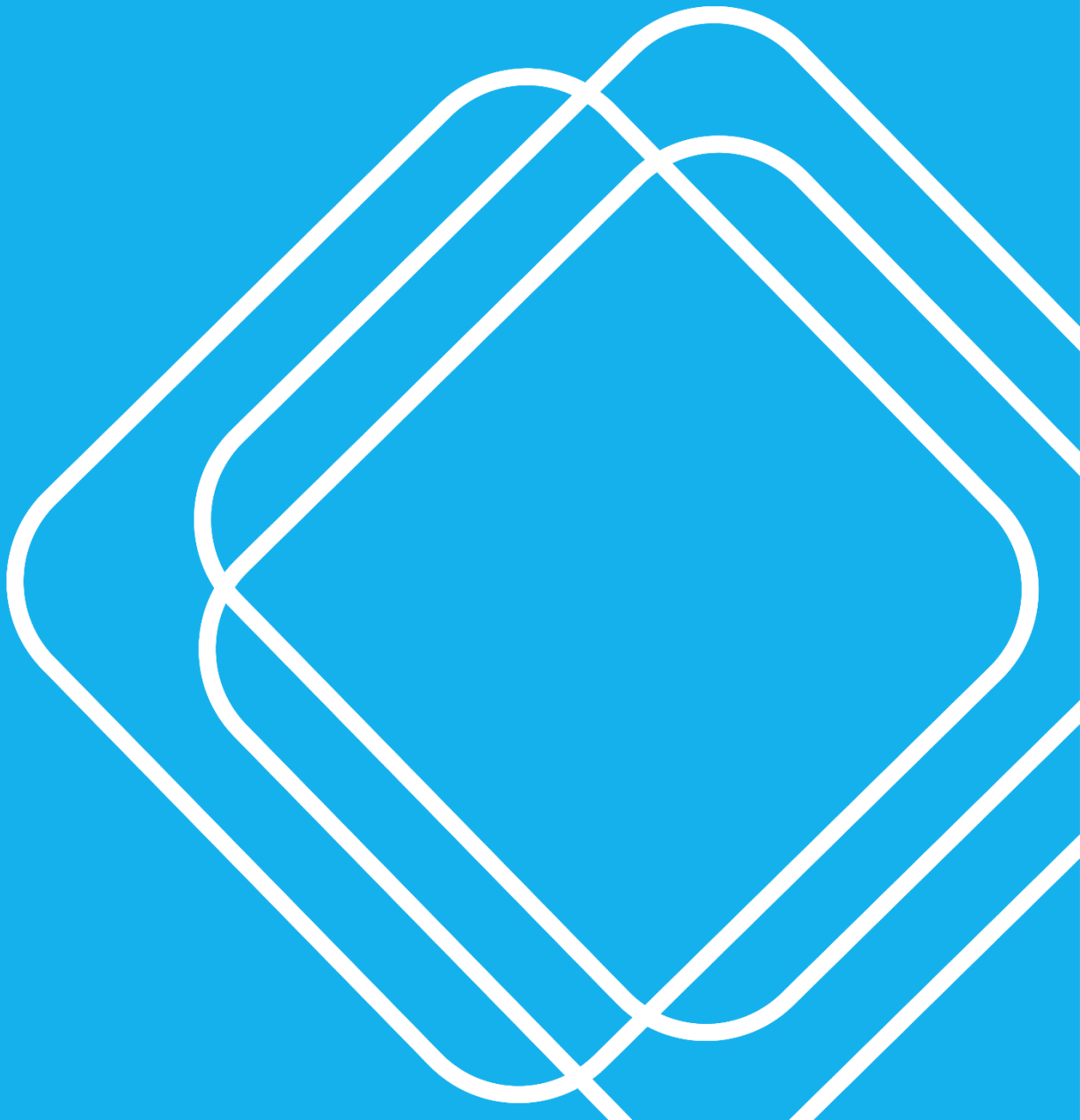
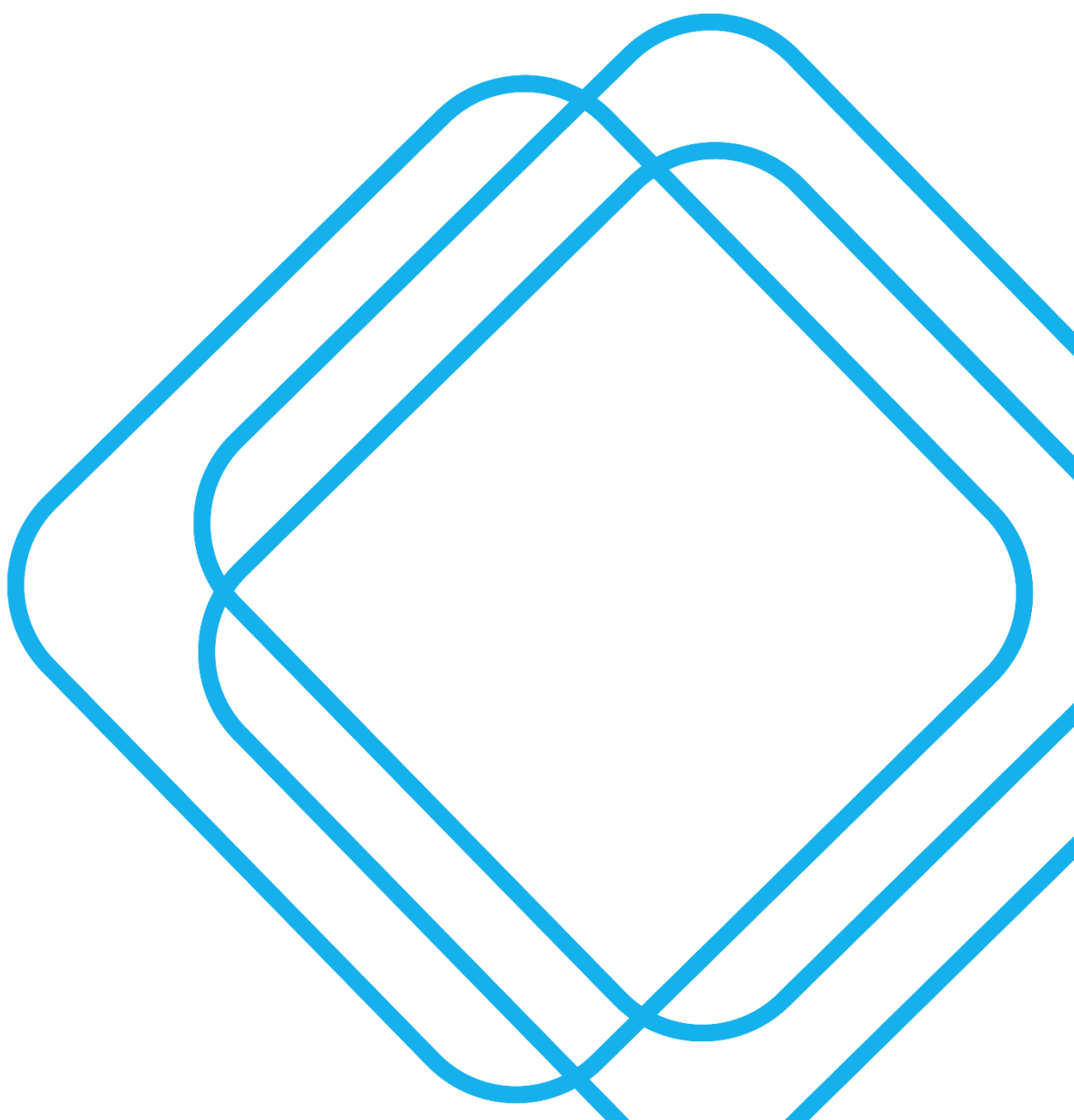


153-157 WALKER STREET NORTH SYDNEY PLANNING PROPOSAL

Traffic and Parking Study

19 MARCH 2021





Quality Assurance

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Executive Summary

Purpose of this report

This Traffic and Parking Study Report is prepared for submission to North Sydney Council (Council) in support of a planning proposal for the redevelopment of 153-157 Walker Street, North Sydney (the site) based on the design scheme set out by Architectus.

The proposal is for the redevelopment of 153 and 157 Walker Street, North Sydney to a new commercial building with 54,430 m² of Gross Floor Area (GFA), providing much needed employment generating floor space. The proposed commercial building will include 104 parking spaces.

The planning proposal seeks to retain the B3 Mixed Use Zoning for the site but will replace the two existing buildings at 153 and 157 Walker Street and facilitate a 44-storey commercial office with a minor retail component at ground level.

Existing transport conditions

Based on 2016 Census Journey to Work data, the study area is serviced by North Sydney Station and frequent buses along Miller Street and the Pacific Highway, contributing to a high public transport mode share at 57 per cent in 2016, nearly three times of the Greater Sydney average. Approximately 23 per cent of the workers in North Sydney commuted by car as driver, half of the Greater Sydney average. This indicated a significantly higher level of single occupant commuters compared to the City of Sydney CBD where single car commuters made up only 15 per cent of the trips to Pitt Street and Martin Place¹. For active transport mode, five per cent of the employees walked to work whereas cycling to work is low at only one per cent, indicating potential needs to improve the cycle infrastructure.

Around 14 per cent of the workers in North Sydney lived in the same local government area (LGA). This resulted in more walking and cycling trips in short commuting distance. Northern Beaches generated nine per cent of the total work-related trips to North Sydney, followed by City of Sydney (6.6 per cent), which generally require less than 30-minute commuting by public transport.

The site is located in a walkable environment where wide footpaths exist in different qualities such as Walker Street, Miller Street and Berry Street. Signalised pedestrian crossings are provided at the intersections of Walker Street / Berry Street, Walker Street / Mount Street and Pacific Highway / Walker Street. The site is surrounded by high-frequency bicycle routes along West Street, Ridge Street, Miller Street and the Pacific Highway.

North Sydney CBD is serviced by North Sydney train station and frequent bus services on the Pacific Highway and Miller Street. Bus frequencies on Miller Street and the Pacific Highway are mostly greater than one service every three minutes during a typical weekday AM peak hour.

The major roads in the vicinity of the site include both state roads such as the Pacific Highway, Warringah Freeway and regional road such as Miller Street. School zone, clearway, transit lane and bus lane exist on major roads around the site to improve traffic flows especially during the peak hours. The traffic volume and speed analysis indicated that there is redundant capacity on the surrounding road network during the peak hours.

Future planning context

The North District Plan notes that maintaining a long-term supply of office space will maintain Greater Sydney's global economic role. Future planning for the Harbour CBD will balance high levels of development with high levels of amenity.

According to North Sydney Local Strategic Planning Statement, the North Sydney CBD will continue to perform a significant economic and employment role with a forecasted job growth to 21,000 by 2036. Its relationship with Sydney CBD will be strengthened with the implementation of Sydney Metro. Council proposes to support walkable centres and a connected, vibrant and sustainable North Sydney through identifying and prioritising improvements to walking and cycling infrastructure.

North Sydney CBD Public Domain Strategy outlines a CBD to be walkable, cycling friendly, public transport focused and traffic calmed. It identifies Walker Street to become primary pedestrian routes to cater for the increased pedestrian volume and a local cycling corridor to connect regional cycle network.

¹ Sydney Metro (2018), Sydney Metro City & South West Victoria Cross Over Station Development: Traffic and transport report, Table 1.

The proposed development is within Victoria Cross station's 400m walking catchment area so the future building occupants can benefit from this high-quality and high frequency metro services from 2024. The metro line connects the site to other major centres such as Chatswood and Sydney CBD within five minutes. Other walking and cycling amenities around the metro station would also facilitate improved pedestrian and cyclist access to the station as well as the North Sydney CBD.

