

# Appendix



Technical working paper: Active transport strategy





# M4-M5 LINK

SYDNEY, NSW

ACTIVE TRANSPORT STRATEGY

August 2017



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Glossary	
Abbreviation	Name
ATN	Active Transport Network
CBD	Central business district
CSELR	CBD and South East Light Rail
EIS	Environmental impact statement
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i> [NSW]
Green Grid	Initiative of the NSW Government [2016] as part of 'A Plan for Growing Sydney'
LGA	Local government authority
Roads and Maritime	NSW Roads and Maritime Services
SEARs	Secretary's Environmental Assessment Requirements
SMC	Sydney Motorway Corporation
UDLP	Urban Design and Landscape Plan
WSUD	Water Sensitive Urban Design



# 1.0 Introduction

NSW Roads and Maritime Services [Roads and Maritime] is seeking approval to construct and operate the WestConnex M4-M5 Link [the project], which would comprise a new multi-lane road link between the M4 East Motorway at Haberfield and the New M5 Motorway at St Peters. The project would also include an interchange at Lilyfield and Rozelle [the Rozelle interchange] and a tunnel connection between Anzac Bridge and Victoria Road, east of Iron Cove Bridge [Iron Cove Link]. In addition, construction of tunnels, ramps and associated infrastructure to provide connections to the proposed future Western Harbour Tunnel and Beaches Link project would be carried out at the Rozelle interchange.

Together with the other components of the WestConnex program of works and the proposed future Sydney Gateway, the project would facilitate improved connections between western Sydney, Sydney Airport and Port Botany and south and south-western Sydney, as well as better connectivity between the important economic centres along Sydney’s Global Economic Corridor and local communities.

Approval is being sought under Part 5.1 of the *Environmental Planning and Assessment Act 1979* [NSW] [EP&A Act] for the project. A request has been made for the NSW Minister for Planning to specifically declare the project to be State significant infrastructure and also critical State significant infrastructure. An environmental impact statement [EIS] is therefore required.



Figure 1.1 Overview of WestConnex and related projects

## 1.1 OVERVIEW OF WESTCONNEX AND RELATED PROJECTS

The M4-M5 Link is part of the WestConnex program of works. Separate planning applications and assessments have been completed for each of the approved WestConnex projects. Roads and Maritime has commissioned Sydney Motorway Corporation [SMC] to deliver WestConnex, on behalf of the NSW Government. However, Roads and Maritime is the proponent for the project.

In addition to linking to other WestConnex projects, the M4-M5 Link would provide connections to the proposed future Western Harbour Tunnel and Beaches Link, the Sydney Gateway [via the St Peters interchange] and the F6 Extension [via the New M5].

The WestConnex program of works, as well as related projects, are shown in Figure 1.1 and described in Table 1.1.

Project	Description	Status
Westconnex program of works		
M4 Widening	Widening of the existing M4 Motorway from Parramatta to Homebush.	Planning approval under the EP&A Act granted on 21 December 2014. Open to traffic.
M4 East	Extension of the M4 Motorway in tunnels between Homebush and Haberfield via Concord. Includes provision for a future connection to the M4-M5 Link at the Wattle Street interchange.	Planning approval under the EP&A Act granted on 11 February 2016. Under construction.
King Georges Road Interchange Upgrade	Upgrade of the King Georges Road interchange between the M5 West and the M5 East at Beverly Hills, in preparation for the New M5 project.	Planning approval under the EP&A Act granted on 3 March 2015. Open to traffic.
New M5	Duplication of the M5 East from King Georges Road in Beverly Hills with tunnels from Kingsgrove to a new interchange at St Peters. The St Peters interchange allows for connections to the proposed future Sydney Gateway project and an underground connection to the M4-M5 Link. The New M5 tunnels also include provision for a future connection to the proposed future F6 Extension.	Planning approval under the EP&A Act granted on 20 April 2016. Commonwealth approval under the <i>Environment Protection and Biodiversity Conservation Act 1999</i> [Commonwealth] granted on 11 July 2016. Under construction.
M4-M5 Link [the project]	Tunnels connecting to the M4 East at Haberfield [via the Wattle Street interchange] and the New M5 at St Peters [via the St Peters interchange], a new interchange at Rozelle and a link to Victoria Road [the Iron Cove Link]. The Rozelle interchange also includes ramps and tunnels for connections to the proposed future Western Harbour Tunnel and Beaches Link project.	The subject of this EIS.
Related Projects		
Sydney Gateway	A high-capacity connection between the St Peters interchange [under construction as part of the New M5 project] and the Sydney Airport and Port Botany precinct.	Planning underway by Roads and Maritime and subject to separate environmental assessment and approval.
Western Harbour Tunnel and Beaches Link	The Western Harbour Tunnel component would connect to the M4-M5 Link at the Rozelle interchange, cross underneath Sydney Harbour between the Birchgrove and Waverton areas, and connect with the Warringah Freeway at North Sydney. The Beaches Link component would comprise a tunnel that would connect to the Warringah Freeway, cross underneath Middle Harbour and connect with the Burnt Bridge Creek Deviation at Balgowlah and Wakehurst Parkway at Seaforth. It would also involve the duplication of the Wakehurst Parkway between Seaforth and Frenchs Forest.	Planning underway by Roads and Maritime and subject to separate environmental assessment and approval.
F6 Extension	A proposed motorway link between the New M5 at Arncliffe and the existing M1 Princes Highway at Loftus, generally along the alignment known as the F6 corridor.	Planning underway by Roads and Maritime and subject to separate environmental assessment and approval.

Table 1.1 WestConnex and related projects



## 1.2 PROJECT LOCATION

The project would be generally located within the City of Sydney and Inner West local government areas [LGAs]. The project is located about two to seven kilometres south, southwest and west of the Sydney central business district [CBD] and would cross the suburbs of Ashfield, Haberfield, Leichhardt, Lilyfield, Rozelle, Annandale, Stanmore, Camperdown, Newtown and St Peters. The location of the interchanges for the project are shown in Figure 1.2.



Figure 1.2 Location of project interchanges



### 1.3 OVERVIEW OF THE PROJECT

Key components of the project are shown in Figure 1.3 and would include:

- Twin mainline motorway tunnels between the M4 East at Haberfield and the New M5 at St Peters. Each tunnel would be around 7.5 kilometres long and would generally accommodate up to four lanes of traffic in each direction
- Connections of the mainline tunnels to the M4 East project, comprising:
  - A tunnel-to-tunnel connection to the M4 East mainline stub tunnels
  - Entry and exit ramp connections between the mainline tunnels and the Wattle Street interchange at Haberfield [which is currently being constructed as part of the M4 East project]
  - Minor physical integration works with the surface road network at the Wattle Street interchange including road pavement and line marking
- Connections of the mainline tunnels to the New M5 project, comprising:
  - A tunnel-to-tunnel connection to the New M5 mainline stub tunnels north of the Princes Highway, near the intersection of Mary Street and Bakers Lane
  - Entry and exit ramp connections between the mainline tunnels and the St Peters interchange [which is currently being constructed as part of the New M5 project]
  - Minor physical integration works with the surface road network at the St Peters interchange including road pavement and line marking
- An underground interchange at Leichhardt and Annandale [the Inner West subsurface interchange] that would link the mainline tunnels with the Rozelle interchange and the Iron Cove Link [see below]
- A new interchange at Lilyfield and Rozelle [the Rozelle interchange] that would connect the M4-M5 Link mainline tunnels with:
  - City West Link
  - Anzac Bridge
  - The Iron Cove Link [see below]
  - The proposed future Western Harbour Tunnel and Beaches Link
- Construction of connections to the proposed future Western Harbour Tunnel and Beaches Link project as part of the Rozelle interchange, including:
  - Tunnels that would allow for underground mainline connections between the M4 East and New M5 motorways and the proposed future Western Harbour Tunnel and Beaches Link [via the M4-M5 Link mainline tunnels]
  - A dive structure and tunnel portals within the Rozelle Rail Yards, north of the City West Link / The Crescent intersection
  - Entry and exit ramps that would extend north underground from the tunnel portals in the Rozelle Rail Yards to join the mainline connections to the proposed future Western Harbour Tunnel and Beaches Link
  - A ventilation outlet and ancillary facilities as part of the Rozelle ventilation facility [see below]
- Twin tunnels that would connect Victoria Road near the eastern abutment of Iron Cove Bridge and Anzac Bridge [the Iron Cove Link]. Underground entry and exit ramps would also provide a tunnel connection between the Iron Cove Link and the New M5 / St Peters interchange [via the M4-M5 Link mainline tunnels]
- The Rozelle surface works, including:
  - Realigning The Crescent at Annandale, including a new bridge over Whites Creek and modifications to the intersection with City West Link
  - A new intersection on City West Link around 300 metres west of the realigned position of The Crescent, which would provide a connection to and from the New M5/St Peters interchange [via the M4-M5 Link mainline tunnels]
  - Widening and improvement works to the channel and bank of Whites Creek between the light rail bridge and Rozelle Bay at Annandale, to manage flooding and drainage for the surface road network
  - Reconstructing the intersection of The Crescent and Victoria Road at Rozelle, including construction of a new bridge at Victoria Road
  - New and upgraded pedestrian and cyclist infrastructure
  - Landscaping, including the provision of new open space within the Rozelle Rail Yards

