the AM peak hour by walking (about 875 relate to the Paint Shop Sub-Precinct). While this is an increase from the 2008 approved scheme, the internal pedestrian network has been designed to always accommodate pedestrians in a comfortable environment (Level of Service C or better).

The impact on the external walking network is spread through the area surrounding the site. As highlighted in **Figure 5–3**, there are two areas of interest:

– Redfern station New Southern Concourse

– Little Eveleigh Street shared zone (and by extension Lawson Street).

Figure 5–3 Precinct trip generation – people who walk on key external corridors



The potential customer demand for the southern concourse has been estimated at about 200 customers per hour during the AM peak hour. This equates to less than four customers per minute and would likely be accommodated by the new boardwalk (**Figure 5–1**) and southern concourse with limited impact to the station operations or capacity.

Likely walking demand on Little Eveleigh Street is limited to people accessing other Sub-Precincts and the Paint Shop Sub-Precinct buildings with a frontage on Wilson Street. This is expected to translate into a relatively low demand, which would not significantly change expected volumes on Lawson Street or Little Eveleigh Street. A key requirement for this is directing the majority of Redfern station customers to use the access via Platform 0 through to the precinct, hence it is critical that wayfinding is provided to encourage use (as identified in **Figure 5–1**).

If we assume 50 per cent of the 950 people walk to or from north of the precinct, this equates to <10 people per minute spread across four north-south streets. The impact could be accommodated within the comfortable level of capacity of a standard footpath, and hence does not require detailed modelling.

5.3 Impacts on people who ride

A total of about 450 people are forecast to enter and exit the Precinct in the AM peak hour by cycling (about 420 specifically related to the Paint Shop Sub-Precinct). While this is an increase from the 2008 approved scheme, the Sub-Precinct is served by existing cycling connections, including a dedicated facility along Wilson Street, adjacent to the site. It is proposed that the cycle routes would integrate with the existing adjacent facilities, especially on Wilson Street, and it is considered that the surrounding cycle network would be able to accommodate this increase.

5.4 Impacts on parking

Based on a maximum of provision of 500 parking spaces in the Sub-Precinct, there is a reduction of 286 spaces in the quantity of approved parking in the 2008 Concept Plan. The reduction is due to a further reduction from 786 to 500 car parking spaces in the Paint Shop Sub-Precinct, to fully align with the aspirational mode share targets and the

objective to achieve a 10 per cent private vehicle mode share target despite an increase in total GFA for the Sub-Precinct.

5.5 Impacts on the road network

Compared to the approved 2008 Concept Plan, there is forecast to be a 47 per cent reduction in peak hour vehicle trips from the Precinct – the 2008 Concept Plan was forecast to generate 880 peak hour vehicle trips, while the new proposal is forecast to generate 470 peak hour vehicle trips, of which the Paint Shop Sub-Precinct is forecast to generate 240 peak hour vehicle trips. Adding in point-to-point vehicles, which would enter and leave in the same hour, increases this forecast generation to 320 peak hour vehicle trips.

This reduction is due to the lower trip rates adopted based on the parking rate rather than the gross floor area of the development, which is considered more appropriate given the constrained parking supply. Therefore, a reduced impact on the road network is forecast compared to what was approved in the 2008 Concept Plan.

As current traffic and travel patterns are impacted by Covid-19 restrictions, it would not be appropriate to undertake traffic surveys now. A review of historical traffic data on King Street indicates fairly consistent traffic volumes between 2016 and 2019. The 2008 traffic study had assumed about eight per cent growth over a 10-year horizon.

The proposed approach, which is supported by the City of Sydney, is to submit the Planning Approval without traffic modelling, with impacts based on the 2008 approval. Traffic surveys and modelling will be undertaken and reported on in the Response to Submission phase, on the assumption that travel patterns have returned to something close to a pre-Covid normal. The modelling to be undertaken in the Response to Submission phase will be consistent with the previous assessment:

– Data collection will be undertaken at 10 locations with minor updates to reflect current and future travel assumptions.

– Modelling will be undertaken using SIDRA intersection analysis as either stand-alone sites or as networks for nearby sites (as appropriate).

– The assessment will focus on the following periods:

  - 2025 AM and PM peak periods (year of opening)
  - 2030 AM and PM peak periods (full development)

The modelling will confirm if any additional upgrades are required above those contained in the 2008 Concept Plan approval. Further upgrades may include changes from priority intersections to signalised control and/or provision of turning bays at some locations. Traffic surveys are currently proposed to be undertaken in August 2022, following the conclusion of the University and school holiday period, with modelling to commence in September 2022.

However, the expected increase in traffic as shown in **Figure 4–16** would not expect to trigger any infrastructure upgrades on the surrounding network. The highest increases in traffic on the surrounding road network are expected to be on Wilson Street, Shepherd Street and Bultin Avenue / Codrington Street, with less than 100 additional vehicles travelling inbound towards the Sub-Precinct on each of these three approach roads during the AM peak hour.

5.6 Operational impact mitigation measures

The Statement of Commitments in the 2008 Concept Plan Approval notes that, with regard to Transport and Traffic, the proponent commits to prepare a Transport Management and Accessibility Plan (TMAP) at the Project Application Stage, which includes the following:

– Access and Road Works

  - The provision of road works on Wilson Street to enable access to the site. This will include:
    - Improvement to the existing access at the western end of the site (*already completed*).
    - Improvement to the intersection of Wilson Street and Shepherd Street for a new site access.
  - The associated Road application will be submitted to the Roads and Traffic Authority or the relevant roads authority
  - Undertaking detailed designs for the intersection improvement works identified in the Traffic Impact Assessment, prepared by Parsons Brinckerhoff

– Road and Public Domain Dedications

  - The dedication of public roads in accordance with the Parks and Public Domain Plan prepared by Bates Smart.
  - Ensuring that all public roads intended to be dedicated are constructed to the standards of the City of Sydney Council namely the *Development Specifications for Civil Works Design and Construction*.

– Traffic management

  - Traffic management measures to ensure a right hand turn is not permitted from Wilson Street into Queen Street when exiting the site from Carriageworks Way, subject to the approval of the relevant road authority.

– Car parking

  - Car spaces for use by a car share scheme are to be provided.

– Public transport

  - Identify public transport opportunities and constraints, with a view to encouraging a high level of travel by public transport, walking and cycling.
  - Workplace strategies for maximising public transport use, walking and cycling to access employment uses on the site.

– Pedestrians and Cyclists

  - The provision of a pedestrian / cycle route through the site.
  - A strategy for pedestrian and cyclist safety, which includes consideration of the potential impact on cyclists in the design of the roundabout at the Shepherd Street intersection.
  - Providing secure bicycle facilities in accordance with the provisions of the *South Sydney DCP No.11 Transport Guidelines for Development 1996*
  - Investigating opportunities for improving pedestrian access between the site and Macdonaldtown station. A summary of preliminary discussions with the City of Sydney Council regarding improvements to this access are to be provided.

– Staging

  - The provision of details or timing for the proposed road and site access works, intersection improvements and dedications.

Based on the revised scheme, the following changes are proposed to the Transport and Pedestrian Management Modifications and the Transport and Traffic Statement of Commitments from the 2008 Concept Plan Approval:

Table 5-1 Proposed changes to 2008 Concept Plan Approval

<table>
<tr><th colspan="2">2008 Concept Plan Approval</th><th colspan="2">Proposed changes</th></tr>
<tr><td colspan="4">Schedule 2 Recommended modifications to Concept Plan Approval</td></tr>
<tr><td colspan="2">Part A1 Development Description
(3) A maximum of 1,800 car parking spaces to service the mix of uses, including retention of existing car parking spaces allocated to the Carriageworks and Blacksmiths' Shop buildings, with the final amount to be determined at the detailed design stages using the following maximum car parking rates:</td><td colspan="2">Part A1 Development Description
(3) A maximum of 1,514 car parking spaces to service the mix of uses, including retention of existing provison of 66 parking spaces for Sydney Trains maintenance and operational use and retention of existing car parking spaces allocated to the Carriageworks and Blacksmiths' Shop buildings (TBC), with the final amount to be determined at the detailed design stages using the following maximum car parking rates:</td></tr>
<tr><td>Residential</td><td>Maximum car parking rate</td><td>Residential</td><td>Maximum car parking rate</td></tr>
<tr><td>Studio apartment</td><td>0.25 spaces / dwelling</td><td>Studio apartment</td><td>0.1 spaces / dwelling</td></tr>
<tr><td>1-bedroom apartment</td><td>0.50 spaces / dwelling</td><td>1-bedroom apartment</td><td>0.3 spaces / dwelling</td></tr>
<tr><td>2-bedroom apartment</td><td>1.2 spaces / dwelling</td><td>2-bedroom apartment</td><td>0.7 spaces / dwelling</td></tr>
</table>

2008 Concept Plan Approval		Proposed changes	
3+ bedroom apartment	2 spaces / dwelling	3+ bedroom apartment	1 space / dwelling
Other		**Other**	
Commercial, retail and cultural uses	1 space / 125m^2	Commercial, retail and cultural uses	1 space / 700m^2
New commercial / cultural uses (involving additional GFA) within the Carriageworks Building and the Blacksmiths' Shop Building	1 space / 125m^2	New commercial / cultural uses (involving additional GFA) within the Carriageworks Building and the Blacksmiths' Shop Building	1 space / 125m^2
Part B3 Transport and Pedestrian Management (1) (a) Identification of measures to support the achievement of a maximum of 40% mode share to car. The measures proposed should be to the satisfaction of the Ministry of Transport and may include enhancements to public transport, changes in parking allocation and /or pedestrian infrastructure, policy initiative or behaviour change programs. (b) Detailed modelling of critical local and regional intersections are to be calibrated and reviewed in consultation with the RTA and Council. Trip generation, mode split assumptions and modelling methodology would also need to be undertaken in consultation with the RTA and Ministry of Transport. Both AM and PM peaks are to be modelled to determine the impact of any proposed works on intersection operation.		**Part B3 Transport and Pedestrian Management** (1) (a) Identification of measures to support the achievement of a maximum of 10% mode share to car. The measures proposed should be to the satisfaction of Transport for NSW and may include enhancements to public transport, changes in parking allocation and /or pedestrian infrastructure, policy initiative or behaviour change programs. (b) Detailed modelling of critical local and regional intersections are to be calibrated and reviewed in consultation with Transport for NSW and Council. Trip generation, mode split assumptions and modelling methodology would also need to be undertaken in consultation with Transport for NSW. Both AM and PM peaks are to be modelled to determine the impact of any proposed works on intersection operation.	
Schedule 3 Proponent's Statement of Commitments			
– **Access and Road Works** • The associated Road application will be submitted to the Roads and Traffic Authority or the relevant roads authority • Undertaking detailed designs for the intersection improvement works identified in the Traffic Impact Assessment, prepared by Parsons Brinckerhoff		– **Access and Road Works** • The associated Road application will be submitted to Transport for NSW or the relevant roads authority • Undertaking detailed designs for the intersection improvement works identified in the Traffic Impact Assessment prepared by SCT Consulting	
– **Pedestrians and Cyclists** • Providing secure bicycle facilities in accordance with the provisions of the *South Sydney DCP No.11 Transport Guidelines for Development 1996*		– **Pedestrians and Cyclists** • Providing secure bicycle facilities in accordance with the provisions of the *City of Sydney Development Control Plan 2012*	

5.7 Construction impact mitigation measures

The Statement of Commitments in the 2008 Concept Plan Approval notes that, with regard to Construction Management, the proponent commits to preparing and implementing a Construction Traffic Management Plan (CTMP) at the Project Application Stage and implemented during construction, which addresses the construction access and egress to the site, including vehicle routes and parking for workers, staging and timing of construction of internal road network and other relevant issues. The Construction Traffic Management Plan will be prepared in accordance with RTA guidelines and be approved by the relevant traffic authority.