The Western Harbour Tunnel and Warringah Freeway Upgrade has been approved in January 2021. It would deliver a new crossing of Sydney Harbour to take pressure off the Sydney Harbour Bridge and Tunnel and creates a western bypass of the Sydney CBD. In the vicinity of site, an on-ramp is proposed from Berry Street to connect to the southbound carriageways. This may increase conflicts between walking, cycling and car traffic and result in a less walkable environment surrounding the site, in particular along Berry Street. Thus, it is critical to ensure limited net increase of the car trips associated with the site.

Proposed development

The proposed development would be a 44-storey commercial office building with a total Gross Floor Area (GFA) of approximately 54,430 m² and 104 total parking spaces.

Pedestrian access is provided along Walker Street. Vehicular access is proposed at Little Walker Street to connect to four levels of basement car park, loading dock as well as bicycle parking. End-of-trip facilities will be provided on Level 1 of the building. The proposal also caters for a new publicly accessible through-site link at ground between Walker Street and Little Walker Street.

Parking space provision for the proposed development is compliant and lower than those required in the North Sydney Council DCP. This is considered acceptable given the site's proximity to Victoria Cross and North Sydney stations and its intent to discourage private car use and promotion of mode shift to other sustainable transport method. A total of 500 bicycle parking spaces is required based on Council DCP to encourage active transport use.

Transport appraisal

The development proposes to deliver 104 parking spaces, less than the existing parking provision by both buildings at 153 and 157 Walker Street. Hence, the number of vehicular trips expected to be generated by the proposed development will be fewer than the current buildings and there will also be a net reduction of traffic volumes on the surrounding road network as a result of this proposal.

The majority of the additional 500 person-trips during the peak hour will be using public transport to access the development. These additional trips during the peak hours can be accommodated through the high frequency public transport services. Impacts on the public transport system are expected to be limited and little capacity issue would be expected.

500 bicycle parking spaces for such an office development means that the development will cater for a large mode share of cyclists, both for workers as well as visitors to the building. Those cycle trips would become an important component for short distance trips by the commuters, supported by planned and proposed infrastructure upgrades by Council.

The proposed development adopts lower car parking rates than those suggested in the DCP requirements, in order to fully support the initiative of mode shift to green transport and reduction car use in an area that is located near the Victoria Cross metro station. On site car share spaces can also be designated to densify the car share locations in the local area and further reduce business-related car trips.

The proposed through-site link will support / promote pedestrian connections between Walker Street and Little Walker Street, and further onto transport nodes such as the future metro station, as well as overall improvements of pedestrian network in North Sydney CBD.

Conclusion

The Traffic and Parking Study concluded that the impacts of the planning proposal are negligible and are at a level able to be accommodated by the existing and planned infrastructure.

1.0 Introduction

1.1 Purpose of report

This Traffic and Parking Study Report is prepared for submission to North Sydney Council (Council) in support of a planning proposal for the future redevelopment of 153-157 Walker Street, North Sydney (the site) based on the design scheme set out by Architectus. The Traffic and Parking Study considers:

- The existing context of the site and surrounding transport network
- Strategic transport planning context for the study area, including a review of relevant State and Council transport strategies and committed developments
- An integrated approach to determining the optimal mix of land uses and density concentrations as a means of minimising (where possible) trip generation and transport-related demand
- Estimated future demands given the site's location and high public transport accessibility
- Maximise efficiency and safety of the existing / proposed transport systems in proximity to the subject site
- A review of proposed vehicle access, servicing, car parking and bicycle parking provision
- A preliminary assessment of the traffic and transport impacts associated with the redevelopment.

1.2 Development context

The proposal is for the redevelopment of 153-157 Walker Street, North Sydney to a new commercial building with 54,430 m² of office and retail Gross Floor Area (GFA), providing much needed employment generating floor space. The proposed commercial building will include 104 parking spaces.

The planning proposal seeks to retain the B3 Mixed Use Zoning for the site but will replace the two existing buildings at 153 and 157 Walker Street and facilitate a 44-storey commercial office with a minor retail component at ground level. The proposal also caters for a new publicly accessible through-site link at ground between Walker Street and Little Walker Street.

1.3 Report structure

This report has been structured into the following sections:

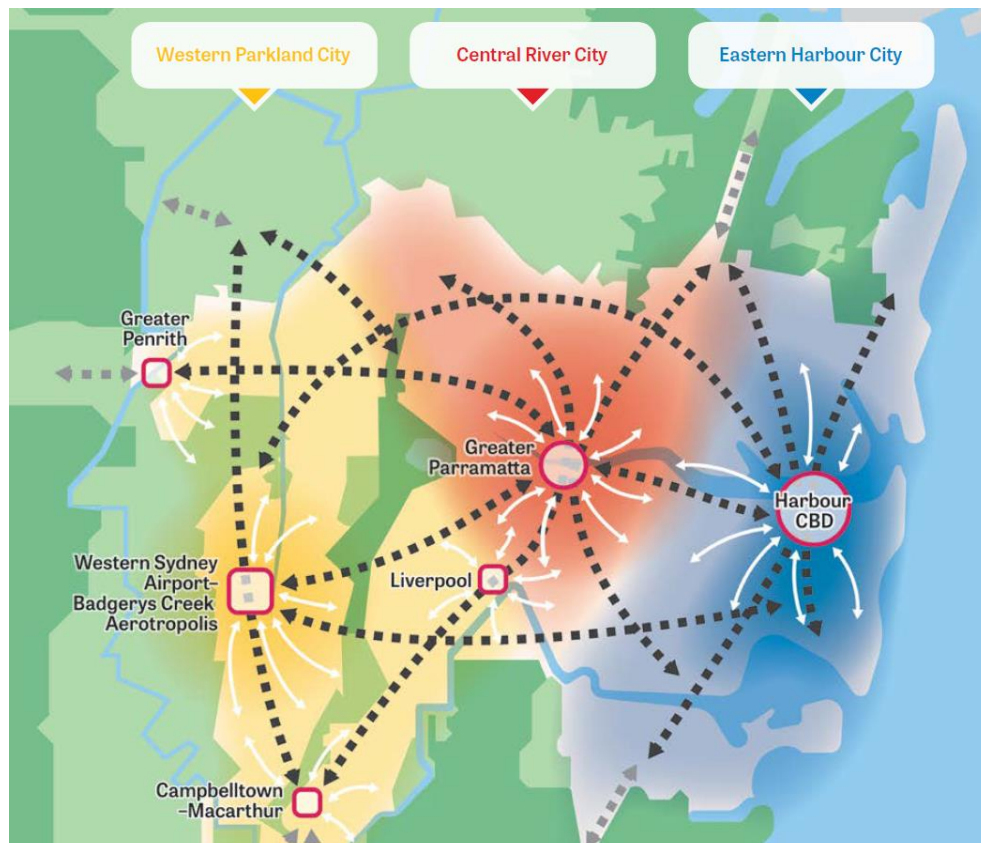
- **Section 2.0** provides a summary of the review of all relevant planning documents
- **Section 3.0** describes the existing transport conditions for all modes of transport
- **Section 4.0** describes the proposed development, its access strategy and a review of parking and access requirements
- **Section 5.0** outlines the traffic and transport appraisal which describes the likely trip generation, indicative impact as a result of the proposed development
- **Section 6.0** summarises the report content and presents the final conclusions.

2.0 Strategic Context

2.1 Future Transport 2056 Strategy

NSW Government's Future Transport Strategy 2056² sets the long-term vision for transport in NSW. The transport strategy builds on the Greater Sydney Region Plan³, which identifies that Sydney will grow as a global metropolis with benefits distributed more evenly across the city. It sets out a vision of three cities: the Eastern Harbour City, the Central River City and the Western Parkland City. This vision will guide many of the planning decisions that will deliver faster, convenient and reliable travel times to major centres, as shown in **Figure 2–1**.

Figure 2–1 A future metropolis of three cities



Source: Greater Sydney Commission (2018), Greater Sydney Region Plan: A Metropolis of Three Cities

The development is located in the heart of the Eastern Harbour City, which covers the North Sydney and City of Sydney CBDs. In the Eastern Harbour City, new mass transit connections, including Sydney Metro, will vastly increase the capacity of the public transport network from 2024 onwards – crucial to supporting growth and tackling congestion.

Specific outcomes listed as part of the Future Transport Strategy which will benefit the Eastern Harbour City include:

- 30-minute public transport access for customers to their nearest Centre by public transport 7 days a week
- Encouraging walking, cycling and public transport
- Attractive spaces where people can meet and enjoy their leisure time.

Implications for 153-157 Walker Street: The location of the development near the Victoria Cross metro station (currently under construction; planned to open in 2024) supports the aspiration of 30-minute access to employment centres by public transport for everyone. The development should capitalise on its location near the station to support sustainable travel behaviours.

² NSW Government (2018), Future Transport Strategy 2056.

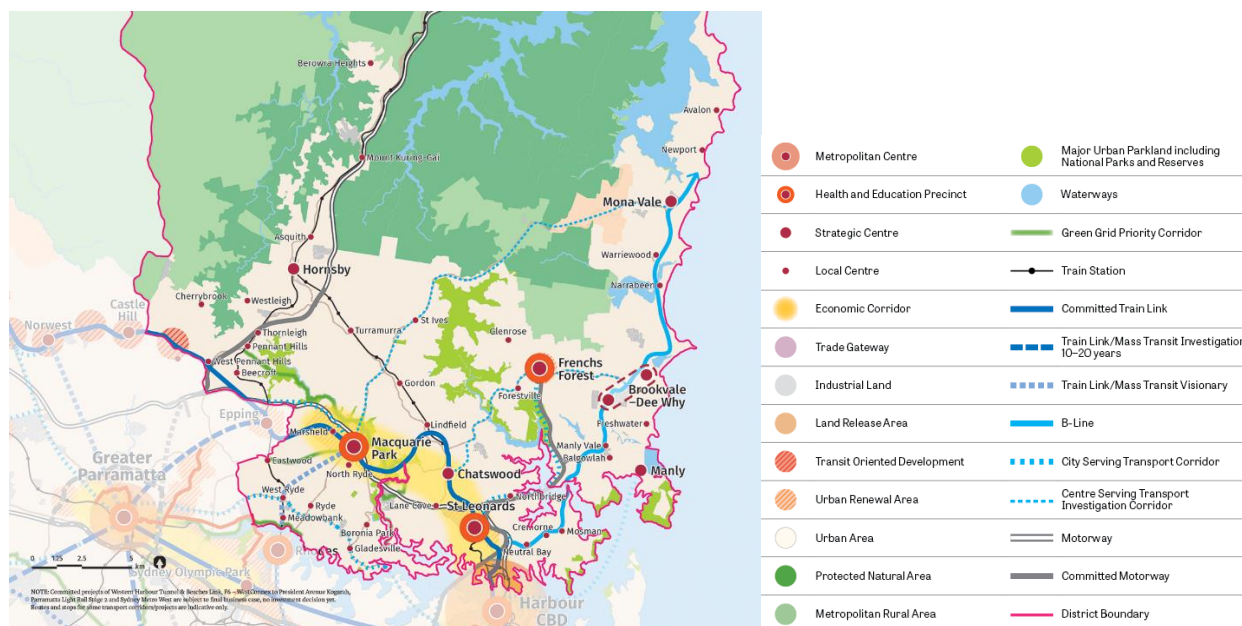
³ Greater Sydney Commission (2018), Greater Sydney Region Plan: A Metropolis of Three Cities.

2.2 North District Plan

The Greater Sydney Commission's North District Plan⁴ is a 20-year plan to manage growth in Sydney's North District, supporting the long-term vision for Sydney as a metropolis of three cities. The District Plan assists councils to plan for and support growth and change and align their local planning strategies to place-based outcomes. It guides the decisions of State agencies and informs the private sector and the wider community of approaches to manage growth and change.

The vision for the North District is to enhance the Eastern Economic Corridor (which North Sydney CBD is part of), supporting jobs growth in strategic centres and creating and renewing great places (**Figure 2-2**).