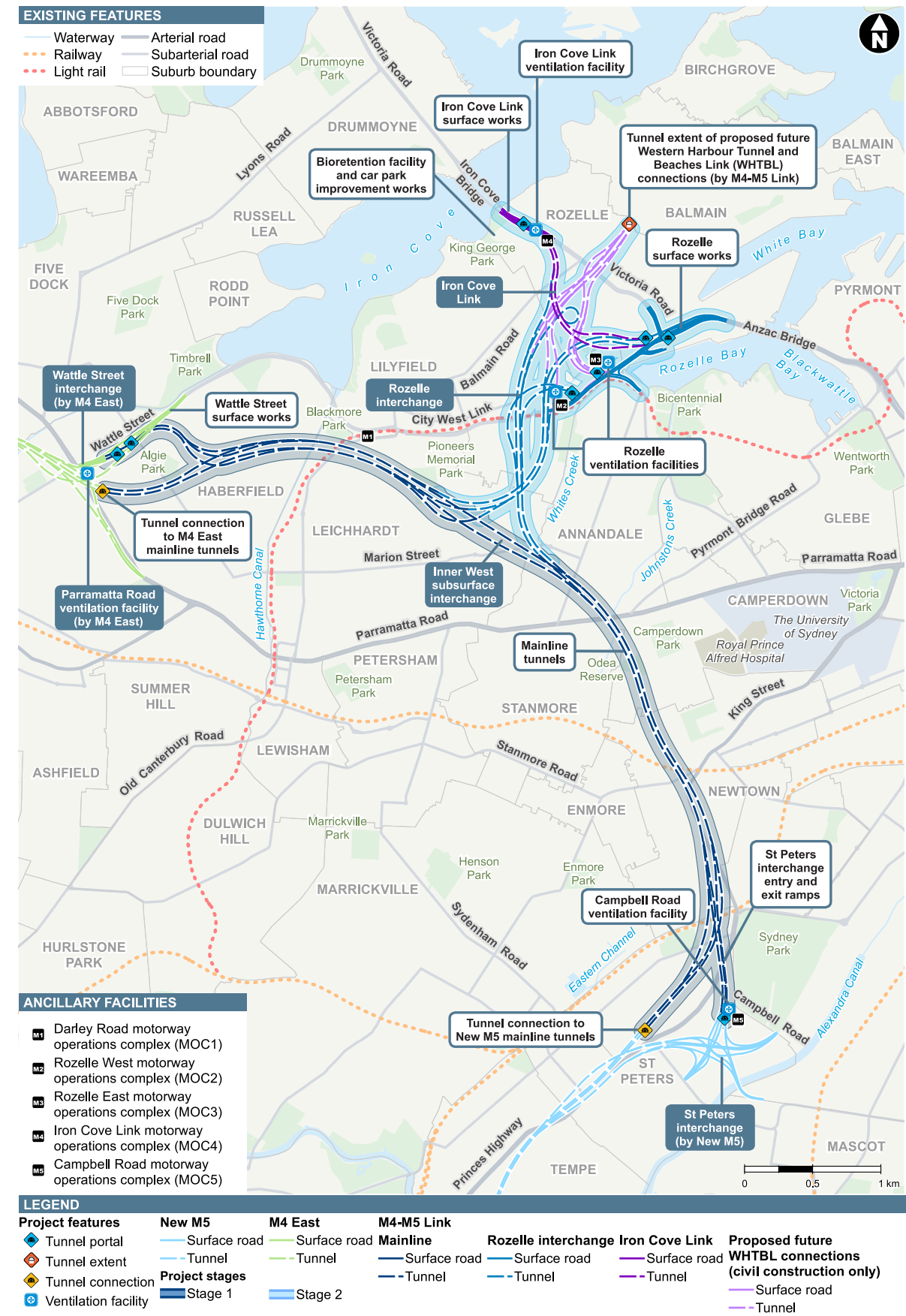


Figure 1.3 Overview of the project

- The Iron Cove Link surface works, including:
  - Dive structures and tunnel portals between the westbound and eastbound Victoria Road carriageways, to connect Victoria Road east of Iron Cove Bridge with the Iron Cove Link
  - Realignment of the westbound [southern] carriageway of Victoria Road between Springside Street and the eastern abutment of Iron Cove Bridge
  - Modifications to the existing intersections between Victoria Road and Terry, Clubb, Toelle and Callan streets
  - Landscaping and the establishment of pedestrian and cycle infrastructure
- Five motorway operations complexes; one at Leichhardt [MOC1], three at Rozelle [Rozelle West [MOC2], Rozelle East [MOC3] and Iron Cove Link [MOC4]], and one at St Peters [MOC5]. The types of facilities that would be contained within the motorway operations complexes would include substations, water treatment plants, ventilation facilities and outlets, offices, on-site storage and parking for employees
- Tunnel ventilation systems, including ventilation supply and exhaust facilities, axial fans, ventilation outlets and ventilation tunnels
- Three new ventilation facilities, including:
  - The Rozelle ventilation facility at Rozelle
  - The Iron Cove Link ventilation facility at Rozelle
  - The Campbell Road ventilation facility at St Peters
- Fitout [mechanical and electrical] of part of the Parramatta Road ventilation facility at Haberfield [which is currently being constructed as part of M4 East project] for use by the M4-M5 Link project
- Drainage infrastructure to collect surface and groundwater for treatment at dedicated facilities. Water treatment would occur at
  - Two operational water treatment facilities [at Leichhardt and Rozelle]
  - The constructed wetland within the Rozelle Rail Yards
  - A bioretention facility for stormwater runoff within the informal car park at King George Park at Rozelle [adjacent to Manning Street]. A section of the existing informal car park would also be upgraded, including sealing the car park surface and landscaping
- Treated water would flow back to existing watercourses via new, upgraded and existing infrastructure
- Ancillary infrastructure and operational facilities for electronic tolling and traffic control and signage [including electronic signage]
- Emergency access and evacuation facilities, including pedestrian and vehicular cross and long passages and fire and life safety systems
- Utility treatments, including protection and/or adjustment of existing utilities, removal of redundant utilities and installation of new utilities. A Utilities Management Strategy has been prepared for the project that identifies management options for utilities, including relocation or adjustment. Refer to **Appendix F** [Utilities Management Strategy] of this EIS.

The project does not include:

- Site management works at the Rozelle Rail Yards. These works were separately assessed and determined by Roads and Maritime through a Review of Environmental Factors under Part 5 of the EP&A Act [refer to **Chapter 2** [Assessment process] of the EIS]
- Ongoing motorway maintenance activities during operation
- Operation of the components of the Rozelle interchange which are the tunnels, ramps and associated infrastructure being constructed to provide connections to the future Western Harbour Tunnel and Beaches Link project.

Temporary construction ancillary facilities and temporary works to facilitate the construction of the project would also be required.

# 1.4 PURPOSE OF THIS REPORT

This report outlines the investigation of a regional active transport network [ATN] and the role of the M4-M5 Link in this network. The report recommends a number of new strategic links and the delivery mechanisms for them, including identifications of the sections of these links that would be delivered by the project. The structure of this report is:

- Section 2: Principles and objectives
- Section 3: Existing active transport network
- Section 4: Proposed initiatives and future links
- Section 5: Summary of future links
- Section 6: Future consultation
- Section 7: Summary.

Active transport is non-motorised forms of transport that include physical activity, for example walking or cycling. It also includes public transport for longer distance trips, which combine walking or cycling as part of the trip. An ATN provides infrastructure to enable convenient, pleasant and safe walking and cycling trips.

Active transport enhances connectivity, particularly at a local level. Suitable active transport links encourage active lifestyles and reduce car dependency, resulting in health benefits for the community.

The quality of active transport links encourages their use. Links that have reasonable grades, are separated from vehicular traffic and provide amenity will be more frequently used. Path widths would be designed to be as generous as possible, and where possible include landscape buffers on either side.

Cycle and pedestrian paths form part of the WestConnex program of works to improve connectivity and safety and contribute to the ATN. The New M5 includes a number of active transport measures, with around 14 kilometres of new and improved pedestrian and cycle paths. New M5 also includes a new cycling and pedestrian bridge over Alexandra Canal linking Mascot town centre with St Peters and Sydney Park and a new cycling and pedestrian bridge over Campbell Road connecting Sydney Park with future open space at St Peters Interchange.