No change to this Statement of Commitment is considered necessary.

6.0 Consultation

6.1 City of Sydney Meeting on 11 October 2021

Consultation was held with City of Sydney Council on 11 October 2021. The meeting covered the following areas, with key outcomes from the discussions described:

– Land use and implications

- The target users and catchment of the retail component was queried, and it was suggested that further work is done to confirm the specific users and catchment of the retail component. It was noted that the intent is to activate the streets of the Paint Shop Sub-Precinct, with a walking catchment.
- City of Sydney suggested that the Sub-Precinct should co-ordinate with the Tech Central Transport Strategy and leverage off cross-regional bus and road space reallocation to walking and cycling.
- City of Sydney asked if the residential GFA has increased. It was confirmed that the residential GFA has increased, but that the number and mix of apartments has remained largely the same, with apartment size increases to make them liveable.

– Parking and trip generation rates and implications

- City of Sydney stated that Transport should aspire to lower car parking and lower trip generation than was approved in 2008 and suggested that on-street provision needs to cater for point-to-point and mobility, with delivery and servicing demand needs to be met by off-street spaces, citing Barangaroo is a good example. Transport noted that the heritage constraints of the site would limit the feasibility of a single consolidated basement loading dock but confirmed that consolidation of parking and loading between buildings has been considered.
- City of Sydney confirmed that the non-car mode share targets are hard to get exactly right but supported the 10 per cent car mode share target for the Paint Shop Sub-Precinct.
- City of Sydney encouraged the use of Category A parking provision for the residential component, which was adopted for Waterloo Towers. It was suggested by City of Sydney that the residential trip rates currently used appear to be too high and that the Waterloo Traffic Study should be referenced where benchmarking of similar development has revealed lower trip and parking rates.
- City of Sydney suggested that the retail trip generation may also be an overestimate. The retail offering in the Sub-Precinct may reduce car trips from residents that currently drive to an alternative location for local retail, but who may instead choose to walk to the precinct in future.
- It was agreed that it was good practice to consider trip demands across a 24-hour period.

– Concept plan

- It was noted that the location of basement car park access has significant impacts on the public domain, and it was confirmed that the current design has tried to minimise pedestrian and vehicular conflicts.
- The following areas were highlighted by City of Sydney to be reviewed for vehicle and pedestrian conflicts:
    - Access and shared zone connection to Little Eveleigh Street
    - The Shepherd Street extension and east-west pedestrian spine.
- City of Sydney said the connection into the Southern Concourse needs to be further considered with regard to safety concerns. Good sight lines are crucial for platform connectivity and the proposed land uses in the Paint Shop Sub-Precinct can influence passive surveillance.
- Regarding the interface of Shepherd Street / Wilson Street intersection with the cycleway, the extension of Shepherd Street needs to consider the requirements for integrating the cycleway. Transport to meet with City of Sydney cycling team once the concept plan is completed.
- If accessible paths along the Shepherd Street extension could be achieved given the level difference was discussed ad Transport noted that options are being considered for accessible paths along Shepherd Street or an adjacent accessible access to the precinct.

- Transport confirmed that the project needs to accommodate 20 parking spaces for Little Eveleigh Street residents and City of Sydney was happy to consider the 20 spaces allocated for permit holders as part of the 75 on-street parking spaces.

– Traffic assessment and modelling approach

  - City of Sydney confirmed the trend of traffic in the surrounding network having minimal growth is correct.
  - City of Sydney confirmed the assessment approach is appropriate without the need for traffic modelling for the planning application. City of Sydney noted that the traffic assessment was undertaken and approved back in 2008 with no major upgrades required. City of Sydney support a Vision and Validate approach, with initiatives and designs considered to manage growth in traffic and travel demand.

6.2 City of Sydney Meeting on 21 December 2021

Consultation was held with City of Sydney Council on 21 December 2021. The meeting covered the following areas, with key outcomes from the discussions described:

– Access from RNE Precinct via Ivy Lane

  - City of Sydney (All) confirmed their support for the proposed internal shared zone to egress the site via Ivy Lane. TfNSW confirmed that this outcome was also supported by the project team.
  - Both parties agreed to not pursue a proposed egress to Wilson Street via the existing public domain space between Ivy Street and Ivy Lane.
  - City of Sydney (All) noted that the intersection between buildings L1 and P1, should be designed to achieve an outcome which reduces the attractiveness for private vehicles traveling towards Ivy Lane.
  - City of Sydney noted that where points of deflection are used in shared zones it is preferred that these are horizontal and not vertical.
  - City of Sydney noted that the proposed shared zone treatments pass through residential and commercial components of the precinct. Delineation of these different areas could be used as a further method of discouraging vehicles from using the residential component of the shared zone – which provides access to Ivy Lane.

– Wilson Street cycleway design

  - City of Sydney stated that where possible cycling infrastructure should not encourage cyclists to ride on the footpath. i.e. Shepherd Street / Wilson Street.
  - City of Sydney requested further consultation when cycleway design optioneering is being prepared for the following locations:
    - Shepherd Street / Wilson Street / RNE Precinct
    - Wilson Street / Little Eveleigh Street / Ivy Lane / RNE Precinct
  - City of Sydney provided the example of Bourke Street / Phelps Street as a design outcome that the City of Sydney would support moving forward and should be considered for relevance for the RNE precinct.

7.0 Summary and conclusions

7.1 Summary

The 2008 Concept Plan forms a set of planning controls over the Redfern North Eveleigh Precinct. A new vision and set of principles for the Precinct was developed as the first step in the new strategic planning process for the Precinct's renewal.

To maximise the Precinct's connections, the Vision states a set of priorities including providing a direct link from the Precinct to the New Southern Concourse at Redfern station; improved access to the T4 Eastern Suburbs & Illawarra Line platforms 11 and 12; and walking and cycling connections to and through the Precinct.

To align with the transport objectives developed for the Paint Shop Sub-Precinct and to take full advantage of the Sub-Precinct's proximity to Redfern station and its current upgrade of the New Southern Concourse, a set of aspirational mode share targets was developed in consultation with the City of Sydney. The general trend is a reduction in the car mode share target and an increase in the rail and active transport mode share targets.

To support the aspirational mode share targets and the objective to achieve a maximum 10 per cent private vehicle mode share target, it is intended to constrain the car parking provision rate for the Paint Shop Sub-Precinct. The approved cap of 786 spaces for the Sub-Precinct has been further reduced to a maximum of 500 spaces even though the development GFA has increased. The parking rates proposed for the Sub-Precinct would be reduced from the 2008 Concept Plan approved rates.

Parking and servicing access and provisions have been located to consider pedestrian and cycling movement through the precinct, with shared streets and pedestrian only links and public spaces provided.

An assessment of the proposed changes and any potential impacts that may result within and surrounding the Paint Shop Sub-Precinct was undertaken, with the following key observations:

– The proposed rail mode share for the Sub-Precinct (47 per cent for residential and 62 per cent for non-residential) is forecast to be higher than the 2008 approved rail mode share (42 per cent), with about 2,800 people forecast to enter and exit the Sub-Precinct in the AM peak hour by rail. There is forecast to be sufficient capacity at Redfern station to accommodate the increased number of trips, with the New Southern Concourse, currently under construction, providing a new station entrance on Little Eveleigh Street, an upgraded station entrance on Marian Street and a pedestrian bridge between the two with easy access to platforms 1 to 10, improving connections between the station and surrounding area, as well providing increased capacity.

– About 950 people are forecast to enter and exit the Sub-Precinct in the AM peak hour by walking. While this is an increase from the 2008 approved scheme, the internal pedestrian network has been designed to always accommodate pedestrians in a comfortable environment (Level of Service C or better). The impact on the external walking network is spread throughout the surrounding walkable network, and hence would not significantly change the environment in an adverse way. The direct access to the precinct via Platform 0 should be designed as an attractive alternative to Little Eveleigh Street to minimise the impact to residents.

– About 450 people are forecast to enter and exit the Sub-Precinct in the AM peak hour by riding. While this is an increase from the 2008 approved scheme, the Sub-Precinct is served by existing cycling connections, including a dedicated facility along Wilson Street, adjacent to the site, and it is considered that the surrounding cycle network would be able to accommodate this increase.

– Compared to the approved 2008 Concept Plan, there is forecast to be a 47 per cent reduction in peak hour vehicle trips from the Precinct, due to lower trip rates adopted based on the parking rate rather than the GFA of the development, which is considered more appropriate given the constrained parking supply. Therefore, a reduced impact on the road network is forecast compared to the 2008 Concept Plan.

  Traffic surveys and modelling will be undertaken and reported on in the Response to Submission phase, on the assumption that travel patterns have returned to something close to a pre-Covid normal. This approach, supported by the City of Sydney, will confirm if any additional upgrades are required above those contained in the 2008 Concept Plan approval.

7.2 Conclusions

A vision and validate approach to the Precinct and adjacent street network has been used to develop a street user hierarchy, including movement and place considerations. The conclusion of the assessment is that the Transport and Pedestrian Management Modifications, the Transport and Traffic Statement of Commitments and the Construction Management Statement of Commitments contained in the 2008 Concept Plan Approval are suitable for the revised renewal approach for the Sub-Precinct, with the exception of the proposed changes contained in **Table 5-1**.

APPENDIX A

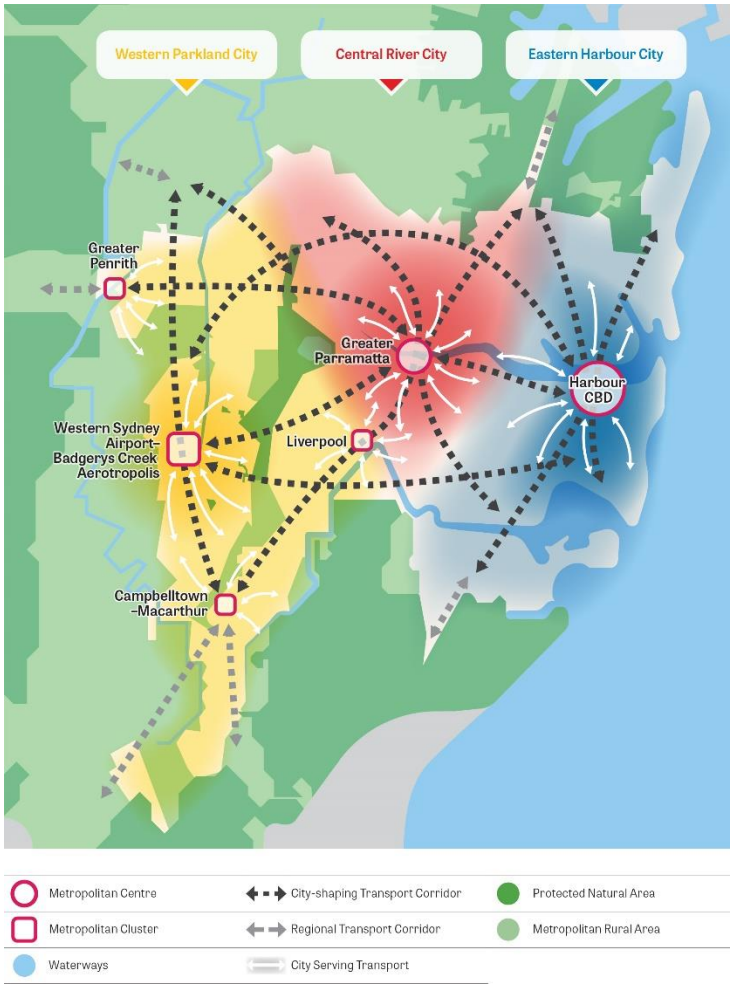
Transport policy and planning context documents

Key regional/district strategic documents

Greater Sydney Region Plan – A Metropolis of Three Cities

The Greater Sydney Region Plan, A Metropolis of Three Cities is built on a vision of three cities – the Western Parkland City, the Central River City and the Eastern Harbour City – where most residents live within 30 minutes of their jobs, education and health facilities, services and great places, shown in **Figure A-1**. This is consistent with the 10 Directions in *Directions for a Greater Sydney*, which establish the aspirations for the region over the next 40 years and are a core component of the vision and a measure of the Plan's performance.