Figure 2-2 Future of the North District



Source: Greater Sydney Commission (2018), Our Greater Sydney 2056: North District Plan

North Sydney is identified as being part of the Harbour CBD. The Harbour CBD contains 22 per cent of Greater Sydney's jobs and is Australia's financial business capital, containing a large proportion of the regional headquarters of multinational and national companies. The North District Plan notes that maintaining a long-term supply of office space will maintain Greater Sydney's global economic role and should not be compromised by residential development. Future planning for the Harbour CBD will balance high levels of development with high levels of amenity. North Sydney is directed to grow its job base from 60,000 in 2016 to at least 76,000 by 2036 (**Figure 2-3**).

Figure 2-3 North Sydney job range targets

North Sydney	Jobs
2016 Estimate	60,400
2036 Baseline Target	76,000
2036 Higher Target	81,500

Source: Greater Sydney Commission (2018), Our Greater Sydney 2056: North District Plan

⁴ Greater Sydney Commission (2018), Our Greater Sydney 2056: North District Plan.

In particular, the North District Plan directs North Sydney to:

- Grow jobs in the North Sydney CBD to maximise the land use opportunities provided by the new Victoria Cross metro station
- Grow jobs in the centre and maintain a commercial core
- Strengthen North Sydney's reputation as an education centre, to grow jobs and add diversity
- Expand after-hours activities
- Encourage growth in business tourism as a conference location that takes advantage of North Sydney's identity as a business hub, its location, access and views
- Improve amenity by reducing the impact of vehicle movements on pedestrians
- Prioritise infrastructure investments, particularly those focused on access to the transport network, and those which enhance walkability within two kilometres of metropolitan or strategic centres.

Implications for 153-157 Walker Street: The development's proposed increase in office space and job offer is supported by the North District Plan. In particular, the location of the development near the new metro station provides excellent access to the public transport network. The development should also consider low car trip generation to reduce the impact of vehicle movements on pedestrian and cyclist accessibility.

2.3 North Sydney Local Strategic Planning Statement (LSPS)

The North Sydney CBD will continue to perform a significant economic and employment role with a forecasted job growth to 21,000 by 2036. Its relationship to the Sydney CBD will be strengthened with the implementation of Sydney Metro.

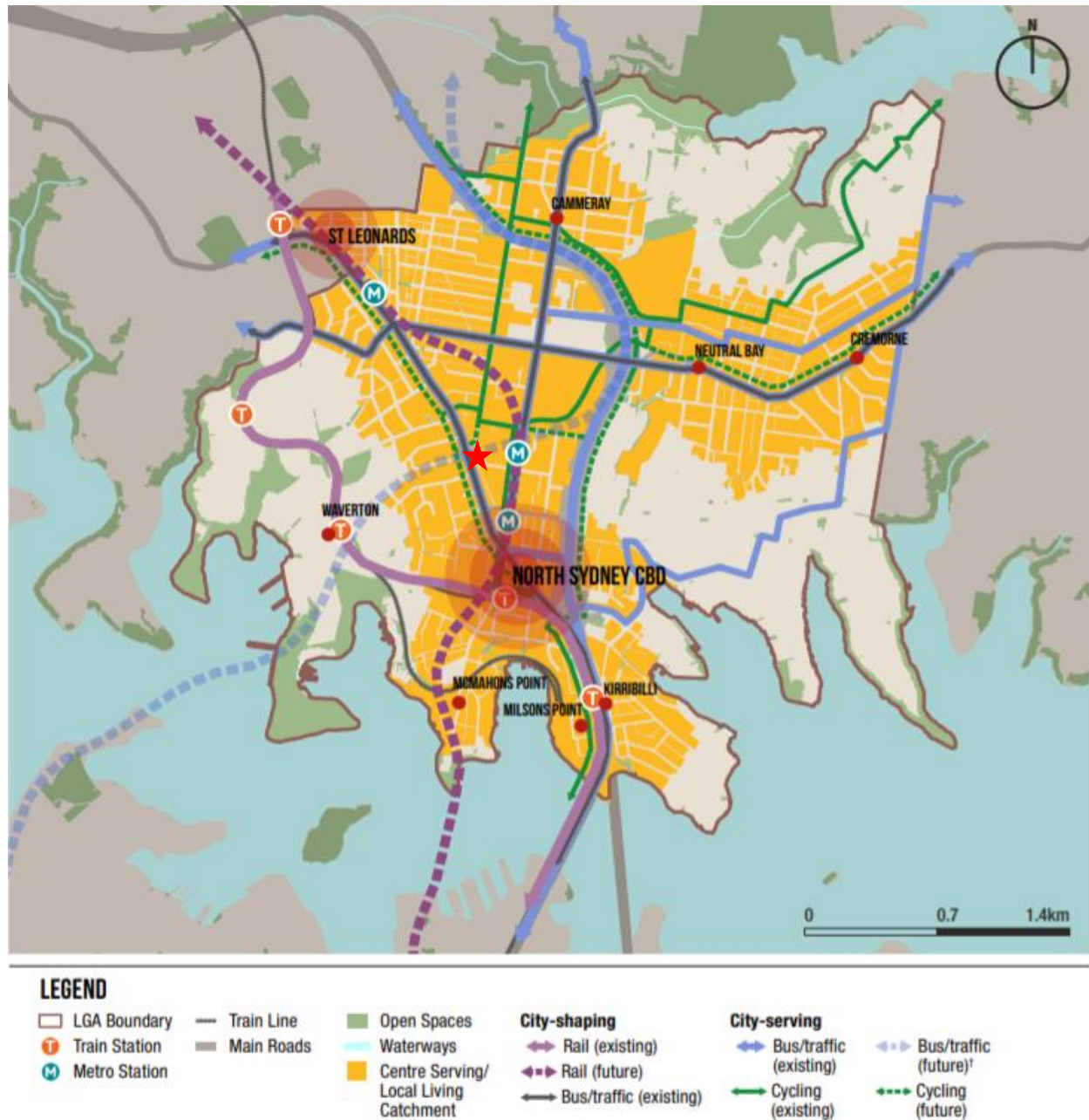
Council will continue to work collaboratively with the State Government to maximise and lock-in the regional mode shift benefits of Sydney Metro, as well as support the delivery of the State Government's principal bicycle network, as shown in the Greater Sydney Services and Infrastructure Plan. These projects will help to maximise active travel and minimise traffic growth in the North District.

Council proposes to support walkable centres and a connected, vibrant and sustainable North Sydney through the following actions:

- Encourage and support land use density and diversity within a walkable distance of commercial, mixed-use and neighbourhood centres
- Identify and prioritise improvements to walking and cycling infrastructure within the walking and cycling catchments of commercial, mixed-use and neighbourhood centres
- Prepare a Walking Action Plan, Public Transport and Advocacy Action Plan, Local Deliveries and Regional Freight Action Plan, and Parking and Traffic Action Plan
- Review the North Sydney Integrated Cycling Strategy (2013) in line with the directions of the North Sydney Transport Strategy (2017) and North Sydney CBD Transport Masterplan (2019).

A transport map is shown in **Figure 2-4** to plan, prioritise, advocate and deliver transport outcomes that prioritise a modal hierarchy for North Sydney based on walking, cycling and public transport.

Figure 2–4 Transport network as part of the North Sydney LSPS



Source: North Sydney Council (2020), North Sydney LSPS

Implications for 153-157 Walker Street: The site is located in proximity to Victoria Cross metro station and good access to public and active transport networks. The transport map also identified future city-serving cycling corridors on Warringah Freeway and the Pacific Highway that connect to a wider cycle network covering North Sydney CBD, Cammeray, Neutral Bay and St Leonards, which would promote bicycle use by the employees.

2.4 North Sydney Transport Strategy

The North Sydney Transport Strategy sets out Council's vision for transport and modal hierarchy in North Sydney⁵. According to the Strategy, safe travel, transport security, social well-being, active health, fair access to parking, environmental sustainability, local environments, transport affordability, minimising congestion and business activity should be prioritised. Based on these priorities the Strategy established the following modal hierarchy for the future of North Sydney transport planning (**Figure 2-5**):

Figure 2-5 Modal hierarchy for North Sydney

Priority 1	Walking
Priority 2	Cycling
Priority 3	Public Transport
Priority 4	Local Deliveries & Freight
Priority 5	Private Vehicles

Source: North Sydney Council (2017), Transport Strategy

Planning for infrastructure and land use should be informed by this modal hierarchy.

Implications for 153-157 Walker Street: The development has great opportunity to reinforce the attractiveness of North Sydney's top three modal priorities by improving amenities for pedestrians and cyclists. The proximity to the metro station will encourage people to use public transport, and the development will need to ensure that access to the station is comfortable and convenient. Limiting parking provision will support Council's objective to reduce car use as North Sydney CBD continues to grow. The proposed through-site link will support / promote pedestrian connections to transport nodes.

2.5 Draft North Sydney CBD Transport Masterplan

The Draft North Sydney CBD Transport Masterplan⁶ was prepared by Council to explore placemaking opportunities and identify travel safety and amenity issues arising from the delivery of Victoria Cross metro station. It envisions that by 2036, public domain, accessibility, travel safety and amenity will be improved to create a more attractive, vibrant, active and flourishing North Sydney CBD.

The Masterplan identifies four guiding principles to support this vision:

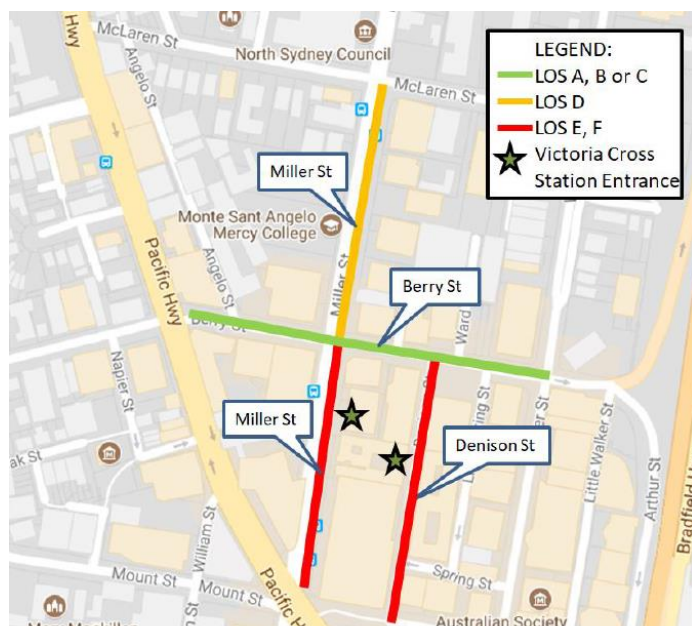
1. Prioritising the delivery of walking infrastructure that best accommodates significant local trip growth
2. Minimising local traffic growth
3. Creating slow speed traffic environments within the CBD
4. Encouraging regional through traffic to use alternative routes to by-pass the CBD.

The Masterplan shows that, with the delivery of the metro station and the resulting growth in pedestrian volumes in North Sydney, pedestrian infrastructure capacity will be exceeded by 2036. In particular, footpaths on Miller Street, Denison Street and Mount Street (east of Denison Street) will exceed their capacity with the expected pedestrian volumes. The Masterplan also identifies the Pacific Highway / Miller Street intersection as problematic, with pedestrians spilling over allocated storage space when queueing to cross.

⁵ North Sydney Council (2017), Transport Strategy.

⁶ North Sydney Council (2018), Draft North Sydney CBD Transport Masterplan.