The M4 East will include permanent re-routing of part of the existing eastbound cycleway on the northern side of the M4 from west of Homebush Bay Drive to near Pomeroy Street, and a new westbound cycleway on-ramp connection from Queen Street at North Strathfield to the existing M4 Motorway. Active transport at Haberfield has been addressed as part of the M4 East project.



1.5 SECRETARY’S ENVIRONMENTAL ASSESSMENT REQUIREMENTS

In preparing this Active Transport Strategy, the Secretary’s Environmental Assessment Requirements [SEARs] issued for the M4-M5 Link have been addressed. The key matters raised by the Secretary for consideration in the Active Transport Strategy and where this report addresses the SEARs are outlined in Table 1.2.

	Requirement	Section where addressed in report
Environmental Impact Statement	The project is described in sufficient detail to enable clear understanding that the project has been developed through an iterative process of impact identification and assessment and project refinement to avoid, minimise or offset impacts so that the project, on balance, has the least adverse environmental, social and economic impact, including its cumulative impacts.	
	1.The EIS must include, but not necessarily be limited to, the following:	
	b) a description of the project and all components and activities [including ancillary components and activities] required to construct and operate it, including:	
	– design of the tunnels, interchanges [inclusive of tunnel portals and entry and exit ramps], and connections to Stage 1 and Stage 2 of WestConnex and other proposals [such as the Western Harbour Tunnel] and road user, pedestrian and cyclist facilities, and lighting;	Section 7
Traffic and Transport	– surface road upgrade works, including road widening, intersection treatment and grade separation works, property access, parking, pedestrian and cyclist facilities [including appropriate locations for overbridges] and public transport facilities;	Section 7
	Network connectivity, safety and efficiency of the transport system in the vicinity of the project are managed to minimise impacts. The safety of transport system customers is maintained. Impacts on network capacity and the level of service are effectively managed. Works are compatible with existing infrastructure and future transport corridors.	
	1. The Proponent must assess construction transport and traffic [vehicle, pedestrian and cyclists] impacts, including, but not necessarily limited to:	
	e) access constraints and impacts on public transport, pedestrians and cyclists;	EIS Appendix H [Technical working paper: Traffic and transport]
	f) the need to close, divert or otherwise reconfigure elements of the road, cycle and pedestrian network associated with construction of the project. Where the closure, diversion or reconfiguration are temporary, provide an estimate of the duration of the altered access arrangements;	EIS Appendix H [Technical working paper: Traffic and transport]
	2. The Proponent must model and/or assess the operational transport impacts of the project including, but not necessarily limited to	
	a) forecast travel demand and traffic volumes [expressed in terms of total numbers and heavy and light vehicle numbers] for the project and the surrounding road, cycle and public transport network, including potential shifts of traffic movements on alternate routes outside the proposal area [such as toll avoidance] and impact of permanent street closures directly attributable to the SSI;	EIS Appendix H [Technical working paper: Traffic and transport]
	d) wider transport interactions [local and regional roads, cycling, public and freight transport], taking into account the Sydney City Centre Access Strategy, planned future urban release areas such as The Bays Precinct and planned future port activities and uses;	Section 4 and EIS Appendix H [Technical working paper: Traffic and transport]
	g) impacts on cyclists and pedestrian access and safety, including on known routes and future proposals such as along Lilyfield Road;	Section 4 and 5
	h) opportunities to integrate cycling and pedestrian elements with surrounding networks and within the project;	Section 3 and 4

	Requirement	Section where addressed in report
Urban Design	The project design complements the visual amenity, character and quality of the surrounding environment. The project contributes to the accessibility and connectivity of communities. Works are compatible with existing infrastructure and future transport corridors.	
	b) identify measures aimed at improving 'north-south' connectivity between Balmain/Rozelle and Sydney Harbour;	Section 4.1.1
	c) identify measures aimed at preserving the 'east-west' connectivity between White Bay and the Rozelle Rail Yards;	Section 4.1
	h) identify urban design strategies and opportunities to enhance healthy, cohesive and inclusive communities; and	Sections 3 and 4 and EIS Appendix L [Technical working paper: Urban design]
Socio Economic, Land Use and Property	The project minimises adverse social and economic impacts and capitalises on opportunities potentially available to affected communities. The project minimises impacts to property and business and achieves appropriate integration with adjoining land uses, including maintenance of appropriate access to properties and community facilities, and minimisation of displacement of existing land use activities, dwellings and infrastructure.	
	3.The Proponent must identify opportunities for local centre street revitalisation improvements, pedestrian and cyclist access and connectivity and provision of community and social facilities.	Section 4 and EIS Appendix P [Technical working paper: Social and economic]

Table 1.2 How SEARs have been addressed in this report

# 1.6 RELATIONSHIP TO OTHER REPORTS IN THE EIS

This report should be read in conjunction with the following EIS chapters and appendices:

- EIS Chapter 5, Project description: this chapter describes the project, including the project tunnels, interchanges and associated infrastructure, and ancillary facilities. It also describes the design standards required to deliver the project
- EIS Chapter 6, Construction work: this chapter describes the proposed approach to the construction of the project
- EIS Chapter 7, Consultation: this chapter outlines the consultation that has occurred and assisted in developing the active transport strategy for the project
- EIS Chapter 12, Land use and property: this chapter details the process for identifying potential future uses for land not required for the ongoing use of the project
- EIS Chapter 8 and Appendix H, Traffic and transport: this chapter and report detail the interim arrangements for the active transport network during construction
- EIS Appendix L, Urban design: this report outlines the urban design principles by which the project would demonstrate design excellence and integrate with surrounding neighbourhoods, as well as future opportunities for others
- EIS Appendix O, Landscape and visual impact: this report analyses the landscape character and visual impacts of the project
- EIS Appendix P, Social and economic: this report details the social impacts of the project and how management measures [including urban design principles] will manage these impacts on surrounding communities.

# 2.0 Principles and Objectives

## 2.1 STRATEGY OBJECTIVES AND METHODOLOGY

The inner west has seen significant growth over the last 10 years in trips undertaken by active transport. This growth has occurred due to a combination of the provision of infrastructure, changing inner Sydney demographics, and in-fill development in the region. However a significant barrier to increased active transport is the lack of adequate infrastructure.

The M4-M5 Link Active Transport Strategy has been developed with the following objectives:

- Develop an agreed strategy for an ATN for the M4-M5 Link with relevant stakeholders [including Roads and Maritime, Inner West Council and City of Sydney Council and Transport for NSW]
- Provide a strategy that forms the basis of works to be completed by the project and by others through future projects and developments
- Provide connectivity between existing and proposed routes for local communities
- Allowing travel choice for a range of local trips
- Reduce congestion on local roads by providing infrastructure that encourages modal shift for pedestrian and cycle trips [commuter and non-commuter] as well as access to public transport nodes
- Provide regional connections to major destinations [including the CBD, Sydney Airport, The University of Sydney, University of Technology Sydney, The Bays Precinct and town centres and transport hubs]
- Provide a connected open space network which is a valued part of Sydney's 'Green Grid' [that includes the Bay Run, Callan Park, Sydney Park, Cooks River foreshore, GreenWay and Bicentennial Park]
- Reduce travel time for local trips by pedestrians and cyclists.

The method to undertake this strategy is outlined in Figure 2.1.

The strategy has been developed through analysis of:

- The current active transport routes
- The currently planned/proposed active transport routes
- The policies and guidelines outlined in section 2.3

Stakeholder workshops have further assisted development of the strategy. These workshops were attended by:

- Transport for NSW
- Roads and Maritime
- Inner West Council
- City of Sydney Council
- NSW Department of Planning and Environment
- Bicycle user groups.



Figure 2.1 Methodology



2.2 CONSULTATION

In developing the active transport strategy for the project a significant amount stakeholder consultation has been undertaken. Table 2.1 below outlines the consultation to date with key stakeholders that has informed and shaped the active transport strategy for the project. Further details regarding consultation are contained in Chapter 7 [Consultation] of the EIS, including community consultation and feedback on active transport needs. The Inner West Bicycle Coalition response to the M4-M5 Link can be found under Annexure 3.