Figure A-1 A Metropolis of Three Cities

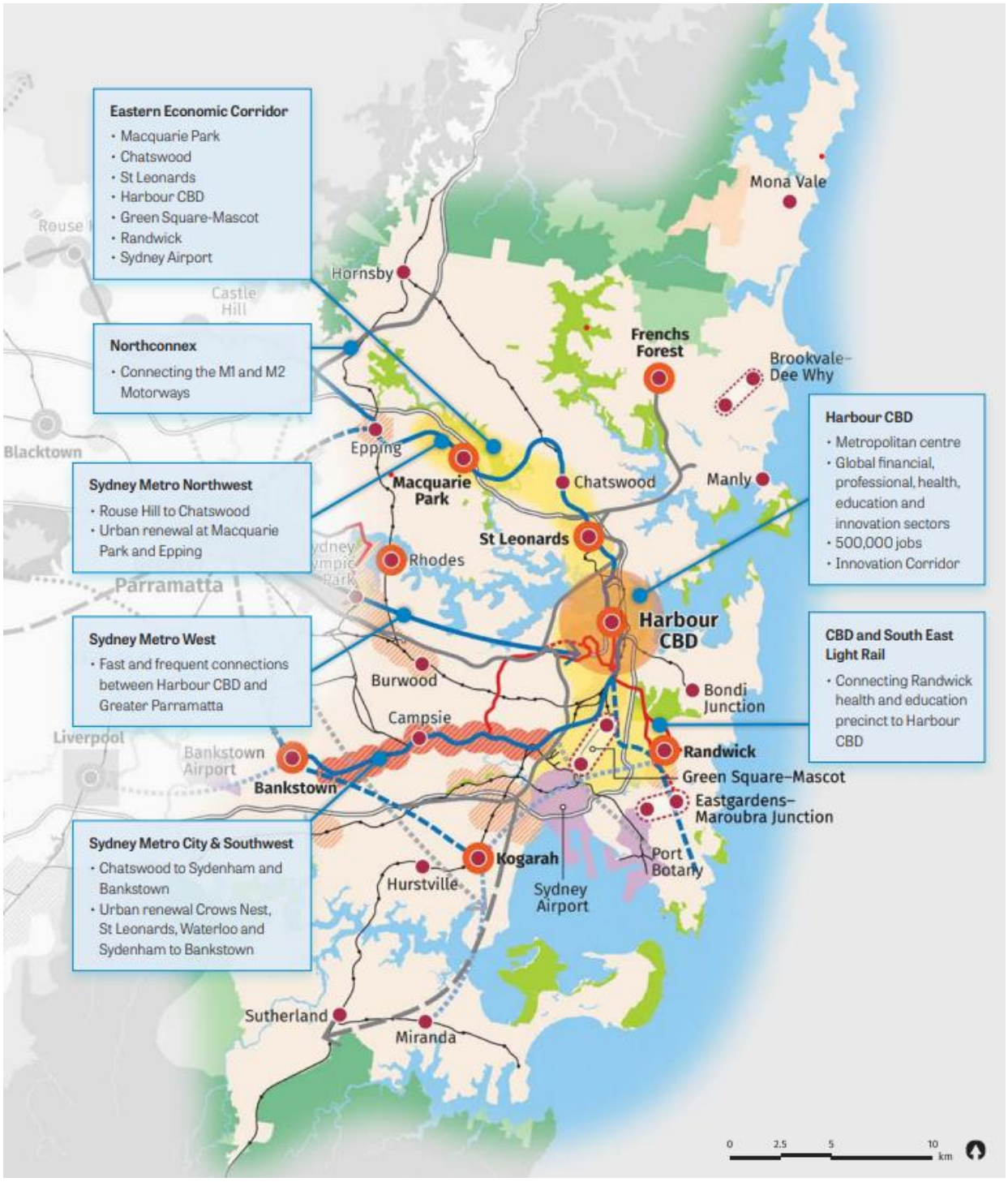


Source: NSW Government 2018

As shown in **Figure A-2**, the Eastern Harbour City has significant rail projects underway aimed at increasing its global competitiveness, boosting business-to-business connections and attracting skilled workers with faster commuting times. The Sydney Metro Northwest links Rouse Hill to Chatswood, Sydney Metro City & Southwest connects Chatswood to Sydenham-Bankstown and Sydney Metro West will provide faster and more frequent trips to and from Greater Parramatta. The CBD and South East Light Rail connects the Harbour CBD to the Randwick health and education precinct.

The Eastern Economic Corridor from Macquarie Park to Sydney Airport, within which the Sub-Precinct is located, is the State's largest economic asset – contributing two-thirds of NSW's economic growth in the 2015-16 financial year. The corridor has strong financial, professional, health, education and innovation sectors.

Figure A-2 Eastern Harbour City vision



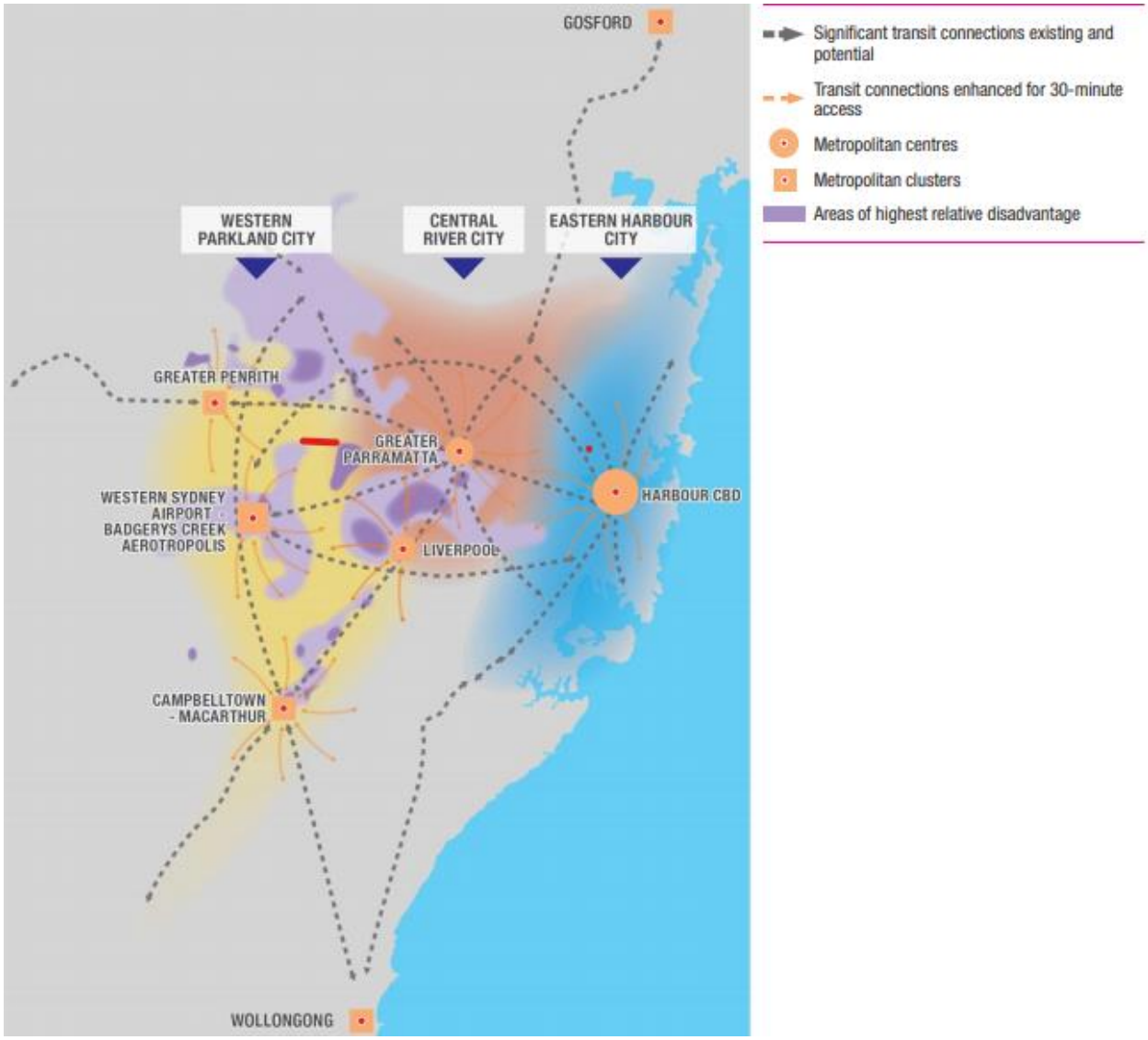
Source: Greater Sydney Region Plan 2018

State Infrastructure Strategy 2018-2038

The State Infrastructure Strategy (SIS) is a 20-year Strategy, which sets out Infrastructure NSW's (INSW) independent advice on the current state of NSW's infrastructure and its future needs and priorities. It looks beyond current projects and identifies policies and strategies needed to provide infrastructure that meets the needs of the growing population and a growing economy.

The recommendations in the 2018 SIS for the transport sector are based in the context of Future Transport 2056 and the Greater Sydney Region Plan. INSW supports the land use directions set out in the Greater Sydney Region Plan and seeks to assess the relative priority of the major investments within Future Transport 2056. The Greater Sydney transport network adopted from the State Infrastructure Strategy is illustrated in **Figure A-3**.

Figure A-3 Greater Sydney transport network outlined in the State Infrastructure Strategy



Source: Transport for NSW 2017 and Greater Sydney Commission; Australian Bureau of Statistics 2011

For the Eastern Harbour City, the SIS aims to improve access to international gateways, mass transit connections to the CBD (especially from the west and southeast), active transport, cultural infrastructure and provide more educational learning spaces. Given its location on the harbour and surrounding parklands, the Harbour CBD is constrained in terms of opportunities for growth. Urban renewal will occur to the south and west of the city – in the Central to Eveleigh Precinct, within which the Sub-Precinct is located, and The Bays Precinct.