Figure 2-6 Forecast footpath Level of Service, 2036 with Victoria Cross metro station

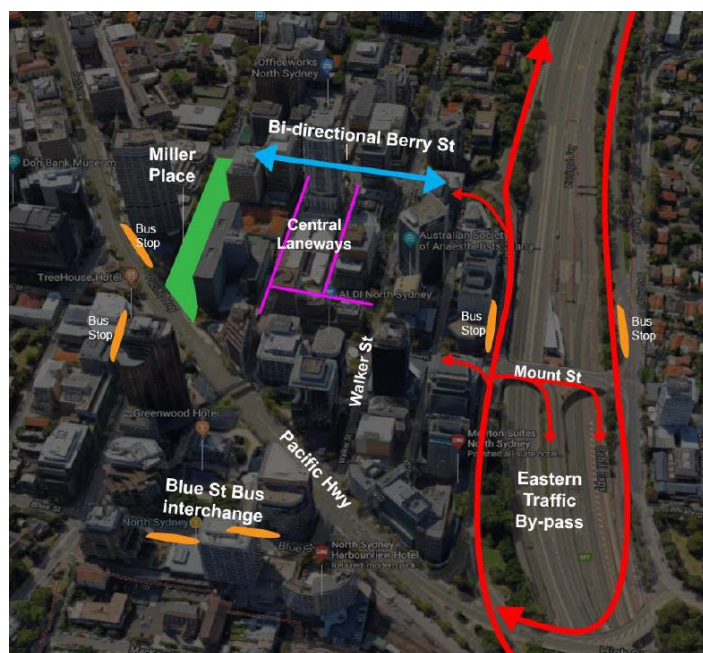


Source: North Sydney Council (2018), Draft North Sydney CBD Transport Masterplan

The analysis indicates that while Berry Street would operate satisfactorily, the accesses to the metro portals could be significantly congested. There are no specific implications for this site.

In response to the identified issues, the Masterplan suggests multiple options to enhance the CBD's public domain for pedestrians, with the preferred option to pedestrianise Miller Street from the Pacific Highway to Berry Street (as shown by the green area in **Figure 2-7**).

Figure 2-7 Key Draft North Sydney CBD Masterplan recommendations



Source: North Sydney Council (2018), Draft North Sydney CBD Transport Masterplan

The Masterplan concludes by recommending the pedestrianisation of Miller Street option to be endorsed, with intermediate steps to be taken towards that goal prior to the opening of Sydney Metro in 2024.

Implications for 153-157 Walker Street: The development should consider Council's intention to increase walking infrastructure and create vibrant places on key CBD streets. The proposed through-site link will support / promote pedestrian connections to transport nodes and future Council projects.

2.6 North Sydney CBD Public Domain Strategy

North Sydney Council's CBD Public Domain Strategy⁷ establishes a vision for the CBD's public domain and identifies a suite of short to long term projects to deliver this vision. The objective is to ensure that CBD growth and the Victoria Cross metro station are complimented by a public domain that improves the safety, amenity, vibrancy and overall appeal of the centre for workers, residents, students, visitors and investors.

The Stage 1 Place Book outlined ideas and opportunities for the CBD and was endorsed by Council in May 2019. Stage 2 has developed these ideas further and identified a suite of projects that create a strong, connected network of public urban spaces and puts forward a framework to deliver these improvements over time.

In particular, the strategy outlines a CBD to be walkable, cycling friendly, public transport focused and traffic calmed. It further identifies Walker Street to become primary pedestrian routes to cater for the increased pedestrian volume and a local cycling corridor to connect regional cycle network. Speed limit for Walker Street is proposed to be 40km/h and Little Walker Street to become a shared zone of 10km/h.

2.6.1 Miller Walk

The Public Domain Strategy recommends a 5-phased pedestrianisation of Miller Street between the Pacific Highway and Berry Street, named 'Miller Place'. The 5 phases consisting of trials, traffic changes, partial closure, implementation of a transit bus mall and finally the full opening of Miller Place in 2024 when Sydney Metro becomes operational. 'Miller Place' creates high quality urban heart and ceremonial centre for North Sydney with gathering and event spaces, gardens and outdoor dining with active retail on the edges of the public spaces (**Figure 2-8**).

Figure 2-8 Indicative map of the Miller Place



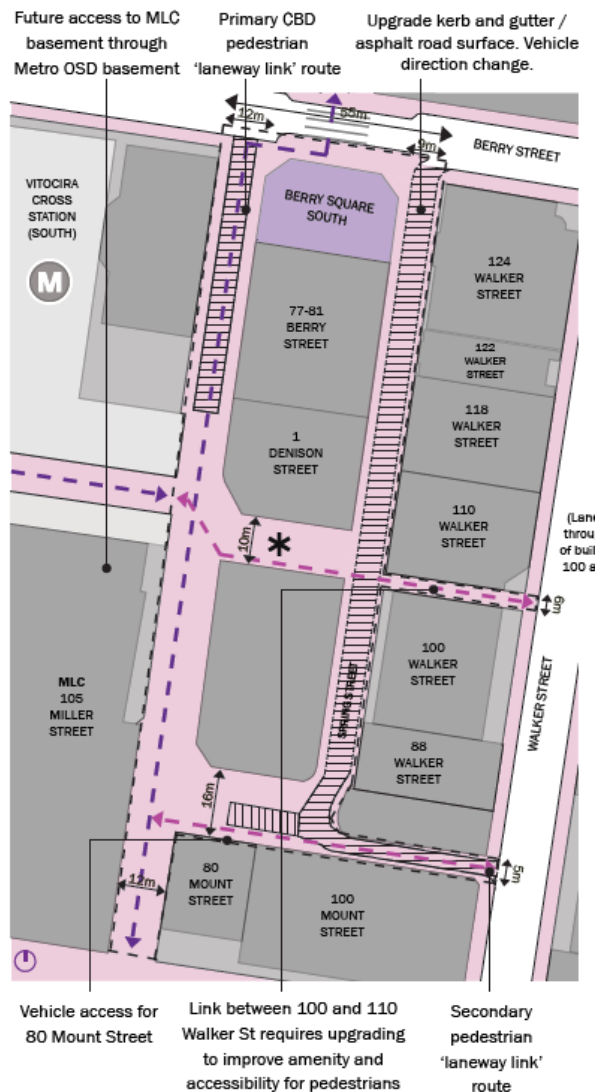
Source: North Sydney Council (2019), Public Domain Strategy

2.6.2 Denison and Spring Streets

Denison Street and Spring Street are active pedestrian environment to the west of the site. The aim of this project is to have the laneways upgraded for the opening of the Metro in 2024. The connection to Walker and Mount Streets may occur at a later date as they depend on the redevelopment of adjoining sites. The major transport consideration is safe movement of large volumes of pedestrians up and down Denison Street and into surrounding streets due to the opening of the metro station. Upgrade works are expected to help improve the pedestrian connections from the south of the CBD to the northern blocks (**Figure 2-9**).

⁷ North Sydney Council (2018), North Sydney CBD Public Domain Strategy Place Book Stage 1: Public Spaces Vision.

Figure 2-9 Intervention overview of Denison and Spring Streets



Source: North Sydney Council (2020), Public Domain Strategy

2.6.3 Little Walker Street

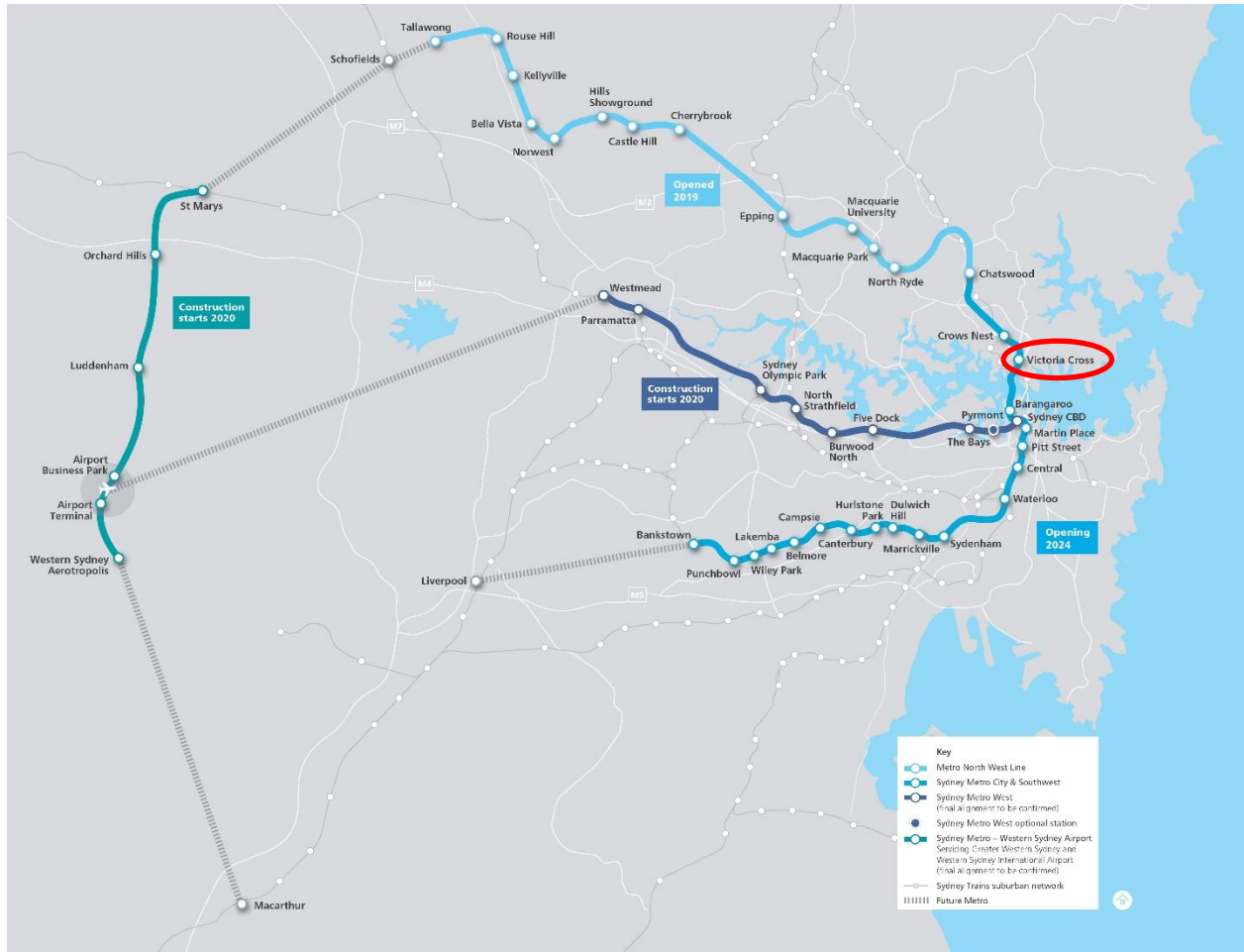
There is opportunity for this street to be upgraded to improve its pedestrian role, encourage new businesses and activities along it and provide entrance points to new buildings. It is proposed to change the street to a shared zone with pedestrian priority and implement a series of changes for the buildings to provide pocket setbacks, landscaped areas, seating areas and small retail tenancies opening to the street. This change would create the feeling of a traditional 'art and cafes' street to complement other offerings of the CBD.

Implications for 153-157 Walker Street: The strategy recognises necessary improvements that priorities walking, public transport and cycling and moves regional traffic away from the centre. The implementation of the strategy supports a vibrant and pleasant urban environment for local employees and the delivery of relevant projects will help the end users of the site to achieve sustainable travel behaviour. The proposed through-site link will support / promote pedestrian connections under the plan.

2.7 Sydney Metro

The Metro Northwest Line is being extended under Sydney Harbour, through new underground city stations and beyond to the southwest. Victoria Cross metro station is currently under construction about 150m to the west of the proposed site. The underground station is due to open in 2024, together with the completion of the Sydney Metro City & Southwest Line from Chatswood to Bankstown via the Sydney CBD (**Figure 2–10**).