Stakeholder	Feedback
City of Sydney Council, Inner West Council, Transport for NSW, Roads and Maritime, NSW Department of Planning and Environment [workshops]	<div><div>– Ensure the active transport strategy has a clear purpose</div><div>– Concentrate on areas that would provide the biggest advantages to the network the 'pinch points'</div><div>– Develop strategies that are connected to the wider network and upcoming and planned projects</div></div>
Inner West Bicycle Coalition Bike East Bicycle NSW	<div><div>– Routes proposed that would add to the network within the M4-M5 Link corridor</div><div>– Additional routes were provided for consideration</div></div>
Urban Growth	<div><div>– Input into the concept for the Rozelle Rail Yards, including active transport connections between the Rozelle Rail Yards and White Bay</div><div>– Desire for development sites within the Rozelle Rail Yards in line with The Bays Precinct Transformation Strategy</div></div>

Table 2.1 Key stakeholder consultation

2.3 STRATEGIES AND DOCUMENTS INFORMING THE ACTIVE TRANSPORT STRATEGY

The following documents were used to inform and develop the M4-M5 Link Active Transport Strategy:

- Sydney's Cycling Future, December 2013
- Inner Sydney Regional Bicycle Network, April 2010
- Leichhardt Council Bike Plan, October 2015
- Marrickville Council Bike Plan, August 2007
- City of Sydney Cycle Strategy and Action Plan, February 2007
- City of Sydney Living Green Network, May 2011
- NSW Bicycle Guidelines, July 2005
- NSW Long Term Transport Master Plan, December 2012
- Transformation Plan, The Bays Precinct Sydney, October 2015
- Parramatta Road Corridor Urban Transformation Strategy, November 2016
- Draft North Annandale Neighbourhood Movement Plan, 2016.

Currently the City of Sydney is the only council in the area with a developed pedestrian network plan. Inner West Council [and its former Councils] is currently investigating and further developing a pedestrian network plan. The former Ashfield Council did not have an ATN plan.



## 3.0 Existing Active Transport Network

### 3.1 OVERVIEW

The existing ATN within the M4-M5 Link project corridor has undergone significant upgrades in the past 10 to 15 years. The majority of additional active transport infrastructure has been developed with the aim of providing active transport links to the CBD, primarily as a means of providing access to places of work. While this has generated a significant addition to the network, there are further opportunities to provide connections for leisure and to support newly developing areas such as The Bays Precinct.

The existing ATN is comprised of regional and local routes. The majority of regional routes are segregated pedestrian and cycle paths, with the local routes primarily being either shared paths or pedestrian paths supported by on-road cycle paths. Figure 3.1 demonstrates the existing and proposed [within existing strategies] active transport links around the M4-M5 Link corridor.

As Figure 3.1 demonstrates, the existing network is fragmented. This is due to the following factors:

- The majority of cycle infrastructure has been retrofitted around and on the existing road network
- The majority of cycle infrastructure has been planned by a number of agencies and authorities, across suburb and authority boundaries [eg LGAs]
- Funding shortfalls to deliver the infrastructure necessary [eg pedestrian and cycle bridges across busy roads].

Figure 3.1 demonstrates that while there are significant local active transport routes throughout the M4-M5 Link corridor, there are also significant gaps in regional routes. In particular, there is a deficiency in regional north-south routes around the Rozelle Rail Yards site and east-west routes around the Haberfield site. Furthermore, some of the existing regional routes, while designated on the plan, lack the amenity required to form a usable connection. For example, Parramatta Road is a regional route, but does not provide requisite amenity or infrastructure to form a usable regional active transport connection. Successful active transport connections provide clear separation between each of vehicle, cycle and pedestrian movements.

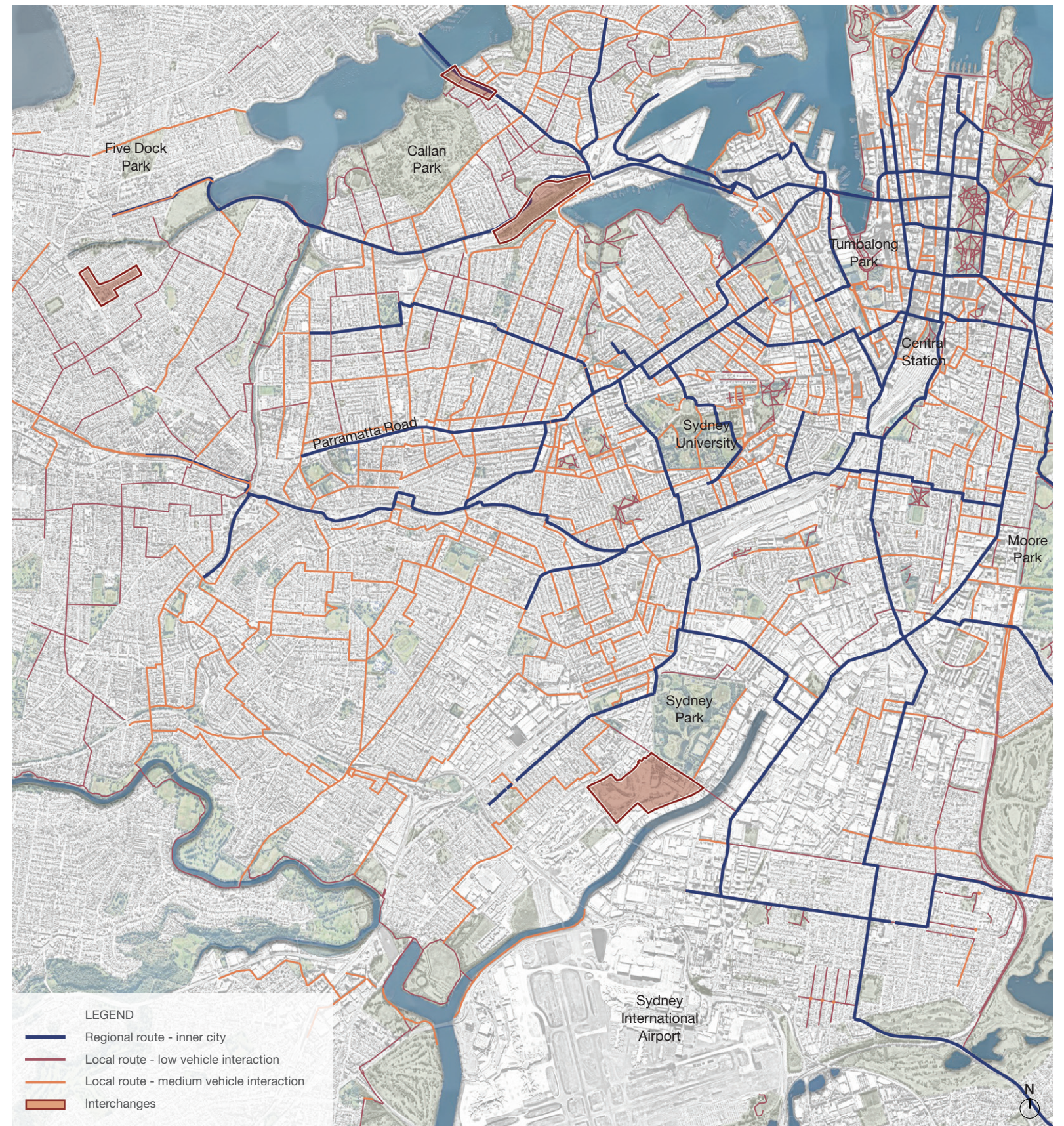


Figure 3.1 Existing active transport network



### 3.2 REGIONAL CONTEXT

#### 3.2.1 REGIONAL TRIP GENERATORS

An analysis of the key trip generators was undertaken within the corridor to understand the origins and destinations, particularly local trips. A large proportion of trips are local, for example, in the City of Sydney it is assumed that key trip generators included the following groups:

- Employment zones [eg CBD, industrial zones, Green Square, Mascot, Sydney Airport, Australian Technology Park]
- Major education institutions [eg The University of Sydney, University of Technology Sydney]
- Train and light rail stations [eg Sydenham Station, Newtown Station, St Peters Station, Rozelle and Lilyfield light rail stops]
- Major redevelopment zones [eg Green Square, Mascot, The Bays Precinct, CBD and South East Light Rail]
- Major public open space [eg Callan Park, Sydney Park, Sydney Harbour Foreshore, Bicentennial Park]
- Existing major route destinations [eg Cooks River, Bay Run, Bourke Street cycle way]
- Major town centres [eg Newtown, Annandale, Rozelle].

A summary of the trip generators is shown in Figure 3.2. For further analysis of the regional connectivity see to Annexure 1.