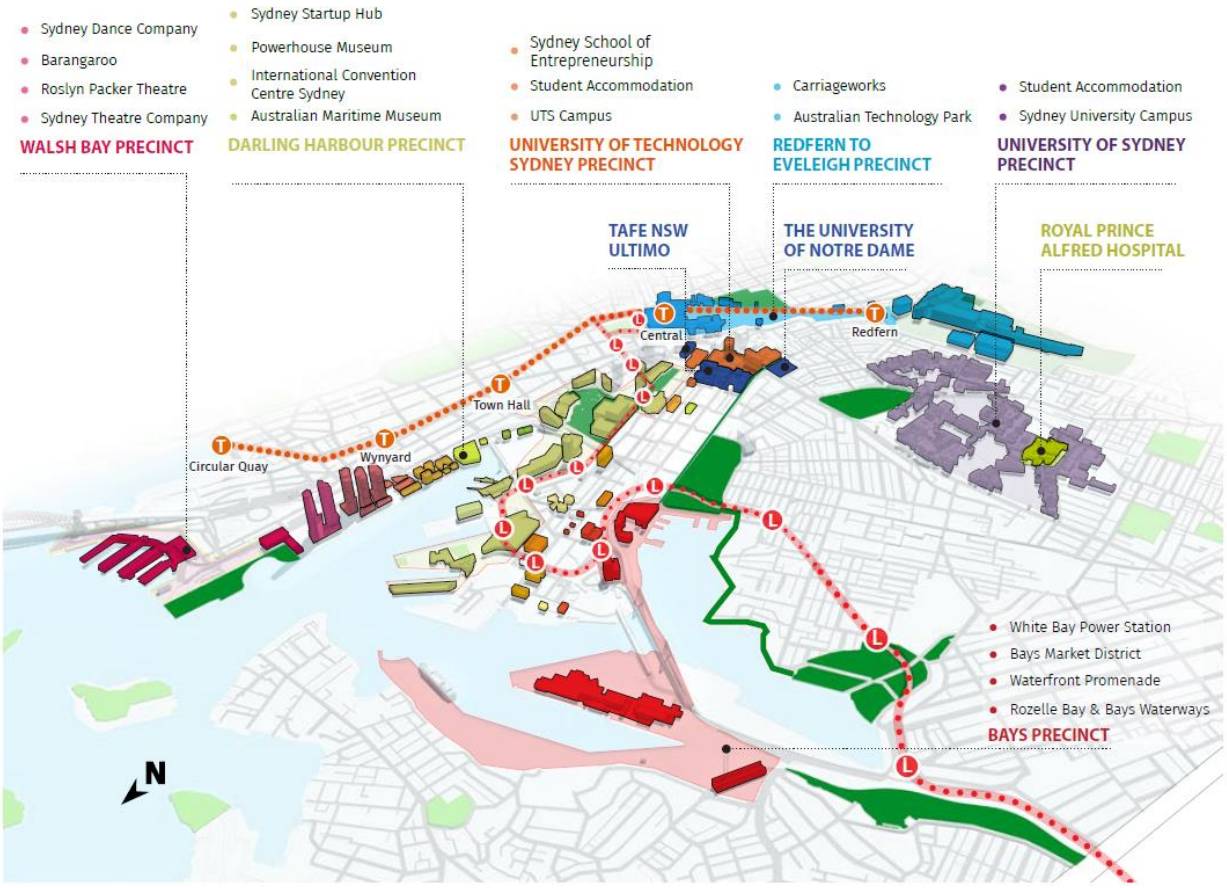
Maintaining the efficiency of infrastructure networks and access to the international trade gateways of Sydney Airport and Port Botany will be critical to support the ongoing competitiveness of the city and of NSW.

Eastern City District Plan

This Greater Sydney Commission's Eastern City District Plan is a 20-year plan to manage growth in the context of economic, social and environmental matters to achieve the 40-year vision for Greater Sydney. It contains the planning priorities and actions for implementing the Greater Sydney Region Plan.

The Plan directs the Camperdown–Ultimo Collaboration Area to upgrade the public domain with place-making initiatives, improve transport, walking and cycling connections between key hubs, particularly in response to student and job growth.

Figure A-4 Innovation Corridor, Harbour CBD



Source: Greater Sydney Commission (2018)

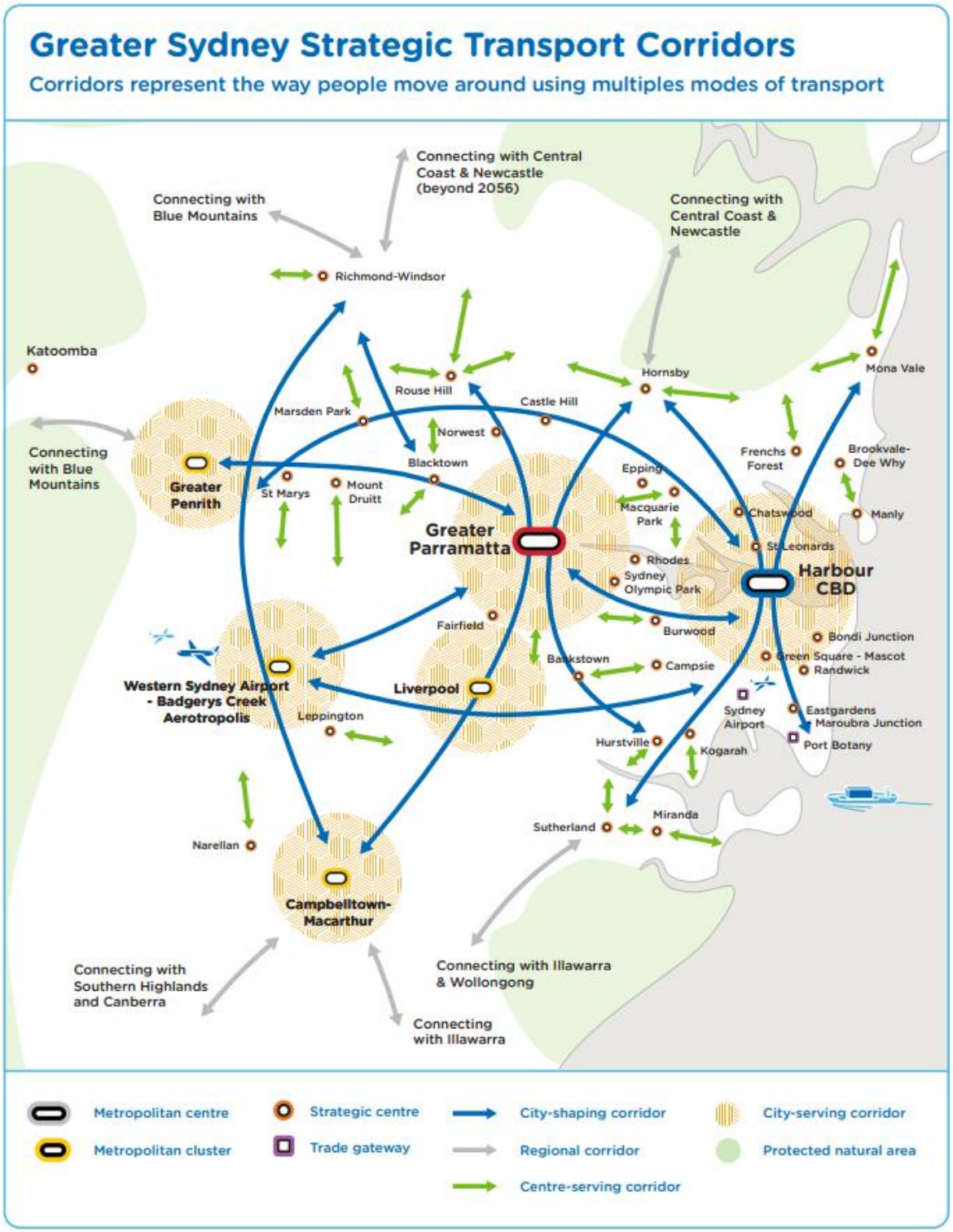
Future Transport 2056

Future Transport 2056 is a 40-year strategy, supported by plans for regional NSW and for Greater Sydney. Future Transport 2056 builds on the achievements of the Long-Term Transport Master Plan, which has delivered local and international investment in the NSW transport network and placed a focus on customer-oriented planning.

The vision for Greater Sydney as a Metropolis of Three Cities, where people can access the majority of jobs and services within 30 minutes, will require a sustained and staged investment program to protect corridors and then develop an integrated transport system that includes city-shaping, city-serving, centre-serving and strategic freight networks. Key transport corridors connecting the major cities will facilitate this vision and is outlined in **Figure A-5**.

The transport networks are proposed to expand to provide improved access to each metropolitan centre, particularly Greater Parramatta and the metropolitan cluster of centres in the Western Parkland City, including safe and reliable movement of freight. These networks will be progressively developed through a range of infrastructure investments that will make key improvements to the city-shaping and road networks as well as upgrade local roads, walking and bicycle paths, as detailed in the Greater Sydney Services and Infrastructure Plan.

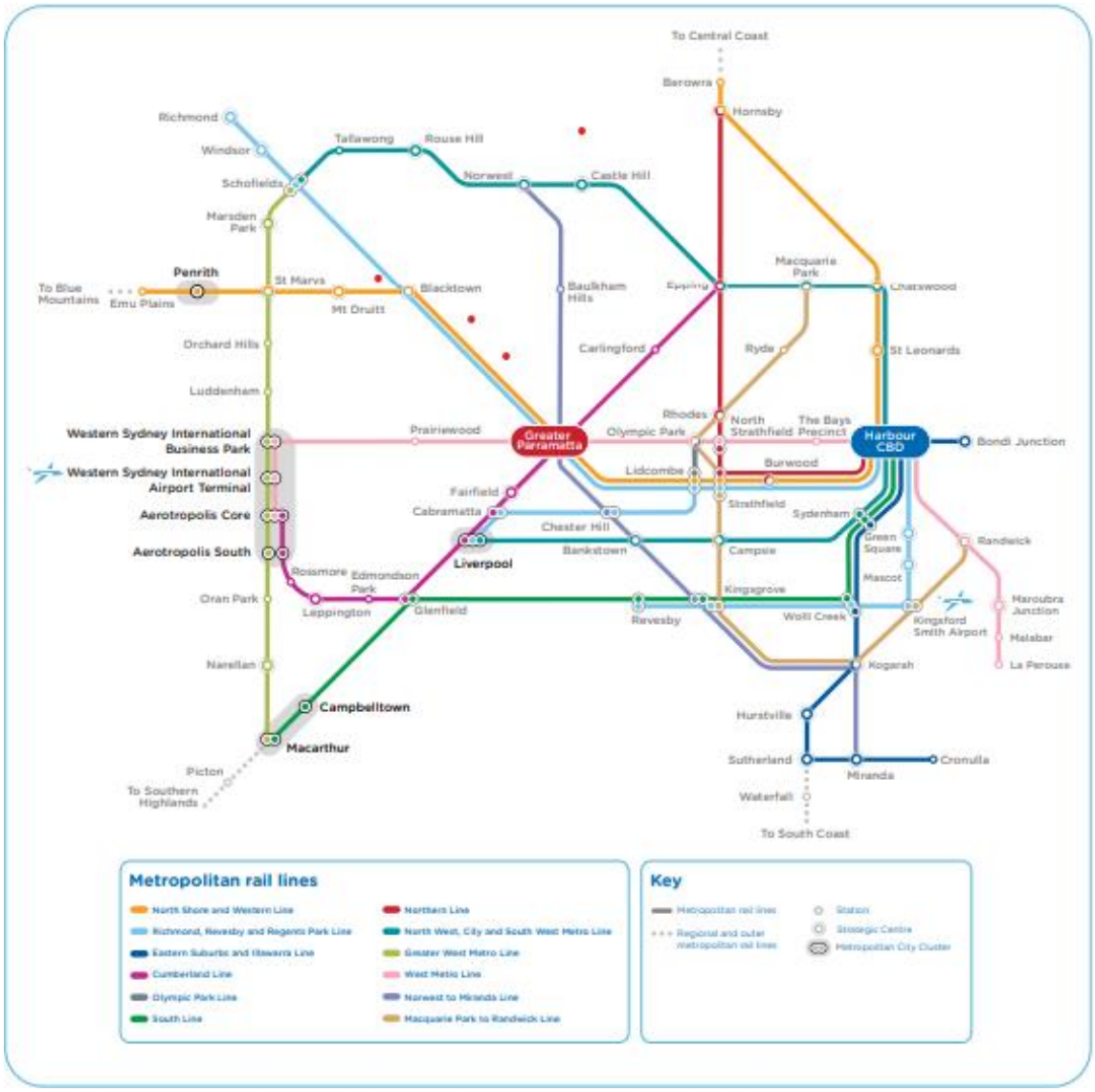
Figure A-5 Greater Sydney strategic transport corridors