Figure 2–10 Sydney Metro network



Source: Sydney Metro (2020)

Victoria Cross metro station will be 31 metres below ground level. The station includes:

- Two station entrances including a northern entrance opening to Miller Street and McLaren street, and a southern entrance with pedestrian access to Miller Street and Denison street
- A commercial building above the station's southern entrance
- Station concourse and platforms beneath Miller Street
- Sustainable, high-quality commercial and retail hub in the heart of North Sydney
- Enhancement of pedestrian infrastructure around the station, as well as new bike parking at the northern entrance, and new kiss and ride bays on Berry Street
- Improvements to the public domain.

An integrated access plan is shown in **Figure 2–11**.

Figure 2–11 Accessibility map of Victoria Cross station (southern portal only)



Source: Sydney Metro (2018), C25 EIS Chapter 9 Operational traffic and transport

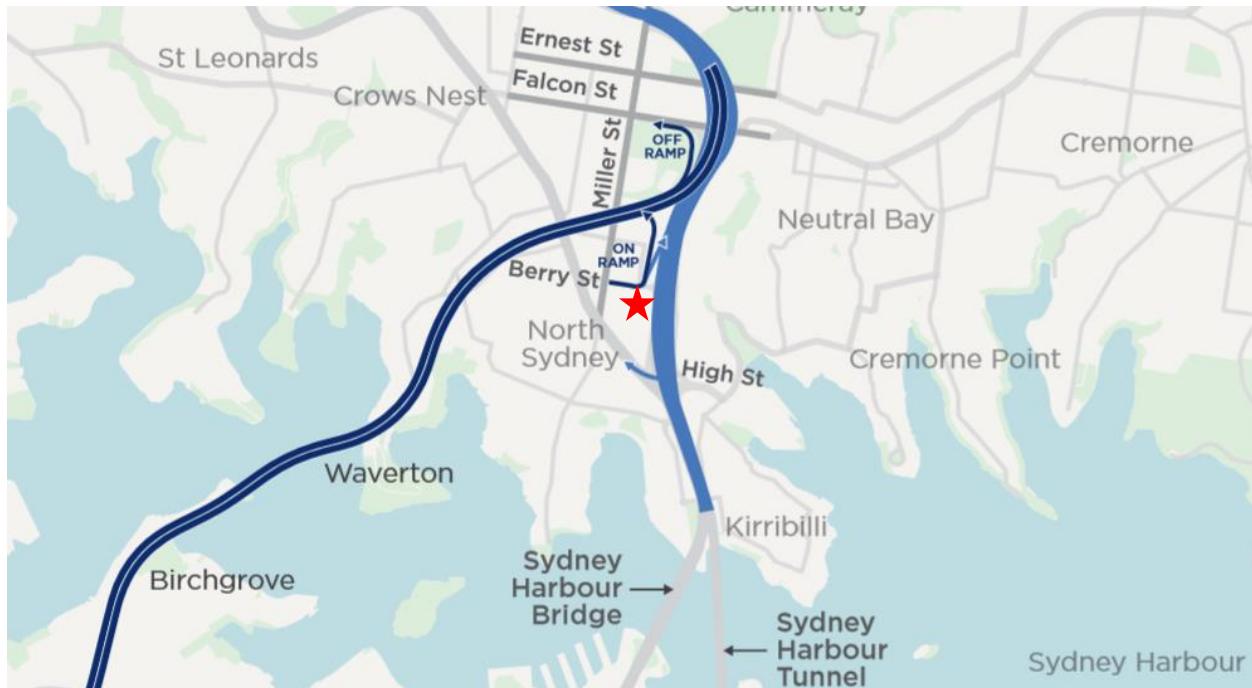
Implications for 153-157 Walker Street: The proposed development is within Victoria Cross station's 400m walking catchment area so the future building occupants can benefit from this high-quality and high frequency metro services that connect to other major centres such as Chatswood and Sydney CBD within five minutes. Other walking and cycling amenities around the metro station also facilitate improved pedestrian and cyclist access to the station as well as the North Sydney CBD. The proposed through-site link will support / promote pedestrian connections to the future metro station.

2.8 Western Harbour Tunnel and Beaches Link (WHTBL)

The NSW Government continues to progress planning for the proposed Western Harbour Tunnel and Beaches Link. The Western Harbour Tunnel and Warringah Freeway Upgrade component of the project has been approved in January 2021. It would deliver a new crossing of Sydney Harbour to take pressure off the Sydney Harbour Bridge and Tunnel and creates a western bypass of the Sydney CBD. The project also includes upgrading four kilometres of the Warringah Freeway.

In the vicinity of site, an on-ramp is proposed from Berry Street to connect to the southbound carriageways. An off-ramp is proposed to connect to Falcon Street westbound, as shown in **Figure 2–12**.

Figure 2-12 Proposed alignment of the Western Harbour Tunnel in the vicinity of the study area



Source: Roads and Maritime Services (2018), Western Harbour Tunnel project update

Work on the Warringah Freeway will include a new, uninterrupted bus lane from Cammeray to the Sydney Harbour Bridge, which will feature an access link to North Sydney and allow express buses from the Northern Beaches and North Shore to have direct access to Sydney Trains at North Sydney Station and the new Sydney Metro at Victoria Cross. The project will also create the potential to introduce direct express bus access between the Inner West and Lower North Shore.

With the project, new cycleway infrastructure and improvements will contribute to the North Shore Link Cycleway. Ridge Street Bridge will be rebuilt to provide more room for cyclists and pedestrians. A dedicated cycleway between Miller Street, Cammeray Park and Falcon Street will be implemented, and the Ernest Street Bridge across the Warringah Freeway will be upgraded to link Cammeray Golf Course with Anzac Park, better connecting local communities and schools.

The Western Harbour Tunnel would bring the following benefits to North Sydney:

- The western bypass of the Sydney CBD provides reduced travel times from North Sydney to Western Sydney and improves the traffic flow of the three harbour crossings, making the network more efficient
- Greater access to shared transport and better connectivity to existing cycle and pedestrian routes by upgrading cycling and pedestrian infrastructure
- Reducing congestion on the Sydney Harbour Bridge, Sydney Harbour Tunnel and the Warringah Freeway south of Ernest Street, will make travel easier, faster and safer
- Customers will enjoy improved efficiency, safety and connectivity for bus services along the Warringah Freeway through upgrades to the existing southbound bus lane on the Freeway.

Implications for 153-157 Walker Street: Travel time to North Sydney can be saved by around 10 minutes especially from Sydney Inner West⁸. The proposed on / off-ramps of the Western Harbour Tunnel at Berry Street and Falcon Street could attract more cars around the site. This may increase conflicts between walking, cycling and car traffic and result in a less walkable environment surrounding the site, in particular along Berry Street. Thus, it is critical to ensure limited net increase of the car trips associated with the site.

Benefits of the new tunnel and the associated freeway upgrade also include improved cycleways and potential new bus connections, which further encourage sustainable transport use to / from North Sydney.

⁸ Western Harbour Tunnel Project update, Page 5

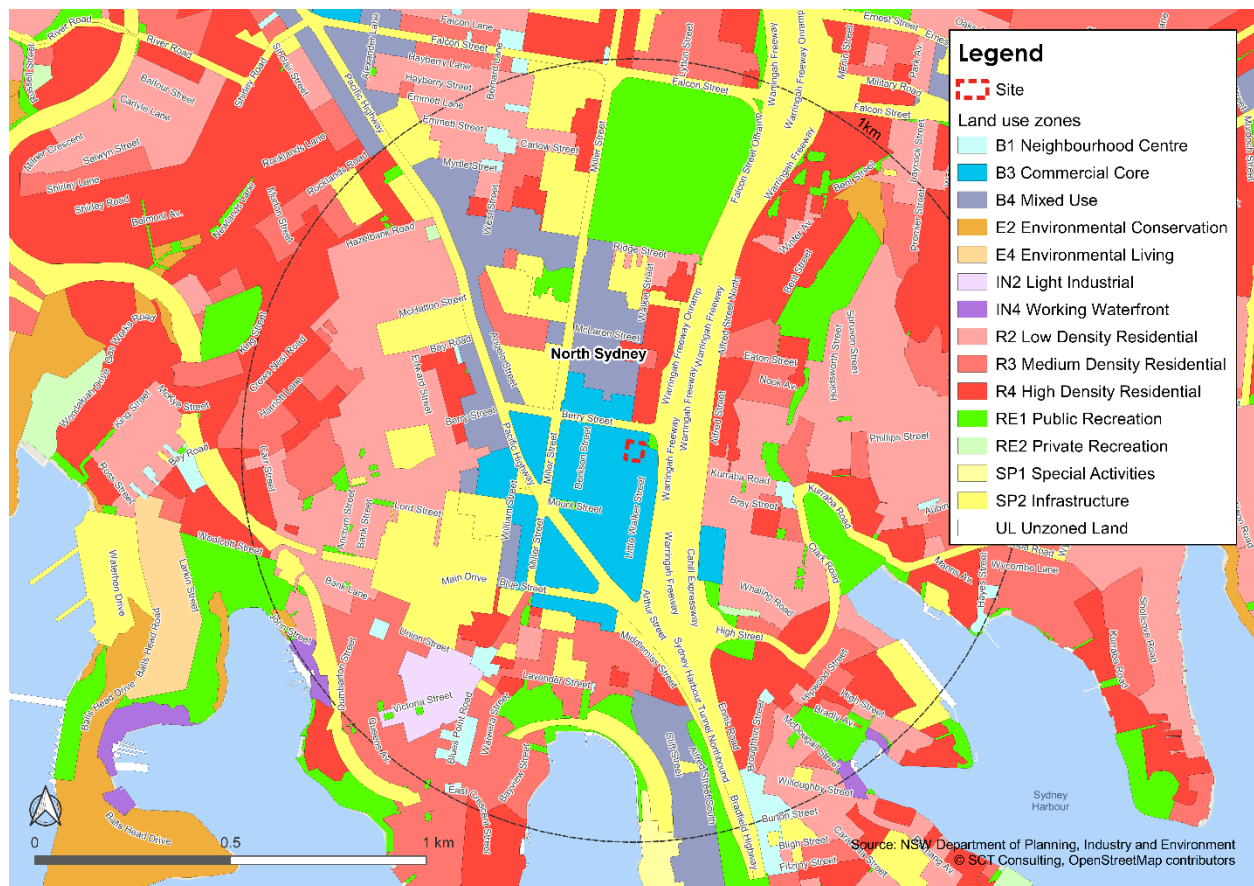
3.0 Existing Conditions

The purpose of this chapter is to provide an understanding of the current traffic and transport condition in the vicinity of the site, located at 153-157 Walker Street, North Sydney.

3.1 Land use

The existing zoning in the vicinity of the site is shown in **Figure 3-1**.

Figure 3-1 Existing zoning around the site



The site is located in the northeast of B3 commercial core of North Sydney. Surrounding land use comprises multiple land use types, including R2 – R4 Low to High Density Residential to the east and west, B4 Mixed Use to the northwest, SP2 infrastructure and RE1 Public Recreation to the north and south. These land use types form many major employment, activity destinations, health establishment, and open spaces such as St Leonards Park and North Sydney Oval in the north, as well as a number of educational facilities in the northwest.

3.2 Current access arrangement

Pedestrian accesses to both buildings at 153 and 157 Walker Street are provided via Walker Street, as shown in **Figure 3-2**.

Vehicular accesses of 153 and 157 Walker Street are provided (via separate driveways) on Little Walker Street as shown in **Figure 3-3** and **Figure 3-4** respectively. Traffic currently enters Little Walk Street from Berry Street and exit onto Mount Street. The vehicular access to 157 Walker Street also provides access to a public car park operated by Wilson Parking. A number of service vehicle parking spaces are also provided for 157 Walker Street at Little Walk Street.