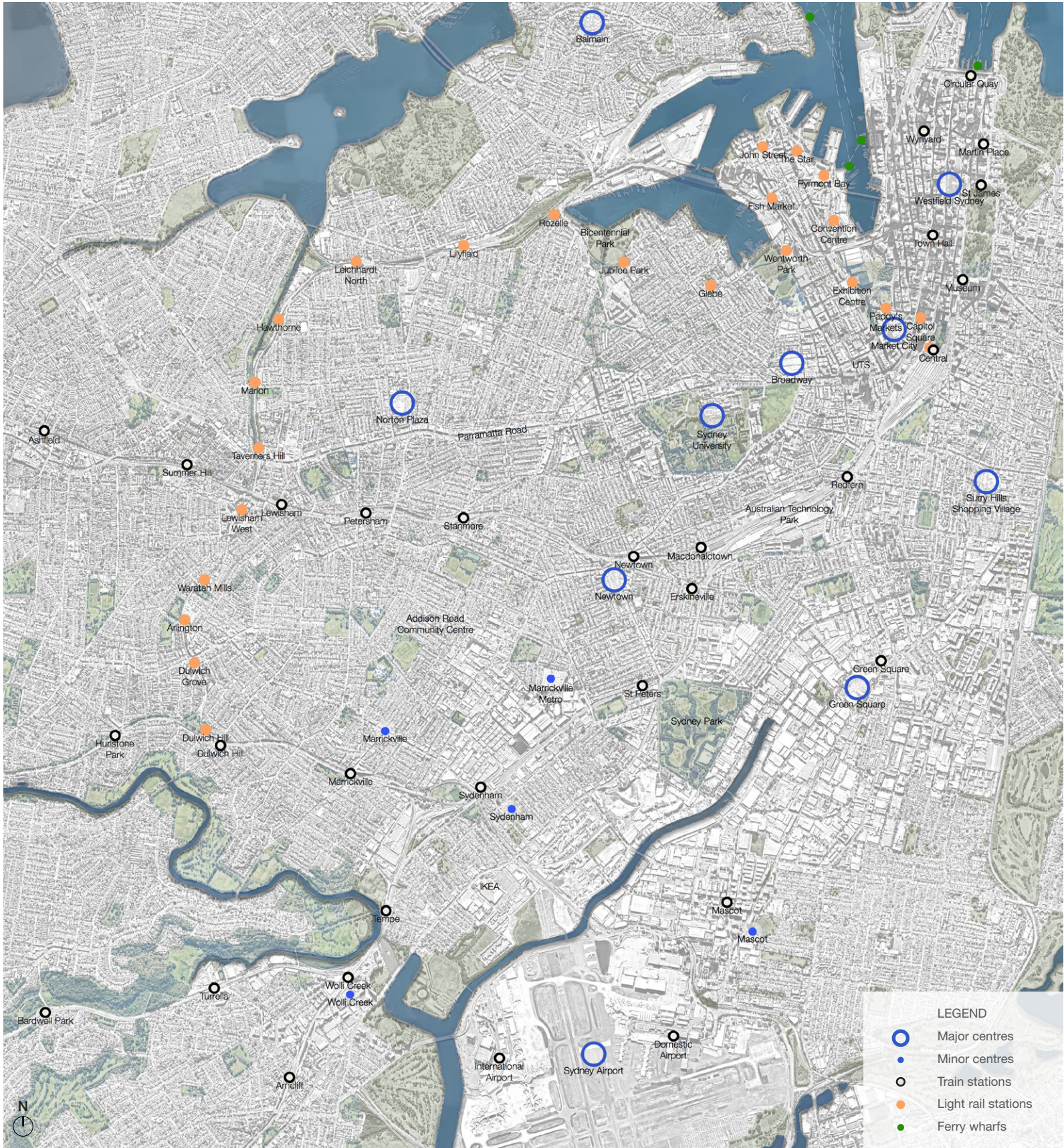


Figure 3.2 Trip generators



A summary of the trip generators and the connectivity for these key drivers is shown in Figure 3.3. This shows the main trip generators and the desired connectivity between those trip generators. A number of the desired connections are already key regional active transport routes. These key routes are trip generators of themselves as they form destinations, particularly for leisurely pursuits.

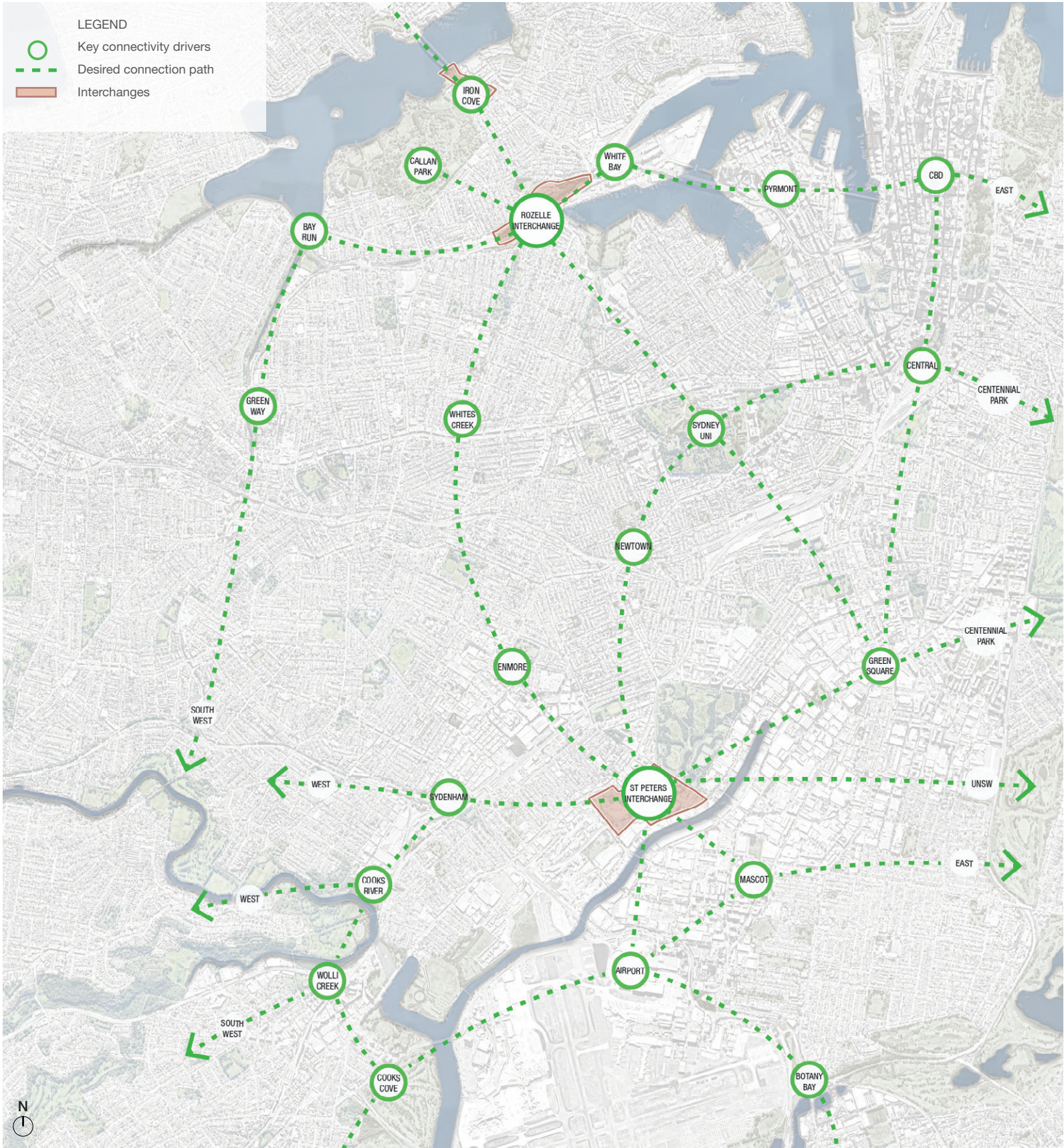


Figure 3.3 Key connectivity drivers



### 3.3 LOCAL CONTEXT

#### 3.3.1 ROZELLE

The areas of influence for the Rozelle interchange in relation to active transport include the suburbs of Rozelle, Annandale, Lilyfield, Glebe, Balmain and Forest Lodge. These areas contain predominantly residential land uses, including large areas of single dwellings and small scale multi-residential buildings. There are some industrial areas along the waterfront of Rozelle Bay, which are currently designated for redevelopment as part of The Bays Precinct Urban Transformation project [UrbanGrowth NSW, 2016].

The areas of public open space include Callan Park, the Bay Run, Bicentennial Park, Easton Park and the Glebe Foreshores and Whites Valley Creek parklands.

The area has a strong character and identity with active town centres on commercial and retail streets such as Darling Street, Booth Street and Johnston Street.

The area also includes significant active transport links including the Bay Run, Glebe Foreshores, Anzac Bridge cycleway and the northern part of the GreenWay [the active transport connection between Cooks River and Iron Cove].

At present there is poor connectivity between these regional links. In particular, the Rozelle Rail Yards act as a significant barrier between the communities of Annandale, Rozelle and Lilyfield.

A key issue in the area is limited off street parking generating a heavy reliance on on-street parking, particularly for residents. In addition, many streets are lined with large established trees. These two factors are significant in the ability to introduce new active transport infrastructure as road lanes or shoulders are required for on-street parking, preventing their repurposing for new pedestrian or cycleways. The desire to maintain mature street trees can further act as a barrier to development of active transport infrastructure as they are often located in areas where it would be most feasible to develop this infrastructure.