Source: Transport for NSW 2020

The developing vision for the 2056 rail network is shown in **Figure A-6**. It builds on Future Transport's predominantly city-shaping network, and includes further detail on the operating concepts, indicative alignments and key interchange locations. The 2056 vision aims to integrate these changes with planned fast rail, intercity and rail freight services within Greater Sydney. This includes determining the alignment and servicing of corridors approaching Greater Sydney from regional and outer metropolitan NSW, drawing on long-term metropolitan rail network planning, freight and fast rail project assumptions.

Figure A-6 Greater Sydney 2056 indicative future rail network

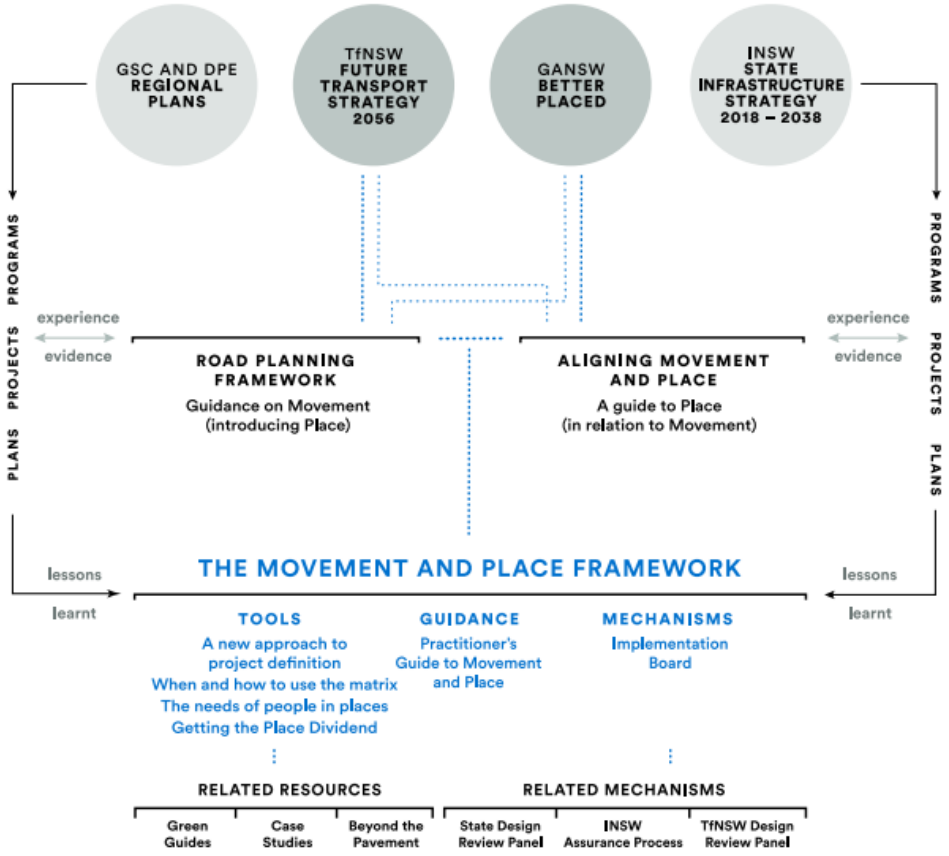


Source: Transport for NSW 2020

Better Placed Aligning Movement and Place

This outline is an introduction to the Movement and Place Framework (shown in **Figure A-7**) published in 2019. It sets out a better approach to aligning movement and place in the design, planning, construction and operation of NSW's overall transport network. The NSW transport network is the responsibility of a range of government and professional organisations. The Better Placed Aligning Movement and Place will assist these bodies with how they approach this responsibility.

Figure A-7 Movement and Place Framework



Source: NSW Government 2019

As an objective, the plan aims to facilitate and encourage sustainable transport modes including walking, cycling and public transport and minimising the space dedicated to vehicle movement. The plan also states aims to integrate grey infrastructure, such as streets, roads and public transport.

Additionally, the plan considers the walkability of the area, ease of crossing, where public transport stops are located, and how easy it is to interchange. As well as disclaiming the planning of new attractors / destinations, such as jobs, services, retail, schools and hospitals must also consider their influence on movement patterns. It aims to accurately predict and deliver necessary pedestrian footpaths and crossings. An objective is to provide transport choices that allow users to dynamically adjust to incidents as well as creating long term 'virtuous circles', where more people using active and public transport benefit not only themselves and others like them, and lead to less congestion.

The Movement and Place Practitioner's Guide

Practitioners specialising in movement and place have a shared accountability to foster a well-designed built environment including effective transport networks. Movement and Place establishes a collaborative, iterative process that can guide consultation, analysis, decision-making, and evaluation throughout the life cycle of a plan or project. It details the importance of considering the whole street which includes people walking and cycling as well as people spend time in places. It notes the need to make trade-offs when pursuing the balance between movement and place where the outcomes may not always be complementary.

The objective of Movement and Place is to achieve roads and streets that:

– contribute to the network of public space within a location

– are enhanced by transport and have the appropriate space allocation to move people and goods efficiently and connect places together.

Similar to the Better Placed Aligning Movement and Place Framework, the practitioners guide also suggest that movement and place should be balanced to achieve a best fit for the objectives.

Road User Space Allocation Policy

The Road User Space Allocation Policy applies to the entirety of the public road reserve from boundary to boundary on proposed and existing classified roads in built up areas in regional and metropolitan NSW except for motorways.

By implementing this Policy, Transport ensures that the allocation of road user space:

– is a deliberate exercise that considers the place, function and movement requirements of roads

– achieves the strategic intent and outcomes as set out in state-wide, metropolitan and regional strategies and plans

– achieves the movement and place vision of a corridor or network

– considers the limited amount of space available to accommodate competing user needs, and

– can be adjusted to respond to specific circumstances

A transport planning action which assists in achieving these objectives is to optimise how space is allocated throughout the day, week or year. This includes the dynamic control of space, access, level of priority, speed and kerbside use through signage, signals, and other technology.

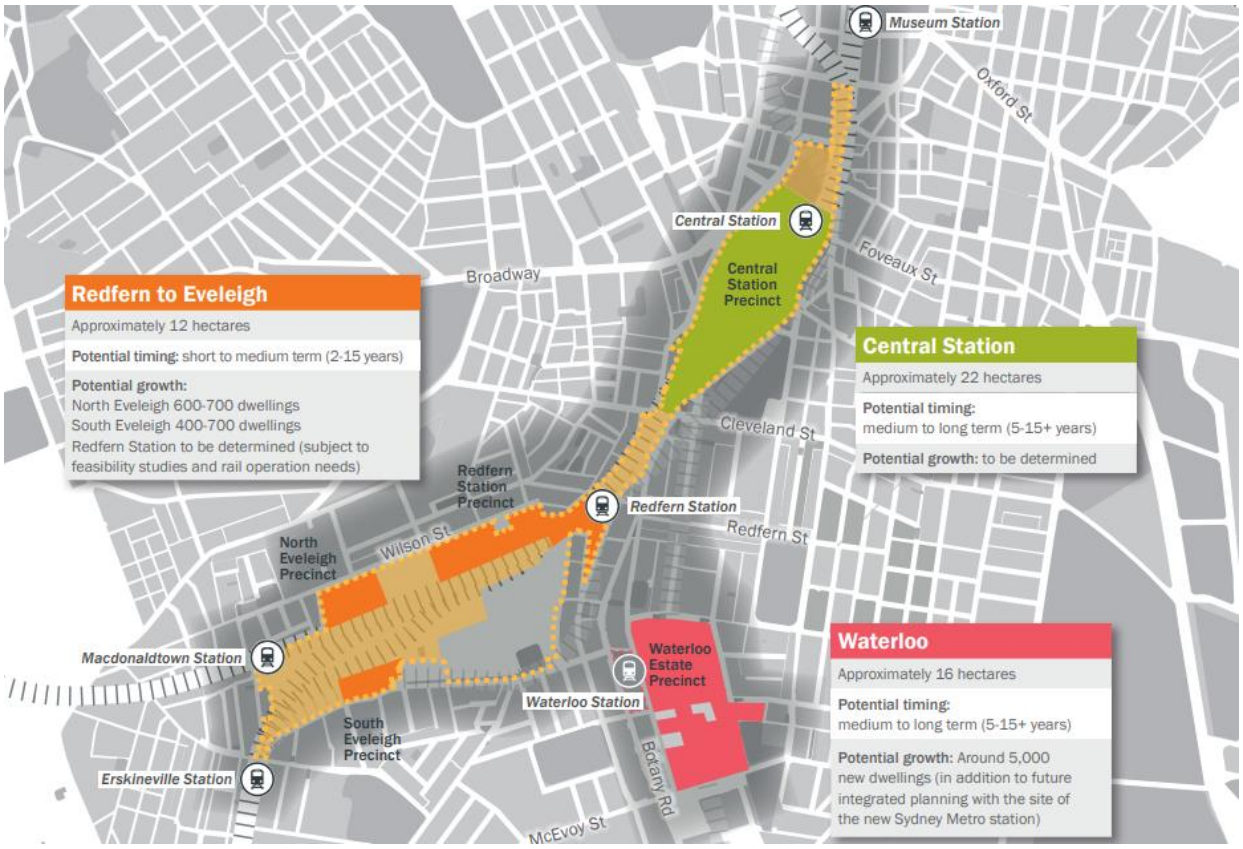
Key precinct/local strategic documents

Central to Eveleigh Urban Transformation Strategy

The Central to Eveleigh Urban Transformation Strategy demonstrates the contribution that the urban transformation of government-owned land can make to realising public benefit in the Central to Eveleigh area. Top priorities for the Strategy are the transformations including the upgrade of Central Station and potential improvements to Redfern station. The transformation efforts will provide a platform for better physical connections across the rail corridor, better collaboration between industry and higher education, and greener, more walkable neighbourhoods.