Figure 3-2 Pedestrian access for the existing buildings



Source: SCT Consulting, 2020

Figure 3-3 Vehicular access for 153 Walker Street



Source: SCT Consulting, 2020

Figure 3-4 Vehicular access for 157 Walker Street

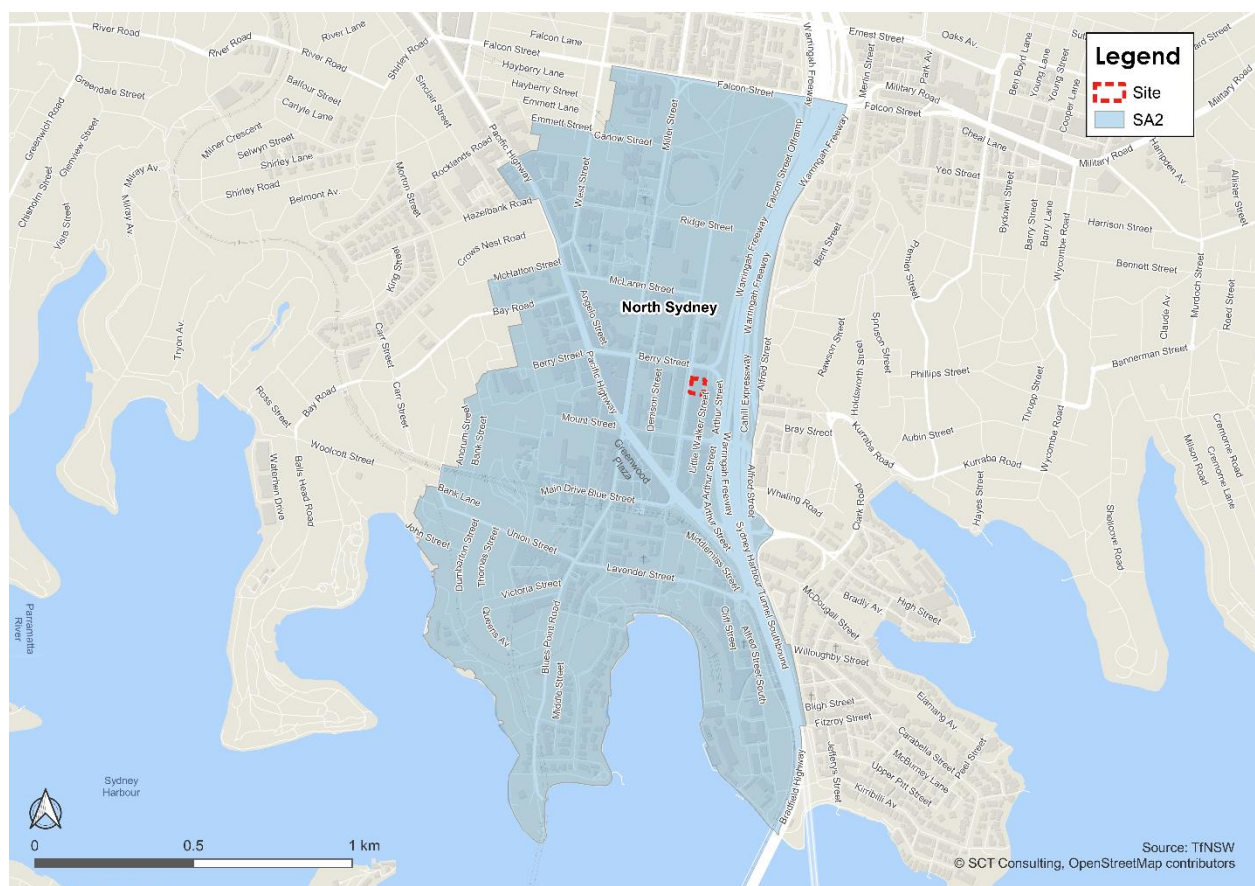


Source: SCT Consulting, 2020

3.3 Travel behaviour

2016 Journey to work data from the Australian Bureau of Statistics was analysed to determine current travel behaviour of the existing employees within the study area during peak periods. The Statistics Area level 2 (SA2) that represent the study area are shown in **Figure 3-5**.

Figure 3-5 Study area analysed for the travel behaviour of the site



The site is serviced by North Sydney Station and frequent buses along Miller Street and the Pacific Highway, contributing to a high public transport mode share at 57 per cent in 2016, nearly three times of the Greater Sydney average. Approximately 23 per cent of the workers in North Sydney commuted by car as driver, half of the Sydney average but indicating a significantly higher level of single occupant commuters compared to the City of Sydney CBD where single car commuters made up only 15 per cent of trips to Pitt Street and Martin Place⁹. For active transport mode, five per cent of the employees walked to work whereas cycling to work is low at only one per cent, indicating potential needs to improve the cycle infrastructure.

The Journey to Work 2016 origins and destinations for arrivals at / departures from the North Sydney by Local Government Area (LGA) were investigated. Around 14 per cent of the North Sydney workers lived in the same LGA. This resulted in more walking and cycling trips in short commuting distance. Northern Beaches generated nine per cent of the total work-related trips to North Sydney, followed by City of Sydney (6.6 per cent), which generally require less than 30-minute commuting by public transport. Other origins fragmented across the Great Sydney region and are no more than five per cent per origin. The overall origin distribution tallies with the high use of sustainable transport modes for employees in North Sydney.

3.4 Walking

The North Sydney CBD Public Domain Strategy notes that the pedestrian experience in North Sydney CBD is currently less than ideal. Pedestrians experience a CBD that is dominated by vehicle movements, vehicle noise and pollution, freeway signage, long wait times at major intersections and long expanses of passive and inactive frontages. Despite the high mode share involving walking, infrastructure currently prioritises vehicular passage over pedestrian movement¹⁰. Currently the dominant pedestrian movements are on Walker Street and Miller Street, which lead to and from North Sydney station.

Walker Street is mostly flat in the vicinity of the site albeit steep between McLaren Street and Ridge Street to the north. There are existing active frontages, making it busy on both sides of the footpaths during commuting peaks and lunch time. The intersection of Walker Street and the Pacific Highway to the south is a primary gateway for train users of North Sydney with issues of wide crossing distances, slip lanes and refuge islands that isolate pedestrians.

Little Walker Street has a less walkable environment given many car park access points, loading docks, blank walls and building servicing. It ends at Pacific Highway to the south close to the intersection with Walker Street where jaywalking is a problem due to the desire lines between Blue Street to Little Walker Street and Greenwood Plaza to Walker Street.

Although footpath is well provided on both sides of Berry Street, it does not change the nature of heavy car movements on this one-way eastbound street from the Pacific Highway to the Warringah Freeway and a major barrier for north-south pedestrian connection.

Walking catchments from the site is shown in **Figure 3-6**, which covers a wide area as follows:

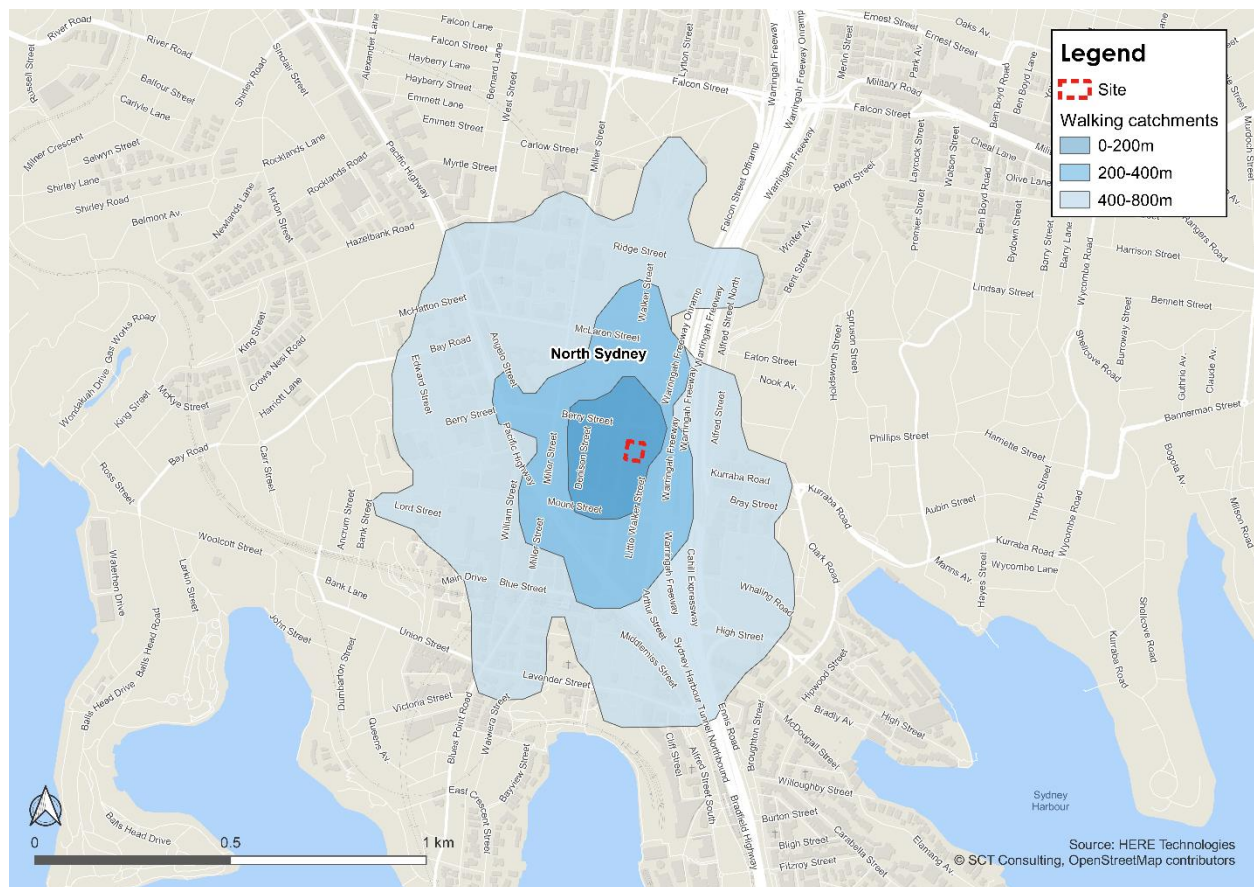
- The 200m walking catchment covers most of Little Walker Street, Little Spring Street, Denison Street, and activities on Berry Street west of the Warringah Freeway
- The 400m catchment further includes North Sydney Council, Monte Sant' Angelo Mercy College and the whole commercial core in the centre of North Sydney. The North Sydney train station and bus interchanges are within about 400m walking distance
- Marist College North Shore and St Mary's Catholic Primary School is within 800m walking distance from the site whereas North Sydney Boys High School is just beyond the 800m catchment area together with some residences and retail development in the northwest corner of the study area.

The site therefore has significant opportunity to be oriented around walking, cycling and public transport with limited or no traffic impacts.

⁹ Sydney Metro (2018), Sydney Metro City & South West Victoria Cross Over Station Development: Traffic and transport report, Table 1.

¹⁰ North Sydney Council (2018), North Sydney CBD Public Domain Strategy Place Book Stage 1: Public Spaces Vision.

Figure 3-6 Walking catchment map of 153-157 Walker Street, North Sydney



3.5 Cycling

The North Sydney Transport Strategy notes that the proportion of people cycling in North Sydney is low compared to international standards¹¹. However, it is a mode that Council is committed to increasing. Gaps in the network and difficult sections have a negative impact on cycling participation as poor amenity or potentially dangerous sections of road are a disincentive for those who might otherwise take up cycling. Cyclists must manoeuvre around frequently stopping buses and high traffic flow, particularly on Miller Street. At times, cyclists ride on the footpath to avoid difficult or dangerous sections, causing the potential conflicts with pedestrians.

Within North Sydney, West Street, Ridge Street, Miller Street and the Pacific Highway are high-frequency bike routes as shown in **Figure 3-7**.