Figure 3.4 illustrates the current existing and proposed active transport routes around the Rozelle interchange.

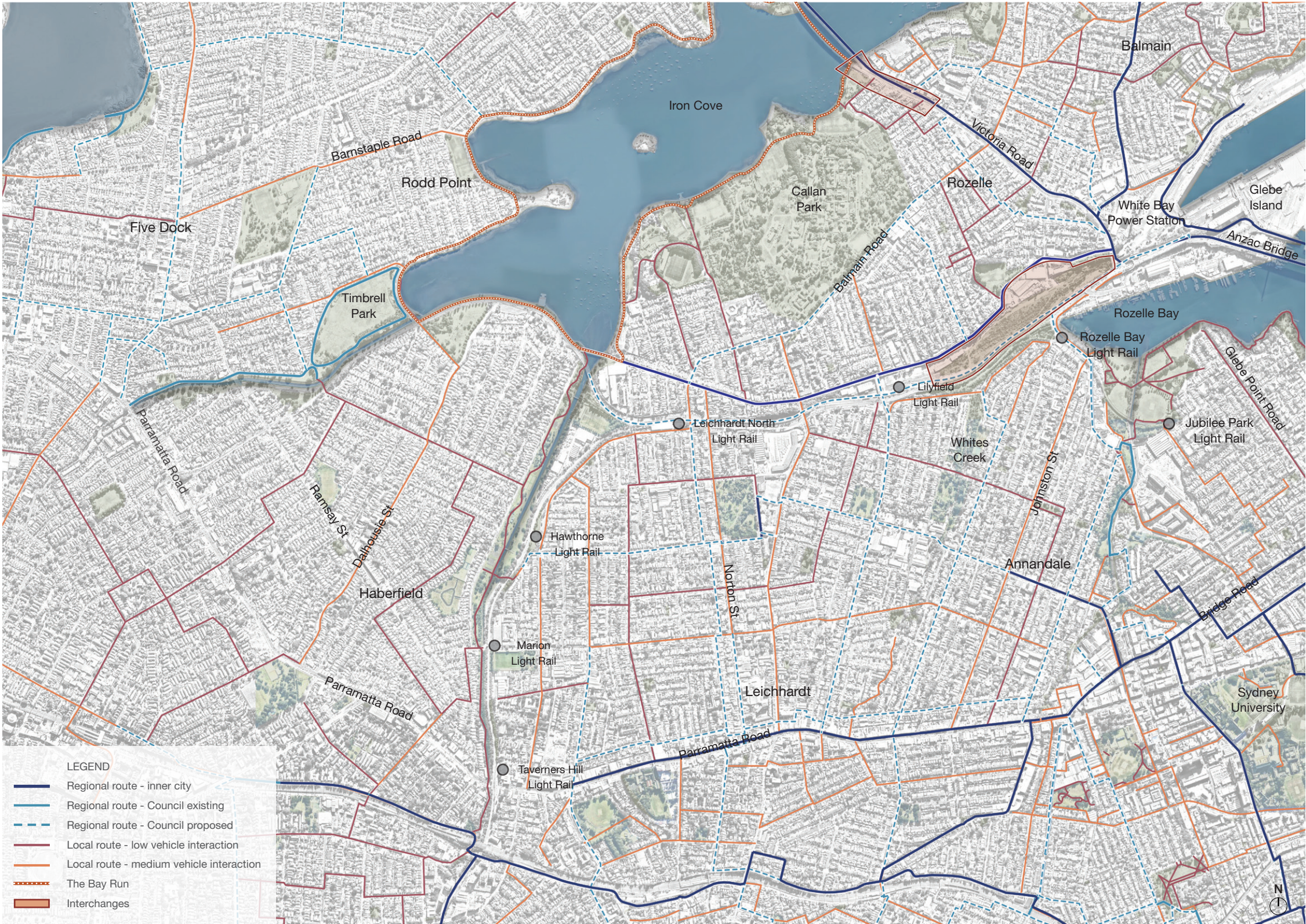


Figure 3.4 Existing network plan - Rozelle



3.3.2 IRON COVE

The Iron Cove Link site is located on Victoria Road near the eastern abutment of the Iron Cove Bridge. The site is surrounded by the predominately residential suburbs of Rozelle, Balmain and Drummoyne to the north. There are a mix of commercial and light industrial land uses along Victoria Road in Rozelle and Balmain and north of Iron Cove in Drummoyne. In its present state, Victoria Road is a highly trafficked arterial road that separates Rozelle and Balmain.

The waters of Iron Cove are a major recreational drawcard for the area and are popular for kayaking and rowing. Iron Cove is bordered by the Bay Run, a seven-kilometre shared pedestrian and cycle path that is a popular regional walk for a range of users.

Victoria Road is lined on both the eastern and western sides with a shared pedestrian and cycle path. This path does not adequately serve the needs of pedestrians and cyclists, suffering from inadequate width, uneven surface and a lack of amenity due to its proximity to traffic on Victoria Road. The existing and proposed ATN surrounding the Iron Cove site is illustrated in Figure 3.5.



Figure 3.5 Existing and proposed network plan - Iron Cove



3.3.3 PROJECT INTERFACES

3.3.3.1 HABERFIELD

The M4-M5 Link includes an underground connection between the mainline tunnels and the Wattle Street interchange, which is being constructed as part of the M4 East project. The draft M4 East Urban Design Landscape Plan [UDLP] outlines the active transport links to be provided in Haberfield by the M4 East project.

3.3.3.2 ST PETERS

The M4-M5 Link includes an underground connection between the mainline tunnels and the St Peters interchange. The St Peters interchange is being constructed as part of the New M5 project. The New M5 EIS and UDLP outline the active transport links to be developed as part of the New M5 project. In addition, a condition of approval was placed on the New M5 EIS to prepare a Pedestrian and Bicycle Network Review [see Figure 3.6] to identify additional pedestrian and cycling infrastructure that could be developed in a one-kilometre radius of St Peters interchange. The review is now complete and the outcomes are contained in section 4.1.3.2 of this report.