Particularly, North Eveleigh could provide new homes close to community facilities and cultural, education and work opportunities while retaining its important role in the operation of the rail network. The rail network from Central to Eveleigh are illustrated in **Figure A-8**.

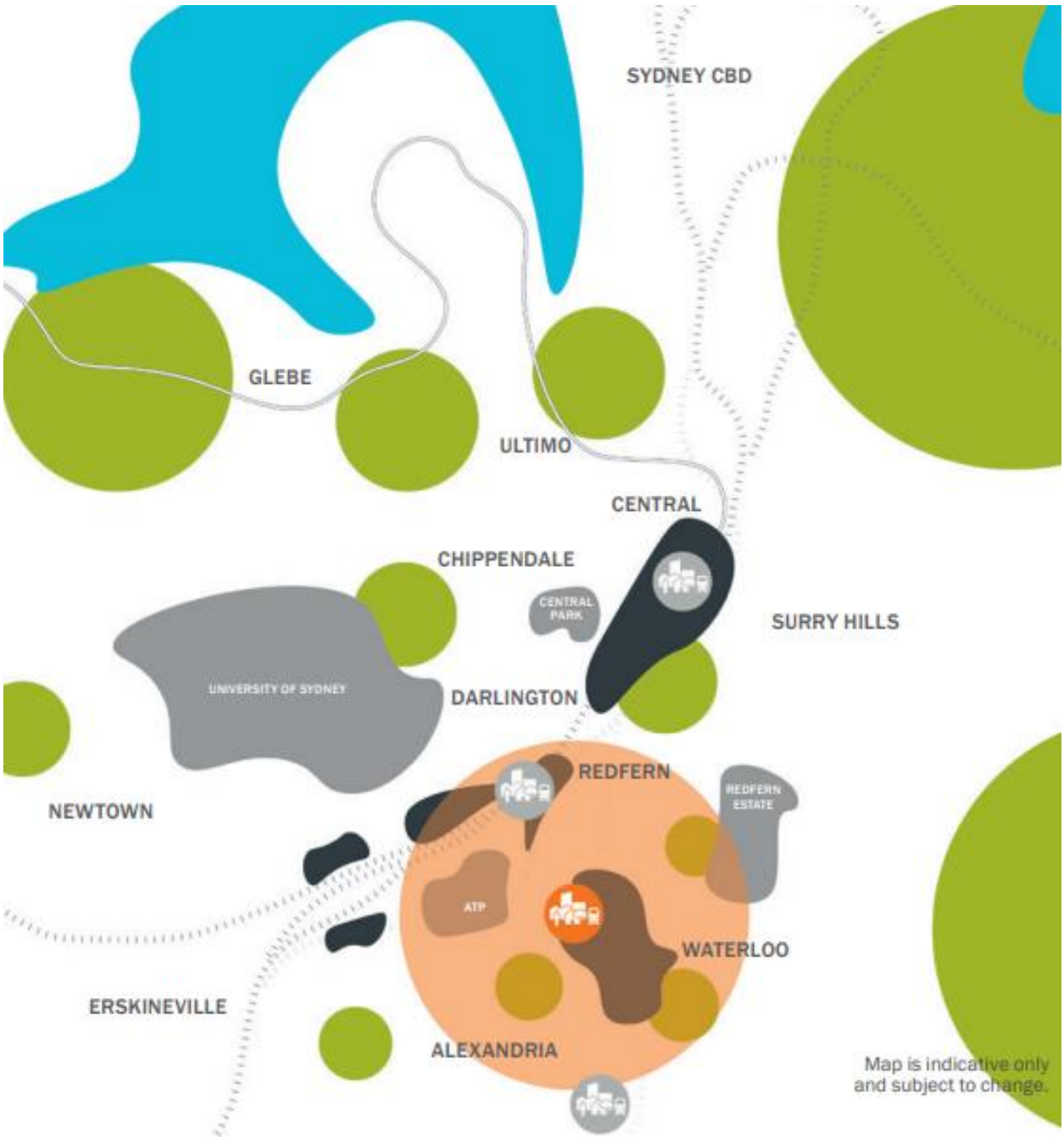
Figure A-8 Central to Eveleigh rail network



Source: NSW Government 2016

The strategy also considers the new Sydney Metro station located in Waterloo. This will provide a high-frequency public transport service that directly links to jobs at Barangaroo, Martin Place and north-west Sydney, shown in **Figure A-9**.

Figure A-9 New metro station at Waterloo



Source: NSW Government 2016

Tech Central

Tech Central is a vibrant innovation and technology precinct in NSW that will future-proof and diversify the NSW economy. The NSW Government's initial commitment of $48.2 million to provide up to 25,000 square metres of affordable space for start-ups and scale-ups will provide the building blocks for the creation of the biggest technology hub in Australia.

Located 1.5 km from the centre of the Sydney CBD and 8 km from Sydney Airport, the precinct is located in southern Central Sydney. Development of the 24 hectare-plus rail corridor between Central and Eveleigh concurrently under a separate procurement process being led by Transport will help unlock new commercial land and opportunities for companies and institutions. Frequent transport links will be provided by Central and Redfern station transport interchange. The prospective transport network of the Tech Central precinct area is shown in **Figure A-10**.

Figure A-10 Prospective Tech Central precinct area

Source: NSW Government 2020

Collaboration Area Camperdown-Ultimo Place Strategy

The Camperdown–Ultimo Collaboration Area stretches from Camperdown to Ultimo, and covers Darlington and Eveleigh; most of Haymarket, Ultimo and Camperdown; and parts of Glebe, Forest Lodge, Newtown, Redfern and Surry Hills. The strategy defines the Camperdown–Ultimo Collaboration Area as Australia's innovation and technology capital in 2036. In addition, it provides accessible public transport, walking and cycling to guide growth and change. It aims to achieve the vision through the Place Strategy shown in **Figure A-11**.

Figure A-11 A Place Strategy for Camperdown-Ultimo

Source: Greater Sydney Commission 2019

The Camperdown–Ultimo Collaboration Area is located at the south-west edge of the Harbour CBD and has direct access to Sydney Airport. Major city-shaping assets include the heavy rail system, with Central and Redfern transport interchanges serving the T1 North Shore & Western Lines, T2 Inner West & Leppington Line, T3 Bankstown Line, T4 Eastern Suburbs & Illawarra Line and T8 Airport & South Line; and Central Station serving existing and new light rail services including the proposed Sydney Metro City & Southwest line. The area is also served by light rail and frequent bus services along heavily congested routes, shown in **Figure A-12**.

Major city-serving road assets include Parramatta Road, City Road, Broadway, Harris Street through to Botany Road, Cleveland Street and Foveaux Street. Some current or planned transport projects include:

– CBD and South-East Light Rail (Transport for NSW)

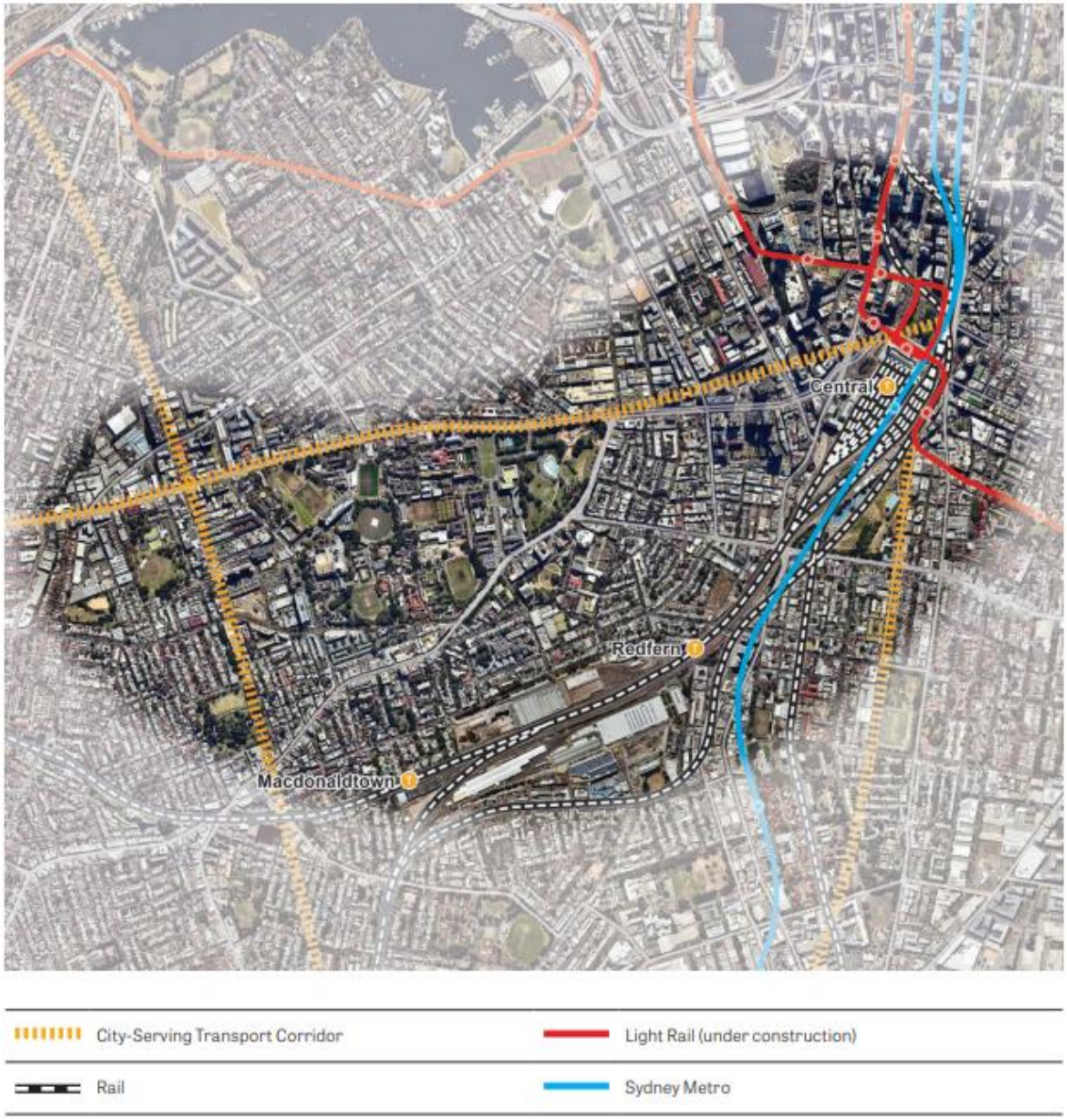
– Central Station Precinct (Transport for NSW)

– Cleveland Street Road Network Plan (RMS)

– Guided electric transit system (Inner West Council)
– Inner West to CBD corridor Road Network Plan (RMS)
– Mascot to Eveleigh Road Network Plan (RMS)
– Redfern station improvement works (Transport for NSW)
– Sydney Metro City & Southwest (Sydney Metro)
– WestConnex (Sydney Motorway Corporation)

Additionally, Transport is focused on completing key missing links in the bicycle network within 10 kilometres of metropolitan centres and establishing the Principal Bicycle Network (PBN). Within a 10-kilometre radius of the Harbour CBD the Sydney Regional Bike Network, developed by an alliance of local councils, provides safe, connected, and direct cycleways that are integrated with the Greater Sydney Green Grid and contribute to the broader PBN. By 2036, the Central Station Precinct project will allow for an increase in users from more than 250,000 now to more than 450,000 in 20 years. Redevelopment of ATP, as well as urban renewal in Redfern, Eveleigh, Sydney CBD South, the Parramatta Road Urban Transformation Strategy Camperdown Precinct, and to the south-east of the Collaboration Area at Waterloo are being planned to address this expected growth.