¹¹ North Sydney Council (2017), Transport Strategy.

Figure 3-7 Cycle routes serving the study area



Source: North Sydney Council, Northern Sydney Cycle Guide + Map

The overall cycle infrastructure in the study area is limited to a separated bicycle path on Ridge Street (between West Street and Miller Street), a shared path in St Leonards Park and a short section on Hazelbank Place in the west. There are no dedicated cycling facilities in the vicinity of the site to connect to a wider cycle network, indicating potential needs to improve the cycle infrastructure.

The North Sydney Integrated Cycling Strategy¹² identified the following gaps and difficult aspects of the cycling network:

- Cyclists are forced to ride along busy roads and negotiate busy intersections without formal bicycle facilities
- Cyclists encounter pinch points where road space is suddenly lessened, and they are forced to merge with fast moving traffic
- Cyclists encounter situations which compromise the mobility advantages gained from riding (such as wheel ramps up steps)
- Cyclists ride on the footpath to avoid difficult or dangerous sections, increasing the potential conflict with pedestrians.

¹² North Sydney Integrated Cycling Strategy, 2014

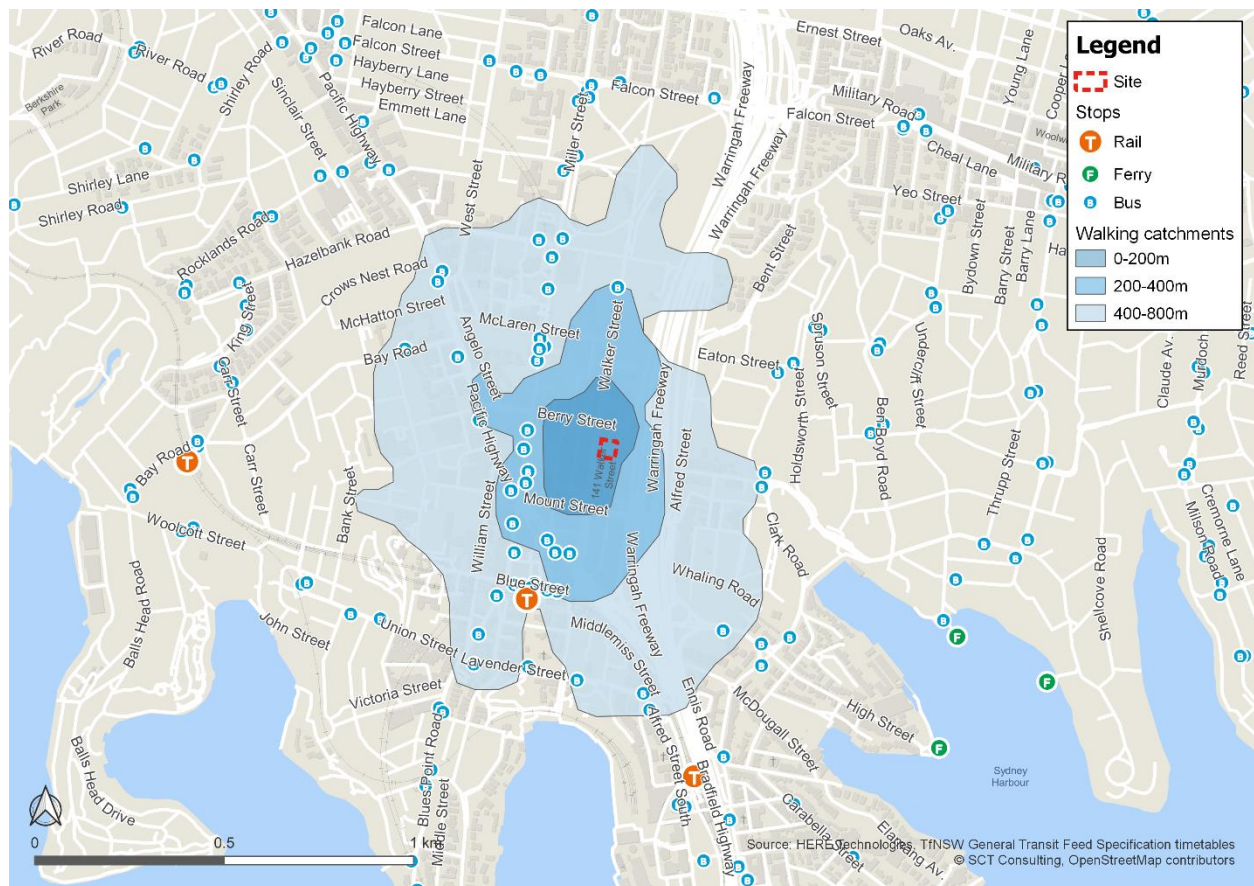
3.6 Public transport

North Sydney accommodates major bus services, and the site is within a 10-minute walk from North Sydney station along Walker Street. The proximity of regular public transport is reflected in the relatively high public transport mode share for North Sydney.

Council continues to prioritise public transport over private vehicles, and it is expected that this mode share will continue to increase with the opening of metro at Victoria Cross Station in 2024. Victoria Cross metro station is current under construction and the southern portal is located at Miller Street, which is within a 5-minute walk of the site via a new laneway created between Miller Street and Walker Street.

The public transport network servicing the site is shown in **Figure 3-8**, where multiple bus stops are located within 400m walking distance.

Figure 3-8 Public transport servicing the site



3.6.1 Bus

The site is serviced by up to 33 bus routes on Miller Street and the Pacific Highway. Bus stops are arranged in pairs on Miller Street to the south of McLaren Street, which are both within 400m of the site.

Bus frequencies on Miller Street and the Pacific Highway are mostly greater than one service every three minutes during a typical weekday AM peak hour, as shown in **Figure 3-9**. Less frequent services are provided at some bus stops on Lavender Street in the south of the site.

Figure 3-9 Service frequency during a typical weekday AM peak

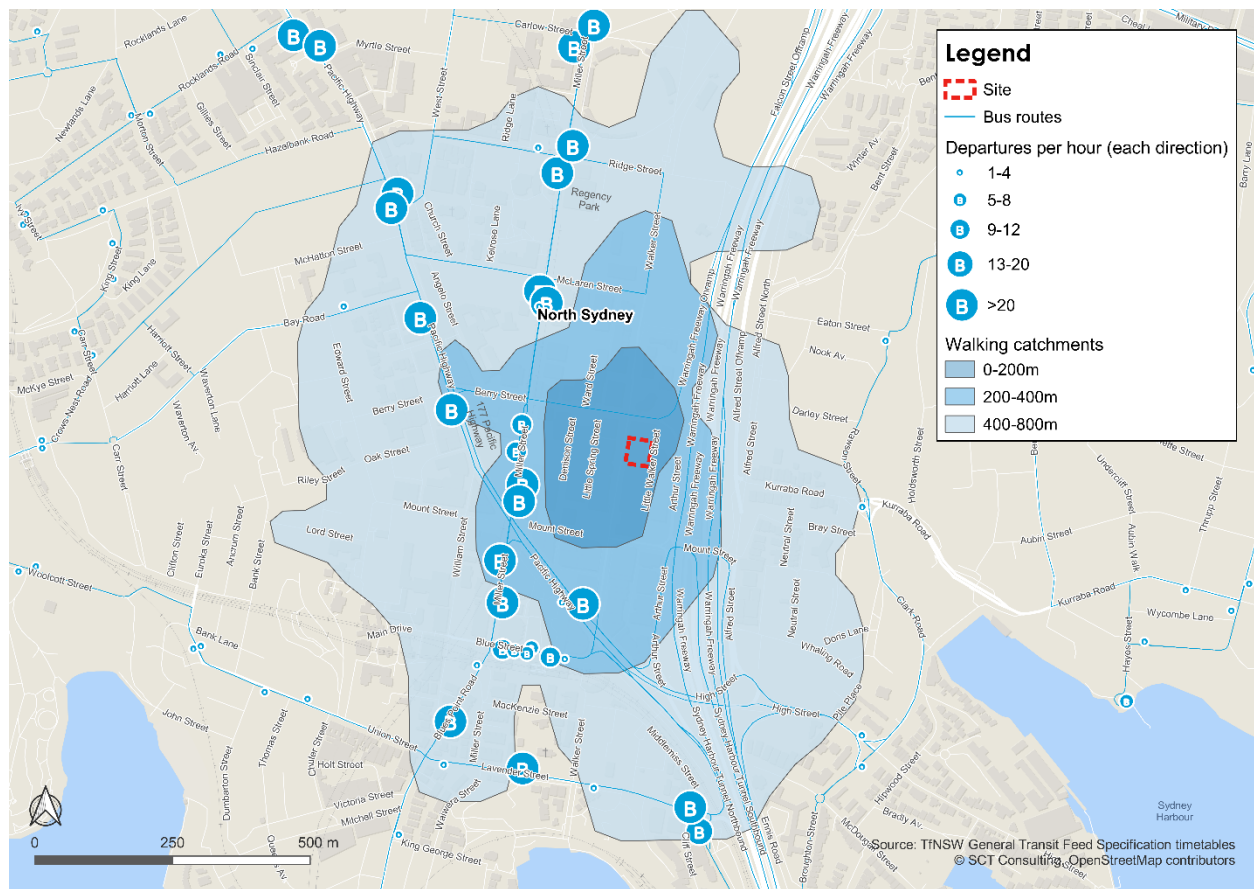


Table 3–1 shows the frequency of bus services in the vicinity of the site. The data shows that the site is well serviced by buses during the peak hours for weekdays with an interval of around 1.5 minutes per bus. The destinations of those routes cover a wide range of local centres across Sydney, such as Bondi Junction, Chatswood, Kingsford, Ryde, Epping etc.

Table 3–1 Bus route details for the site

Route	Terminals	Total trips in two directions	
		AM (8am to 10am)	PM (4pm to 6pm)
168	North Balgowlah, Milsons Point	2	2
173	Narraweena, Milsons Point	3	4
200	Chatswood, Bondi Junction	6	6
200	Bondi Junction, Chatswood	7	7
202	City Bridge St, Northbridge	5	5
202	Northbridge, City Bridge St	4	1
203	North Sydney, Castlecrag	2	4
207	City Bridge St, East Lindfield	7	2
207	East Lindfield, City Bridge St	2	5
209	East Lindfield, Milsons Point	9	5
227	Milsons Point, Mosman	1	5
227	Mosman, Milsons Point	4	3

Route	Terminals	Total trips in two directions	
		AM (8am to 10am)	PM (4pm to 6pm)
228	Milsons Point, Clifton Gardens	2	2
228	Clifton Gardens, Milsons Point	2	2
229	Milsons Point, Beauty Point	2	4
230	Milsons Point, Mosman Wharf	8	8
230	Mosman Wharf, Milsons Point	15	4
252	Gladesville, City King Street Wharf	2	1
254	Riverview, McMahon's Point	7	3
261	Lane Cove, City King St Wharf	5	4
263	City Bridge St, Crows Nest	2	4
269	McMahon's Point, Milsons Point	2	6
287	Ryde, Milsons Point	3	1
291	Epping, McMahon's Point	6	4
320	Gore Hill, Mascot	10	11
343	Chatswood, Kingsford	15	12
575n	Wynyard, Queenwood Junior	1	-
602X	Bella Vista Station, North Sydney	10	-
612X	Castle Hill, North Sydney	15	-
639w	Castlecrag, North Sydney Girls High School	1	-
647w	Epping Station, North Sydney Boys High School	1	-
652w	Chatswood, Miller Street and Falcon Street	1	-
663w	East Lindfield, Crows Nest	1	-
674w	Gilbert Park, Glenaeon Senior	1	-
766n	Avalon, Milsons Point	1	-
775w	Lane Cove West, Milsons Point	1	-
E50	Manly, Milsons Point	8	7
E54	Milsons Point, Mona Vale	3	16
E54	Mona Vale, Milsons Point	19	6
Total		196	144