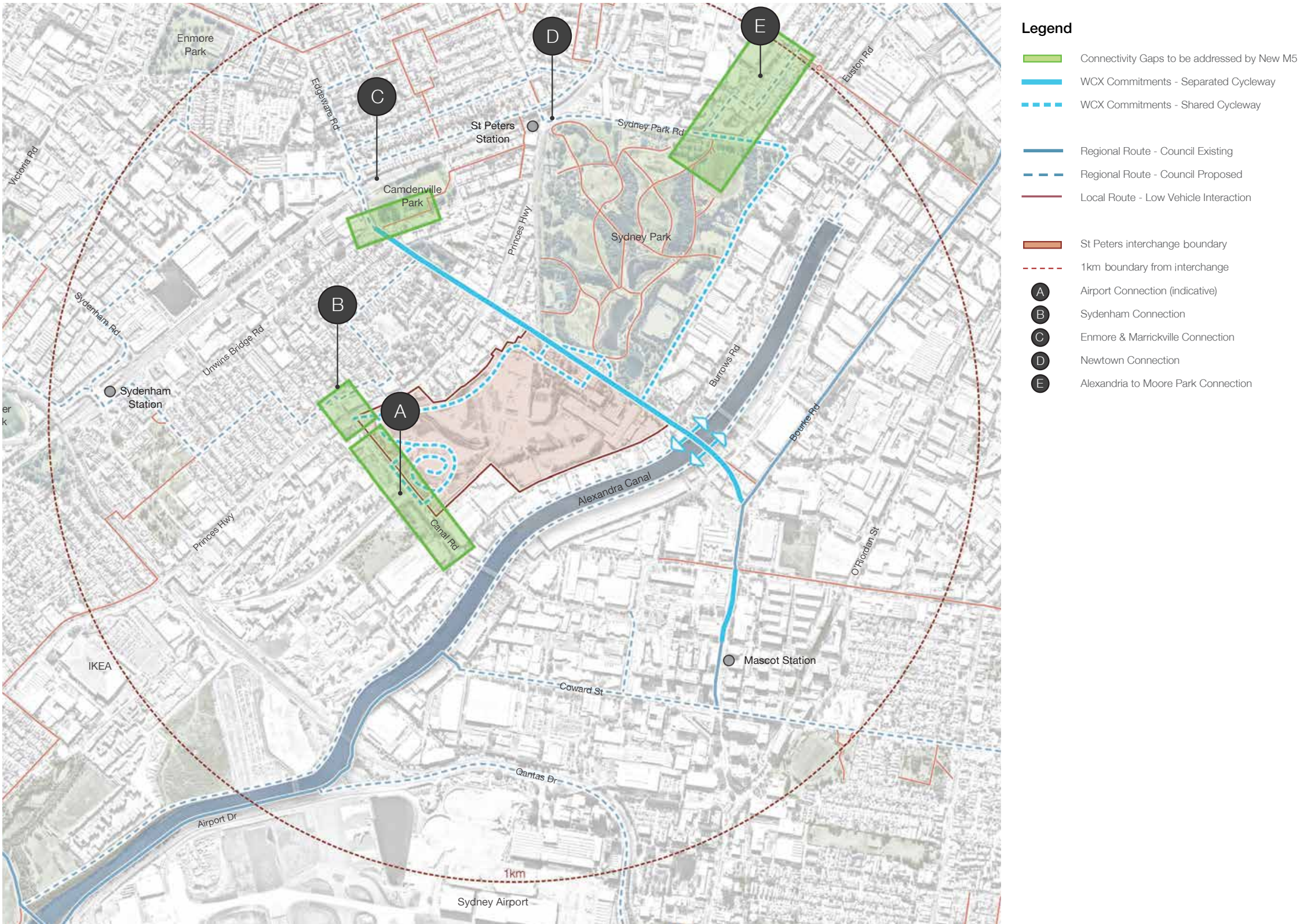


Figure 3.6 St Peters Pedestrian and Bicycle Network Review plan



# 4.0 Proposed Initiatives and Future Links

## 4.1 ACTIVE TRANSPORT LINKS TO BE DELIVERED BY THE M4-M5 LINK

This section contains the outcomes of the active transport analysis for the M4-M5 Link. This analysis has taken a corridor-wide approach in making recommendations regarding the additional active transport infrastructure required. Utilising existing plans, policies and outcomes of stakeholder consultation, the strategy includes links to be delivered by the M4-M5 Link project and links to be developed over time by others.

The active transport links to be developed by M4-M5 Link are concentrated in areas of surface intervention for the project. The links have been chosen based on providing key connections that without the M4-M5 Link, would be unachievable or pose significant barriers for others [such as local councils] to achieve. Investment in bridges over large roads and large-scale road realignment are difficult for local government authorities to achieve in creating active transport links, hence the links to be delivered by M4-M5 Link concentrate on providing these outcomes.

### 4.1.1 ROZELLE INTERCHANGE

#### Rozelle Rail Yards link

This proposed link is shown in Figure 4.1 and is a key regional connector route which would:

- Provide an east-west connection linking the Bay Run and GreenWay in the west to Anzac Bridge and CBD in the east
- Be an off-road link into and through the Rail Yards
- Provide connectivity and links to an existing network of off-road ATN routes
- Provide a flat, at-grade path, promoting the use of the connection
- Provide potential future linkages to The Bays Precinct, particularly White Bay
- Link to the Lilyfield Road cycleway [currently being planned by Inner West Council].

The Rozelle Rail Yards are located in a sandstone cutting and is typically four to eight metres below the adjacent street levels. The key route requirements for the Rozelle Rail Yards link are to:

- Provide access to sections of the Rozelle Rail Yards, which are currently not accessible to the public
- Provide access both under and over current road crossings
- Provide access to and through the future Bays Precinct developments.

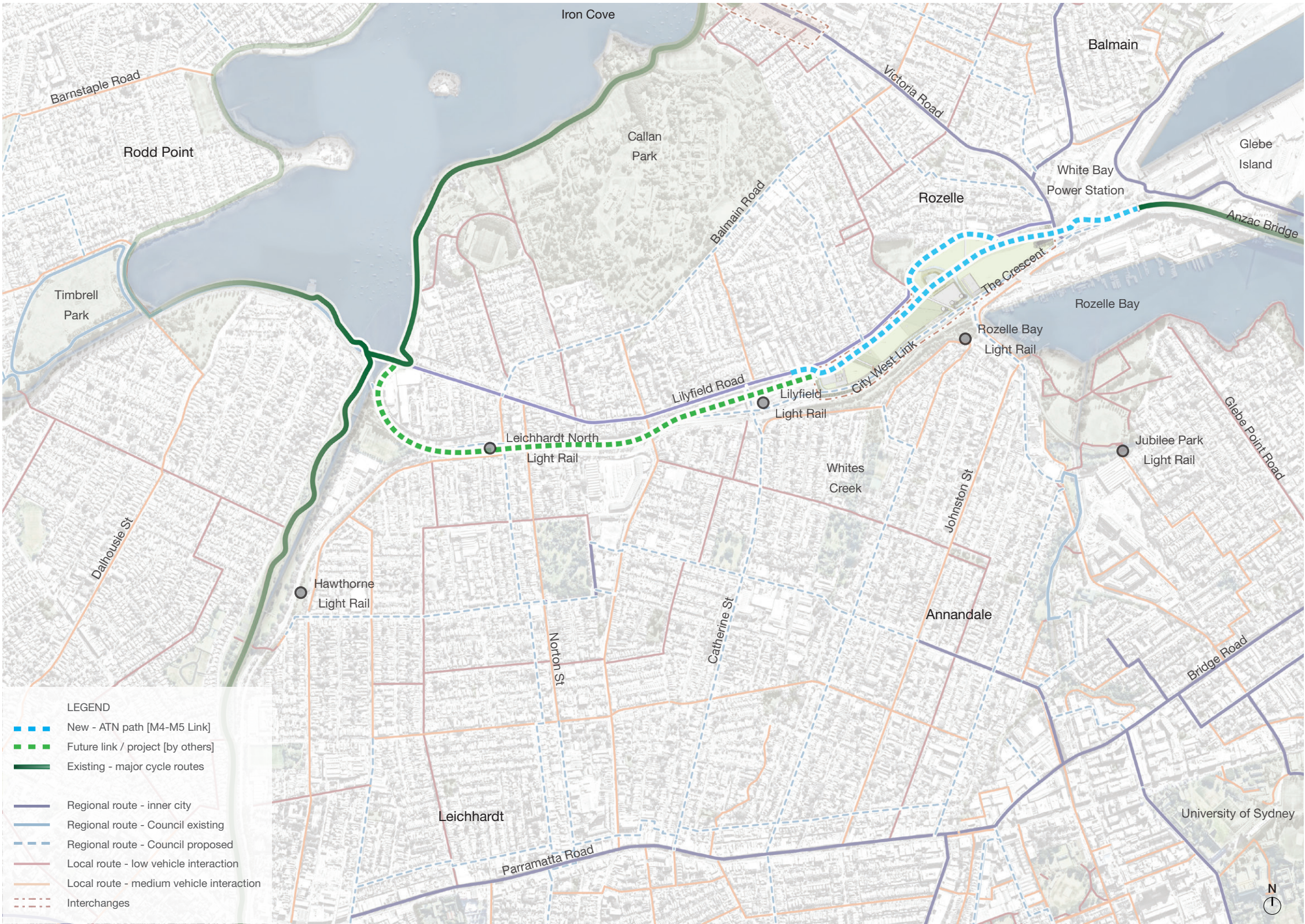


Figure 4.1 Rozelle Rail Yards link



Whites Creek link

This proposed link is shown in Figure 4.2 and is a key regional connector route, which would:

- Link Callan Park to the Rozelle Rail Yards and Parramatta Road
- Link Annandale to Lilyfield
- Be a predominantly off-road ATN link along Whites Creek to Easton Park
- Provide connectivity and links to an existing and proposed network of off-road ATN routes
- Provide a relatively flat at-grade ATN along the Whites Creek section of the route and provide the flattest route north to Callan Park and the Bay Run
- Mostly be completed via the bridge crossing over City West Link to and through the Rozelle Rail Yards
- Link significant open space to new development areas within The Bays Precinct.

The route consists predominantly of parklands including Easton Park, Whites Creek Valley Parklands and the proposed open space within Rozelle Rail Yards [see EIS Appendix L [Technical working paper: Urban design]]. The key route requirements are to:

- Address connectivity from Whites Creek to the Rozelle Rail Yards, crossing the Light Rail and City West Link
- Provide as flat a route as possible from the Rozelle Rail Yards to Callan Park
- Ensure suitable connectivity along Whites Creek ensuring minimal conflict between park users and cyclists
- Transform the Whites Creek easement and laneway into a safe and accessible active transport link.