Figure A-12 Transport connections of the Camperdown-Ultimo Collaboration Area



Source: Greater Sydney Commission 2019

North Eveleigh Concept Plan (2008)

To be added

City Plan 2036: Local Strategic Planning Statement

This Local Strategic Planning Statement (the Planning Statement) reinforces the links between the NSW Government's strategic plans and the City's community strategic plan, Sustainable Sydney 2030, and the planning controls that guide development in our city. The Planning Statement sets out:

– the 20-year vision for land use planning in the city

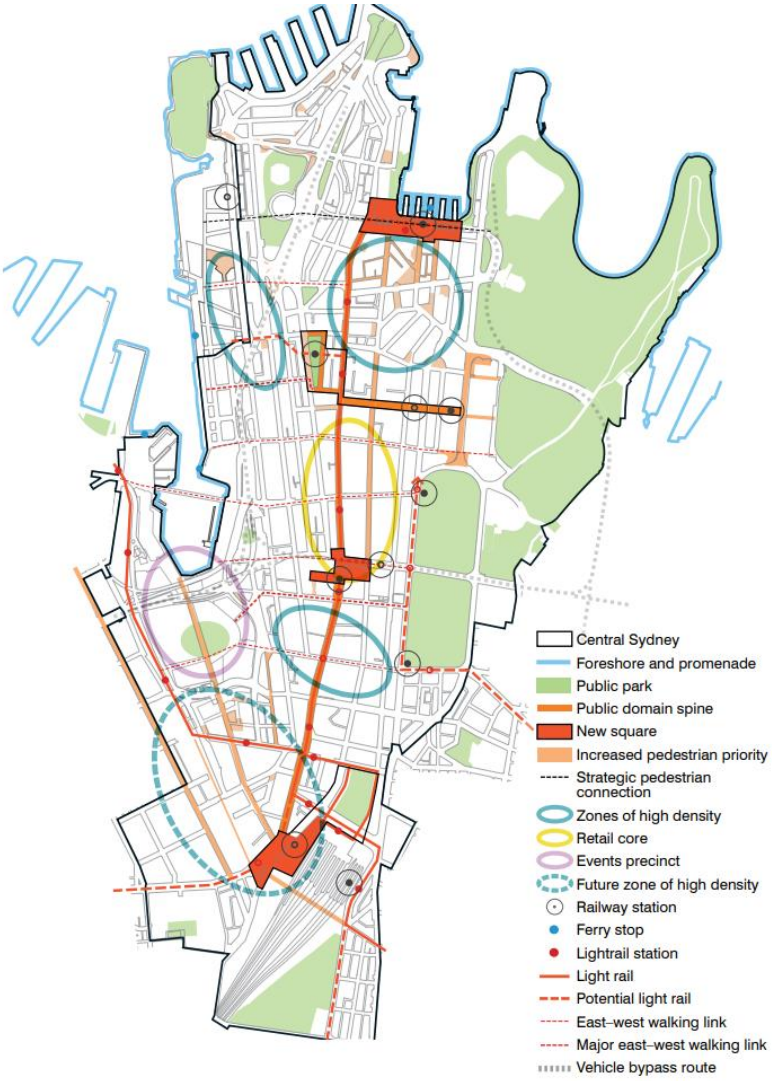
– the basis or context for planning

– the planning priorities and actions needed to achieve the vision

– the governance and monitoring of the priorities and actions

The LSPS aims to create a well-connected city and provide conditions for a stronger economy through collaborative planning. Section 3 of the LSPS declares to continues to support Central Station's role as the primary mass transport interchange in Greater Sydney including support for additional metro stations and any future high speed rail station in or near it. An illustration of the Central Sydney Structure Plan is shown in **Figure A-13**.

Figure A-13 Central Sydney Structure Plan



Source: Draft Central Sydney Planning Strategy

Redfern is part of the Innovation Corridor, which includes places conducive for innovation and knowledge-intensive growth. In the Central to Eveleigh corridor, the NSW Government has committed to creating a globally competitive innovation and technology precinct.

Redfern-Waterloo experienced strong employment growth – growing by up to 51 per cent in jobs between 2007 and 2017. The LSPS acknowledges that this overflow demand will be influenced by the area's proximity to Central Sydney, existing clusters and attractors within the Camperdown-Ultimo Health and Education precinct, such as the Australian Technology Park, and infrastructure investments around Redfern station and the future Waterloo Metro station.

Sustainable Sydney 2030 and Community Strategic Plan

Adopted in 2008 following extensive community consultation, Sustainable Sydney 2030 expressed the community's vision to plan a green, global and connected city. The strategy sets a target of increasing trips to work using public transport by 80 per cent, for both residents of the city and those travelling to the city from elsewhere. It also aims to allow at least 10 per cent of total trips to be cycling and 50 per cent by pedestrian movement.

The plan discusses the development of new rail systems that service the city, stating that a south-west rail link and a north-west metro route is under construction. Construction of light rail connecting Circular Quay with Central Station and to the south-eastern suburbs has also begun. Ultimately, the main form of transport in the city centre is walking. The plan emphasises the importance of providing enough footpath space for people to walk comfortably and intersections that function efficiently for all users.

Some transport-related objectives include:

– Investment in public transport and walking and cycling infrastructure encourages more people to use these forms of transport to travel to, from and within the city

– Ensuring transport infrastructure is aligned with city growth

– Enhancing the amenity of the city centre and villages through the careful management and integration of transport

– Ensuring that public transport, walking and cycling are the first-choice transport modes within the city

– Ensuring transport services and infrastructure are accessible

A City for All Inclusion (Disability) Action Plan 2017-2021 (City of Sydney)

This plan aligns the City's long-term vision of an inclusive City of Sydney with important new priorities resulting from the (Cth) Disability Inclusion Act 2014. This plan includes a series of actions designed to actively address barriers faced by people with disability in all age groups.

Currently, more than 2,100 tactile and braille street signs have been installed at all signalised pedestrian crossings in the City of Sydney local government area, making it safer to navigate people who are blind or have low vision.

As next steps, the plan aims to review the current provision of mobility parking spaces in the City of Sydney and develop strategies to maximise the access and inclusion outcomes associated with mobility parking. It also intends to continue to provide information about the locations of mobility parking spaces in the City and include additional information about their features.

Central Sydney Planning Framework 2016 – 2036

The Central Sydney Planning Framework 2016 – 2036 is a 20-year growth strategy developed by the City of Sydney Council that revises a number of previous planning controls and aims to deliver on the Sustainable Sydney 2030 program for a green, global and connected city. It outlines 10 key moves and aims to balance the opportunities for development to meet the demand of population growth to 2036 and beyond with the changing needs of workers, residents and visitors.

The key changes proposed seek to facilitate amendments to controls that govern additional height and density in suitable locations, and broadly opportunities to unlock additional capacity for economic and employment growth, as well as ensuring that new development achieves design excellence. Several actions have been proposed to support the implementation of these key objectives in the short-, medium- and long-term, and are outlined in **Figure A-14**.

Figure A-14 Ten key objectives of the Central Sydney Planning Framework

1	Prioritise employment growth and increase capacity	6	Move towards a more sustainable city
2	Ensure development responds to context	7	Protect, enhance and expand Central Sydney's heritage, public places and spaces
3	Consolidate and simplify planning controls	8	Move people more easily
4	Provide for employment growth in new tower clusters	9	Reaffirm commitment to design excellence
5	Ensure infrastructure keeps pace with growth	10	Monitor outcomes and respond

Source: City of Sydney, 2020

Connecting Our City: Transport Strategy and Action Plan

The Transport Strategy and Action Plan was developed by the City of Sydney as a framework for action by the Council and Government to improve transport and access to better connect our City. Following the Sustainable Sydney 2030, this plan addresses concerns related to transport and access.

Overall, the plan aims to focus on six key action areas:

– Transforming George Street

– Encouraging active transport

– Integrating land use with transport

– Managing streets, parking and vehicle fleets

– Enhancing public transport

– Making it happen

In relation to RNE, the Connecting Our City: Transport Strategy and Action Plan proposes that the State Government examines the options for a new rail station at Waterloo on the Green Square line, to provide improved access to the Redfern-Waterloo Development and to the Australian Technology Park at Redfern.

City of Sydney Cycling Strategy and Action Plan 2018-2030

The City of Sydney Cycling Strategy and Action Plan proposes the next steps of integrating Sydney's cycling network. Some priorities include (shown in **Figure A-15**):

– Connect the network – building a reliable cycling network to reduce safety concerns regarding bike riding

– Support people to ride – understanding and addressing barriers to help people to start and continue riding

– Support business – partnering with employers to encourage staffs cycling to and from work

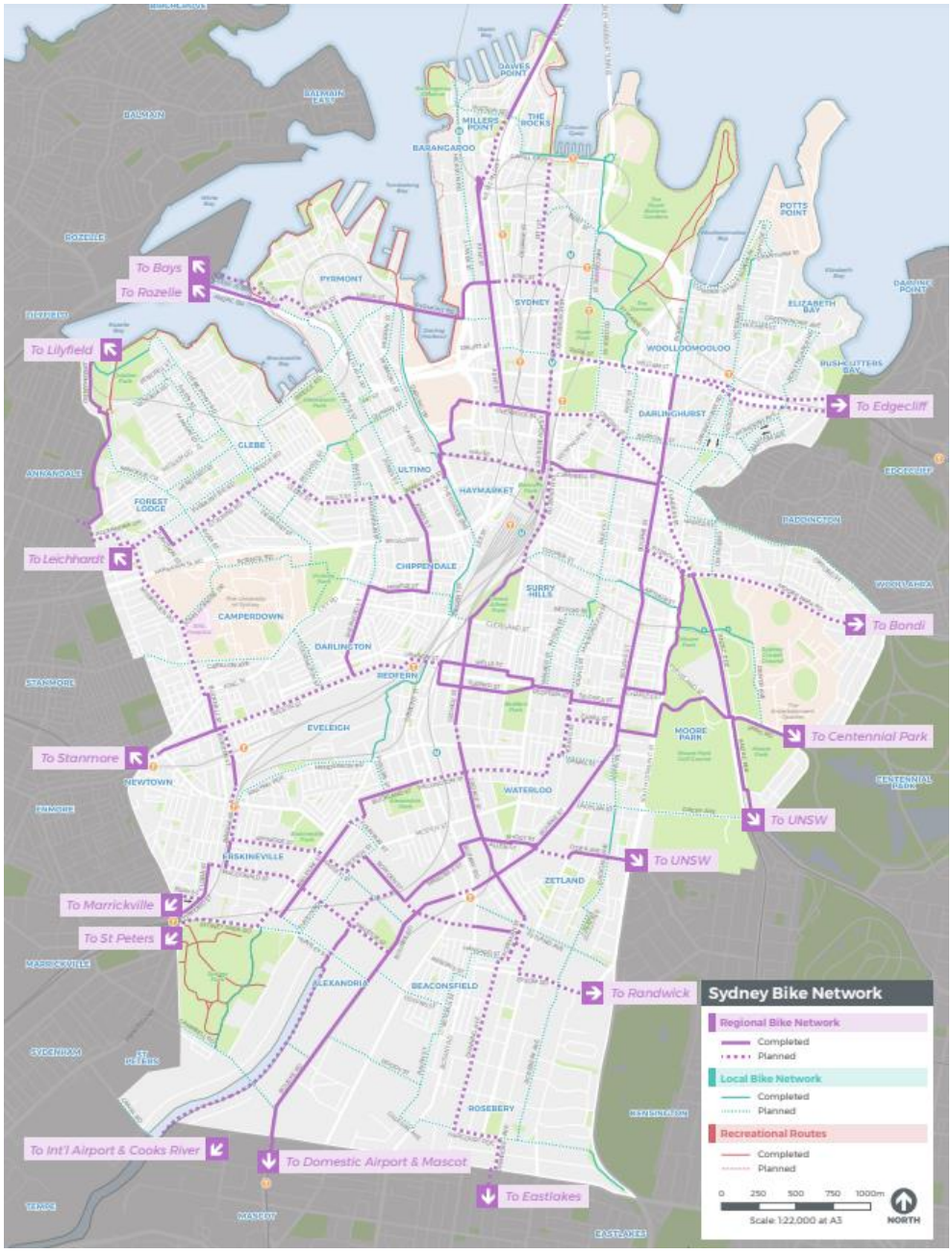
– Lead by example – sharing expertise and influencing improvements for cycling within and beyond boundaries.