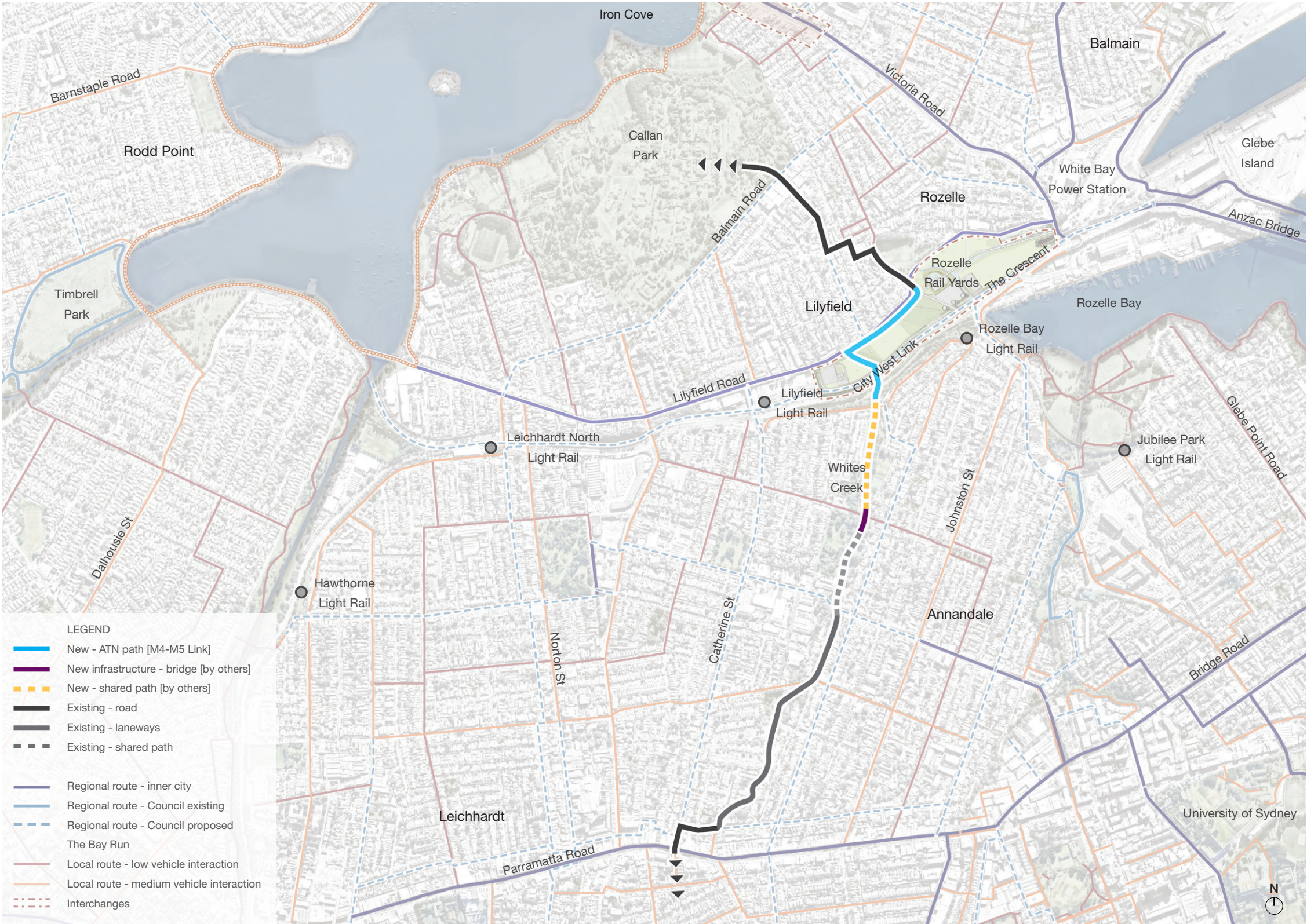


Figure 4.2 Whites Creek link



### Rozelle land bridge

The Rozelle land bridge is shown in Figure 4.3 and is a key connector, which would:

- Link Bicentennial Park and Glebe Foreshore to the proposed open space of Rozelle Rail Yards and Easton Park
- Provide north-south connectivity between Glebe and Annandale with Rozelle and Balmain
- Provide a connection from the inner west to The Bays Precinct via the Rozelle Rail Yards
- Remove the need for an at-grade crossing at City West Link
- Provide a shared path over the bridge with a generous width to prevent conflict between pedestrian and cycle traffic
- Connect to the Rozelle Bay Light Rail stop
- Provide appropriate grades on the bridge structure including ramps for cyclist and people with a disability and stairs for pedestrians.

The route connects major green spaces and would provide a link between The Bays Precinct and the inner west. The key route requirements are to:

- Address north-south connectivity between Glebe [and Glebe Foreshore Walk] and Annandale with Rozelle, Balmain and The Bays Precinct
- Remove the conflict between pedestrians and cyclists with traffic on City West Link
- Provide appropriate grades in ramp structures to meet user requirements
- Be a simple and elegant structure to ensure visual impacts of the bridge do not overwhelm the location
- Connect to Rozelle Bay light rail stop.

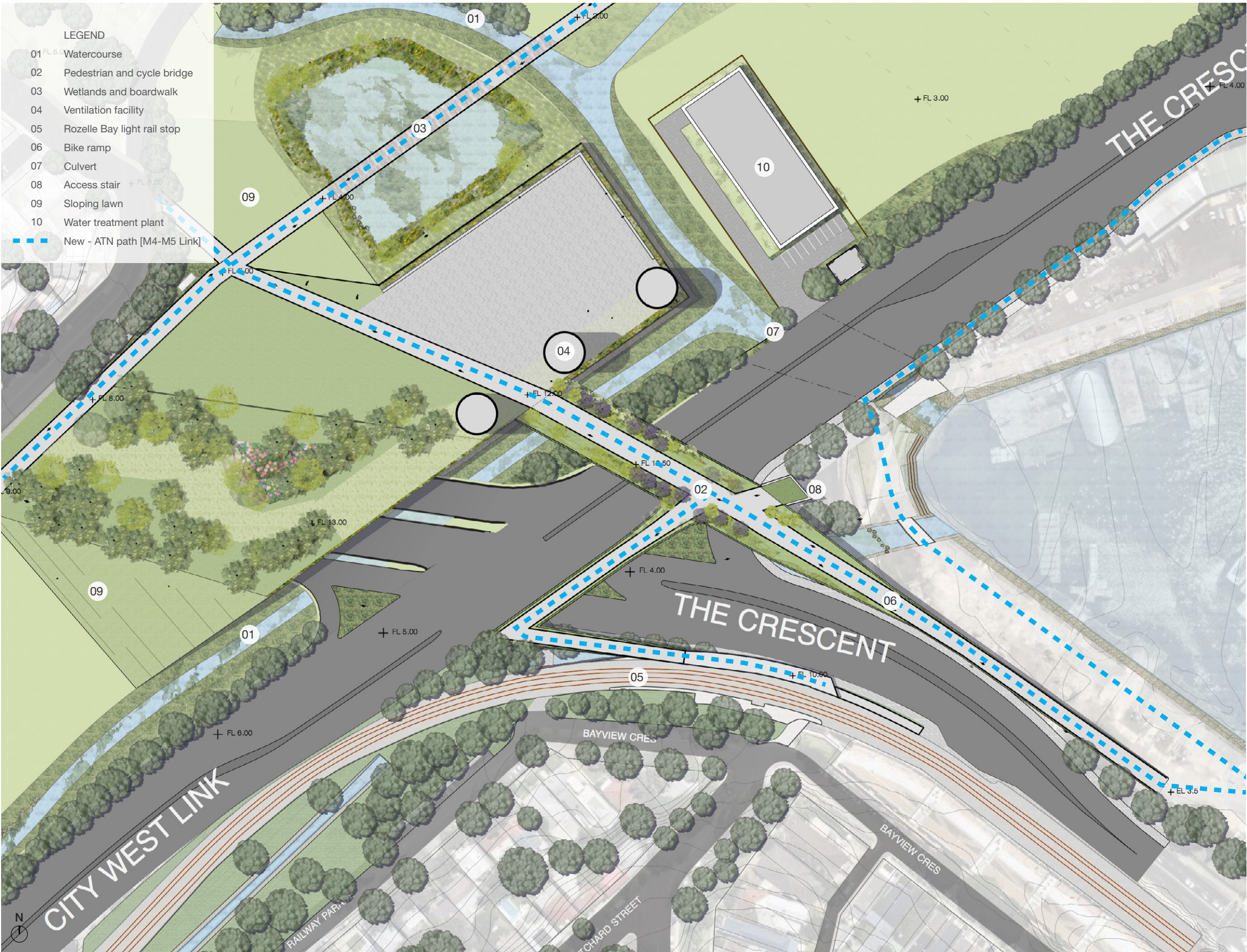


Figure 4.3 Rozelle land bridge



The Victoria Road connection is shown in Figure 4.4 and would take advantage of changes to the Victoria Road, The Crescent, Anzac Bridge intersection to provide a connector that would:

- The route connects the residential areas of Balmain and Rozelle with open space at Glebe and the residential areas of Annandale. The key route requirements are to:

- [illegible]

## ACTIVE TRANSPORT STRATEGY