Figure A-15 The four cycling priorities

Source: City of Sydney 2018

The planned network of local and regional routes underpins the City's transport and environmental goals. The regional routes are the main corridors, which bring larger flows of people into the city from across the inner Sydney area. The local routes are the connections, bringing people closer to the doors of homes and businesses. The bike network is shown in **Figure A-16**.

Figure A-16 City of Sydney bike network



Source: City of Sydney 2018

Some specific actions include:

– Complete the 11 regional bike routes, and substantially complete the local bike network
– Build the regional routes as separated cycleways where feasible and necessary
– Add local wayfinding signs
– Improve safety and access throughout our area, including:
    - replace bicycle shoulder lanes
    - add new contra-flow provisions
    - lower speeds and reduce traffic on local streets
    - install kerb ramps at road closures

- upgrade stormwater grates to be bike-safe
- maintain road surfaces and coordinate with utility authorities
- ensure regular asset inspections, and street cleaning and maintenance of our bike network and signs

– Continue to provide bike parking in the public domain where needed and on request, including on-street bike parking corrals in suitable high demand locations, and continue to provide bike racks for public schools in our area

– Work with the NSW Government and developers on the planning and delivery of safe, connected and comprehensive bicycle infrastructure for large developments, foreshore and state government planning precincts, including Waterloo, Central to Eveleigh, the Bays Precinct and Barangaroo

– Provide shared paths on, and alternative routes for, state roads where the City is not currently permitted to reallocate road space

– Investigate and respond to suggestions and comments from our community about the bike network to improve safety, access and comfort

– Advocate to the NSW Government for lower speed limits, including 30km/h

– Advocate to the NSW Government to complete the Sydney City Centre Access Strategy bike network

– Advocate for Transport to fully fund their portion of the network and pursue multi-year funding agreements with Transport

– Investigate improved intersection designs and reduce delays for people riding

– Investigate opportunities for more riding areas and learn to ride tracks for children

– Consider all bike network users, including those on cargo bikes, ebikes, trishaws and mobility scooters, in the design of infrastructure

City of Sydney Walking Strategy and Action Plan 2015-2030

As stated in the City of Sydney Walking Strategy and Action Plan 2015-2030, the City of Sydney supports walking as a mode of transport to meet the environmental, economic and social objectives set in Sustainable Sydney 2030 and Connecting Our City. This strategy includes targets based on a review of trends and forecasts. The overarching priorities for walking defined by this strategy are to:

– Make walking quick, convenient and easy

– Make walking inviting and interesting

– Make walking safe and comfortable

– Create a strong walking culture

It is defined by the strategy that the importance of walking trips include:

– Improve connectivity and reduced delays

– Improve pedestrian safety and personal security

– Increase health and wellbeing benefits

– Upgrade supporting facilities, e.g. weather protection, wayfinding and end of trip facilities

To successfully implement the strategy, actions identified in this Strategy are listed below and grouped into short, medium and long-term and ongoing actions. Some on-going transport related actions include:

– Create at least 5km of additional pedestrianised streets and laneways

– Design walking-related infrastructure that is accessible and inclusive for everyone

– Activity streets, urban renewal areas and major street upgrades will be designed as low speed environments and will use traffic calming measures

– Implement existing planning controls to create walkable, fine grain street networks

– Work with neighbouring local governments to deliver more walkable environments

– Undertake a walkability audit every five years to determine improvement in walkability

– Research and monitor walking initiatives to benchmark walking activity and improve outcomes

– Review the City of Sydney Walking Strategy and Action Plan every five years and report yearly on progress

– Work with the NSW Government to investigate opportunities to improve pedestrian priority and reduce travel time for people walking

– Investigate and request low speed environments in the LGA

– Some short-term transport related actions include:

– Create a public domain access policy/plan

– Investigate and implement streetscape amenity improvements

– Encourage provision of end-of-trip facilities in development through promotional efforts

– Work with the NSW Government to ensure good access to major transport hubs

– Promote walking as a mode of transport through targeted communication campaigns

– Work with the NSW Government to implement pedestrian improvements as part of the City Access Strategy

Some medium and long-term transport related actions include:

– Work with the NSW Government to review designs, standards, warrants and technical directions for walking-related infrastructure

– Implement a system/guide that considers a place-based context for streetscape design and facilities

– All Key Routes of the LGN to be safe, accessible, connected and amenable with high level of pedestrian priority by 2030

– Provide walking priority facilities on the city-wide Pedestrian Priority Network of the LGN by 2030

– Upgrade all activity streets to comply with City of Sydney standards by 2030

Legible Sydney – Wayfinding Strategy

In response, the City wishes to develop a pedestrian Wayfinding Strategy to provide a clear co-ordinated framework. This framework will deliver consistent wayfinding components and information to direct people to their desired destinations, and to encourage people to walk with comfort and confidence.

The overall project objective is to develop a Wayfinding System that allows the delivery of a more legible public domain that encourages people to walk with comfort and confidence around the City of Sydney. The strategy provides a guiding document to inform future design development and project implementation for the City's pedestrian wayfinding system. It aims to encourage active transport by providing predictable, consistent wayfinding information to build pedestrians' confidence in reaching desired destinations. This will also lead to major benefits for the transport system, environment economy and public health.

The placement of wayfinding information will be co-ordinated with the implementation of the Liveable Green Network across the City of Sydney local government area, shown in **Figure A-17**. Placement of signs will be organised around a node and journey-based strategy:

– Node – precincts, public transport, attractions and destination in an area

– Journey – information to connect villages, city centre, public transport, recreation facilities and other major attractions

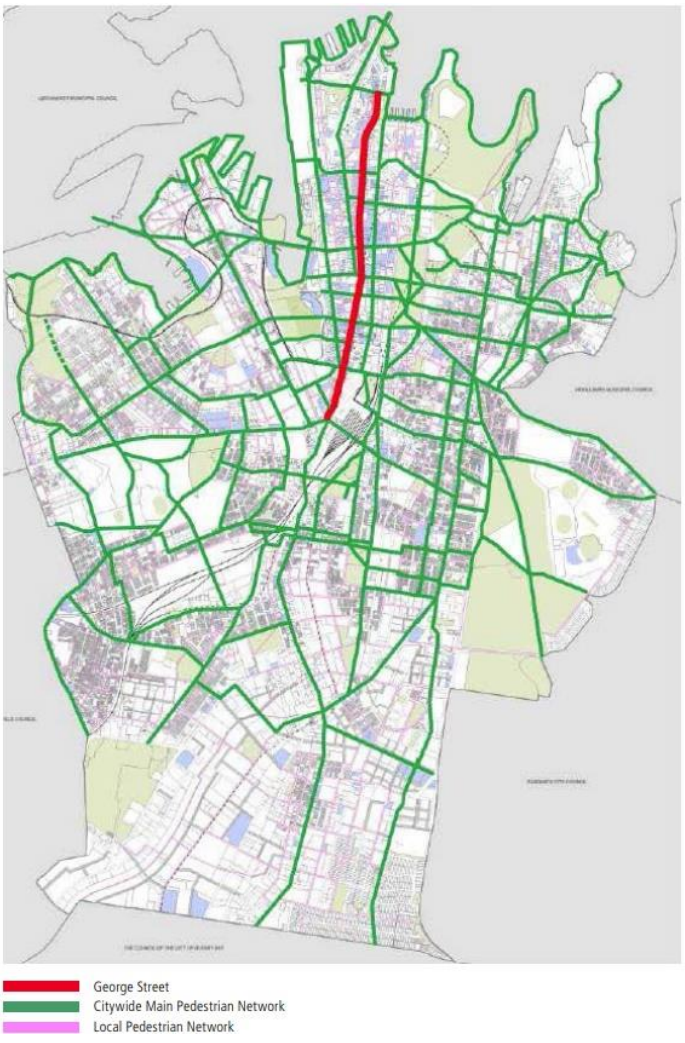
The signage system will be applied to create a connected city and allows users to undertake a journey with confidence from one node to another.

Figure A-18 shows the pedestrian network in City of Sydney taken from the various city and state government policy and project initiatives.

Figure A-17 Placement of wayfinding information in City of Sydney

Source: City of Sydney 2012

Figure A-18 Pedestrian network in City of Sydney



Source: City of Sydney 2012

The Heathy Liveable Communities Urban Liveability Checklist

The Urban Liveability Checklist is a tool for use in established or proposed urban areas to assess liveability and opportunities to improve health and wellbeing. The 'desirable' targets are evidence-based and were developed and tested as part of the NHMRC Centre of Research Excellence in Healthy Liveable Communities. The major transport related domains listed in the document include walkability and public transport.

For walkability, the checklist defines the desirable street connectivity is more than 150 intersections and the desirable local living destinations incorporates 10 destination types.

For public transport, the checklist considers bus access, tram access and train access, with 80% of dwellings less than 400meters, 600 meters and 800 meters, respectively.

Heart Foundation Heathy Active by Design

The Heart Foundation defines a neighbourhood on the move as one that has a network of integrated walking, cycling and public transport routes. Movement networks within a neighbourhood, and connecting to other neighbourhoods, need to be accessible, safe and cohesive. The Movement Networks infographic is illustrated in **Figure A-19** and some requirements of a good movement network include:

– Being safe and well connected

– Prioritises walking, cycling and public transport modes of transport

– Integrates convenient walking, cycling and public transport routes to local destinations

– Provides opportunities for planned and incidental physical activity

Figure A-19 Movement Networks infographic

Source: Heart Foundation 2015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Consulting