Source: TfNSW Opal Data, 2020

3.6.2 Train

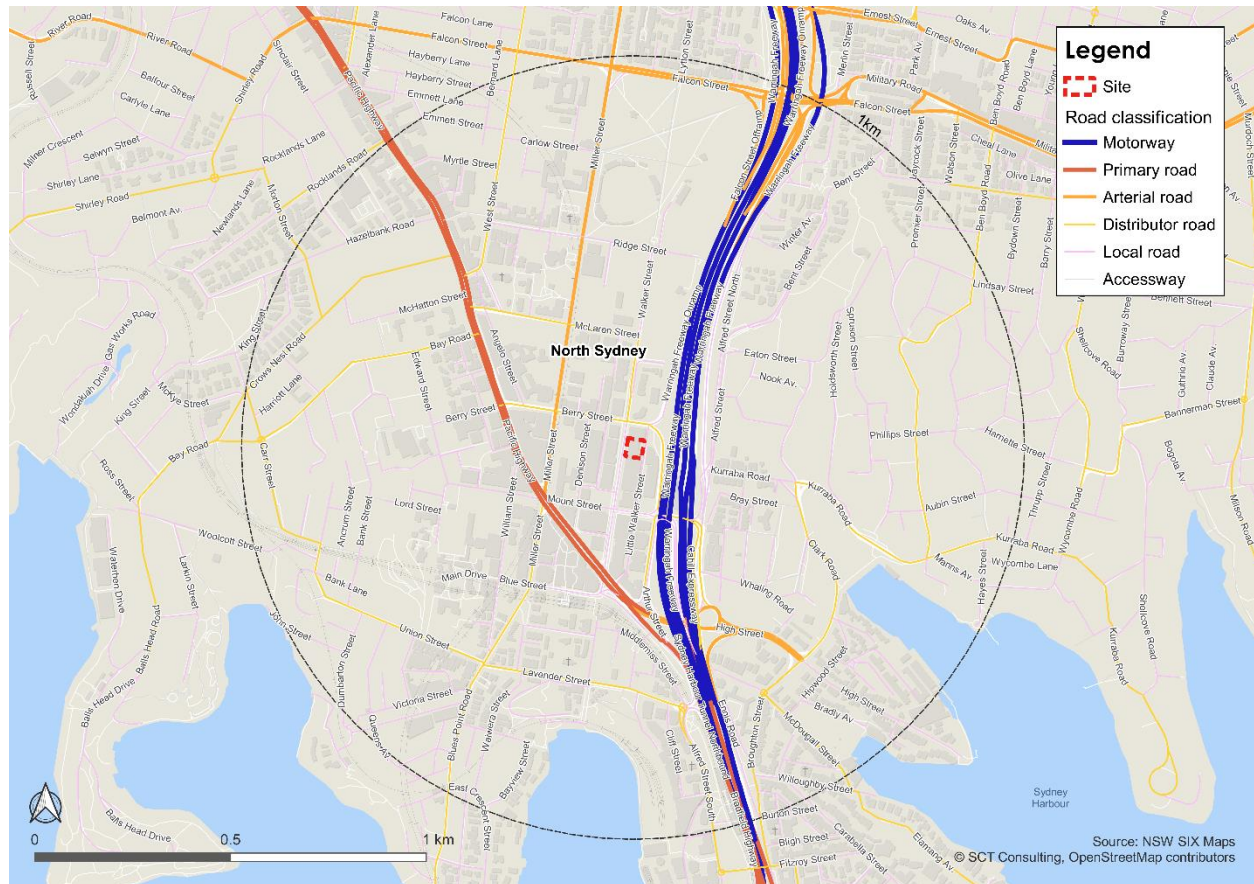
North Sydney Station is part of the T1 North Shore Line and T9 Northern Lines and provides frequent services to destinations across the Greater Sydney. To the south of the site, there is a portal on the Pacific Highway to connect to the concourse through Greenwood Plaza. Alternatively, the station can be accessed via Blue Street at ground level. Train users access between North Sydney train station and the site mainly via Walker Street, Little Walker Street.

Given the availability of the substantial train lines, bus network around the site, there is no major capacity issue with the potential site.

3.7 Road network

The major roads in the study area include the Pacific Highway, Walker Street, Miller Street, Berry Street and Falcon Street as shown in **Figure 3-10**.

Figure 3-10 Road network around the site



The key roads around the site are:

- **Warringah Freeway** to the east of the site, providing motorway connectivity to broader Sydney. While there are some advantages to the connectivity provided by the motorway, the Western Harbour Tunnel project will impact on the operations of Berry Street and likely increase traffic volumes on this link.
- **Pacific Highway** to the west of the site is a primary road which has standard footpaths. It is dominated by its movement function for local and through traffic at a sign posted speed limit of 60 km/h. Transit lanes and bus lanes are designated for northbound and southbound travelling, respectively. There are 40 km/h School Zones near Emmett Lane and Rocklands Road. Pedestrian crossings are provided at signalised intersections with an average spacing of about 200 metres in the vicinity of the site.
- **Miller Street** is a north-south regional road with peak hour clearways implemented on both sides of the street. On-street parking is restricted in the vicinity of the site due to clearway. The frequent provision of school zones, pedestrian crossings at intersections and reasonably generous footpaths, make it a pedestrian friendly environment.
- **Berry Street** is a distributor road to the north of the site. It has three eastbound lanes from the Pacific Highway to the Warringah Freeway with a sign posted speed limit of 40km/h given high pedestrian activities on the footpaths. Clearway is implemented during weekday peak hours to ensure sufficient road capacity given it plays a key role to connect North Sydney to the regional highway network. Restricted on street parking / harbour shaped parking bays and loading zones are designated on some sections of the road to service the adjoining buildings.
- **Walker Street** is a two-way local road (between Berry Street and Pacific Highway only). It has a speed limit of 40km/h given the high pedestrian activities on both footpaths. Clearway is implemented northbound during

weekday peak to satisfy the demand to use Berry Street. Restricted on street parking and loading zones are designated on some sections of the road to service the adjoining buildings.

- **Little Walker Street** is a 10m wide local road that runs north-south parallel to Walker Street. It operates as one way southbound between Berry Street and Mount Street. As a major service lane for the adjoining buildings, restricted parking and loading are designated on the street together with a few outdoor dinner amenities. Speed limit is 40km/h to the north of Mount Street.

As the site is unlikely to have a significant traffic impact, fast road travel speeds represent an undesirable outcome, as fast speeds and heavy traffic volumes reduce the amenity of the walking environment. A summary of the speeds in the area is shown in **Figure 3-11** where roads such as Berry Street, Mount Street and Miller Street indicate too fast vehicle travel speed for a CBD environment.

Figure 3-11 Road speeds surrounding the site



3.8 Shared vehicles

Car share decreases the need for some people to own a car or a second car. From a commercial office context, it reduces the need for businesses to own / purchase company car(s), while having it parked in the car park when not in use. Hence, availability to car share vehicle is expected to reduce parking demand and traffic generation.

It differs from traditional car hire companies in that cars can be hired by half hour increments and cars are located near to where people live or work. Car share is available from either companies that own a vehicle fleet or peer-to-peer services for individual owners to share their vehicles.

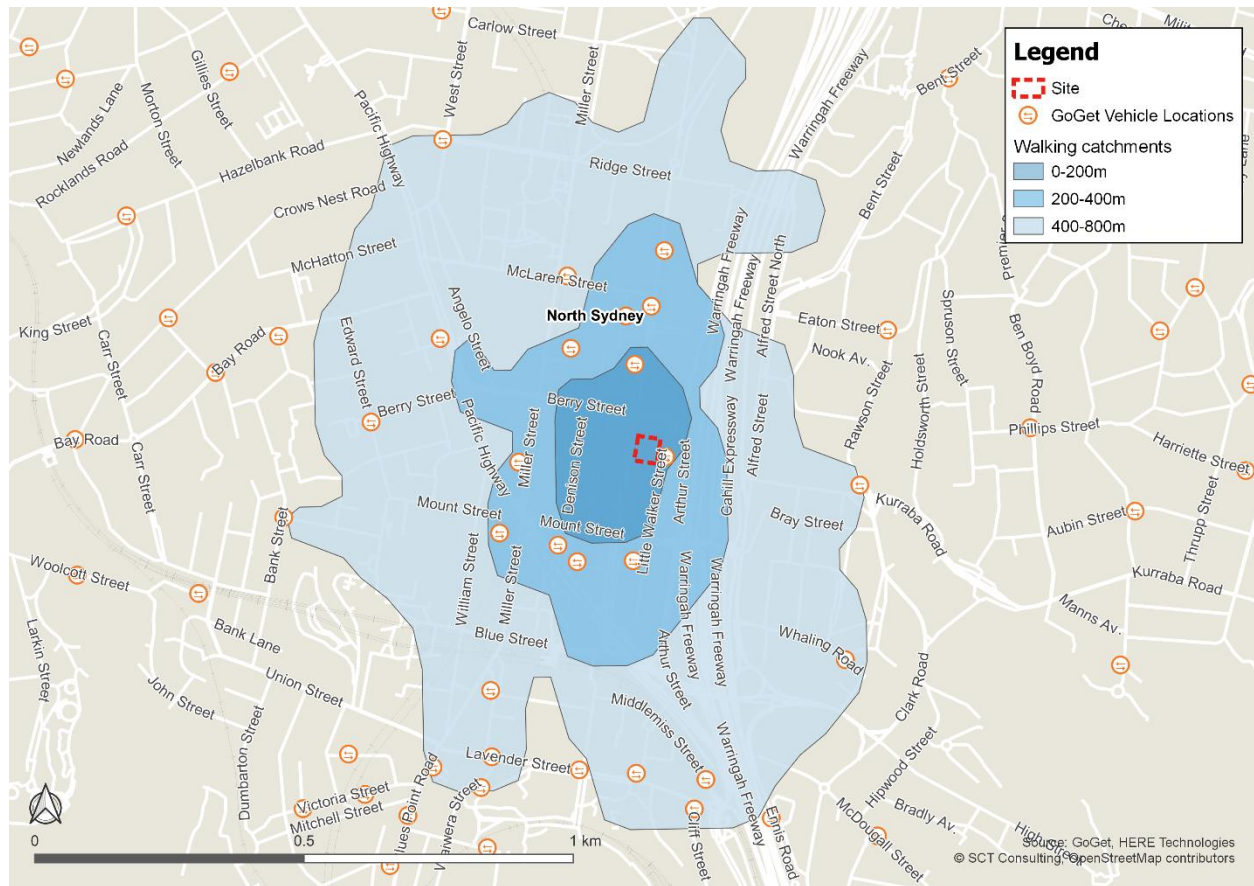
In 2016, there are approximately 1,500 business members in car share scheme in North Sydney. The benefits realisation of car share schemes, is documented within the Committee for Sydney document 'Carsharing: Sydney Snapshot' as follows:

- A reduction in vehicle kilometres travelled by approximately 2,000 km per year for each user with corresponding increases in walking, riding a bicycle or using public transport
- Each car space in a multi-storey car park can cost between \$30,000 - \$70,000 to construct when a car space is provided. These cost savings are passed on to developers

- The current benefit that each car share vehicle provides is estimated at \$59,673. This takes into consideration factors such as congestion, environmental factors such as emissions, opportunity cost of not owning a car space, management fees and community value of space.

These statistics support the notion of using car share schemes, to achieve reductions in car parking spaces. GoGet is currently one of the operators¹³. A map of the GoGet parking locations is shown in **Figure 3-12**, indicating numerous GoGet cars in the site vicinity and high availability for business use of the site, i.e., 11 car share pods in 400m walking catchment area.

Figure 3-12 Go Get pods around the site



¹³ Popcar is another local provider that offers two spots in 400m catchment area and one more in 800 catchment area.

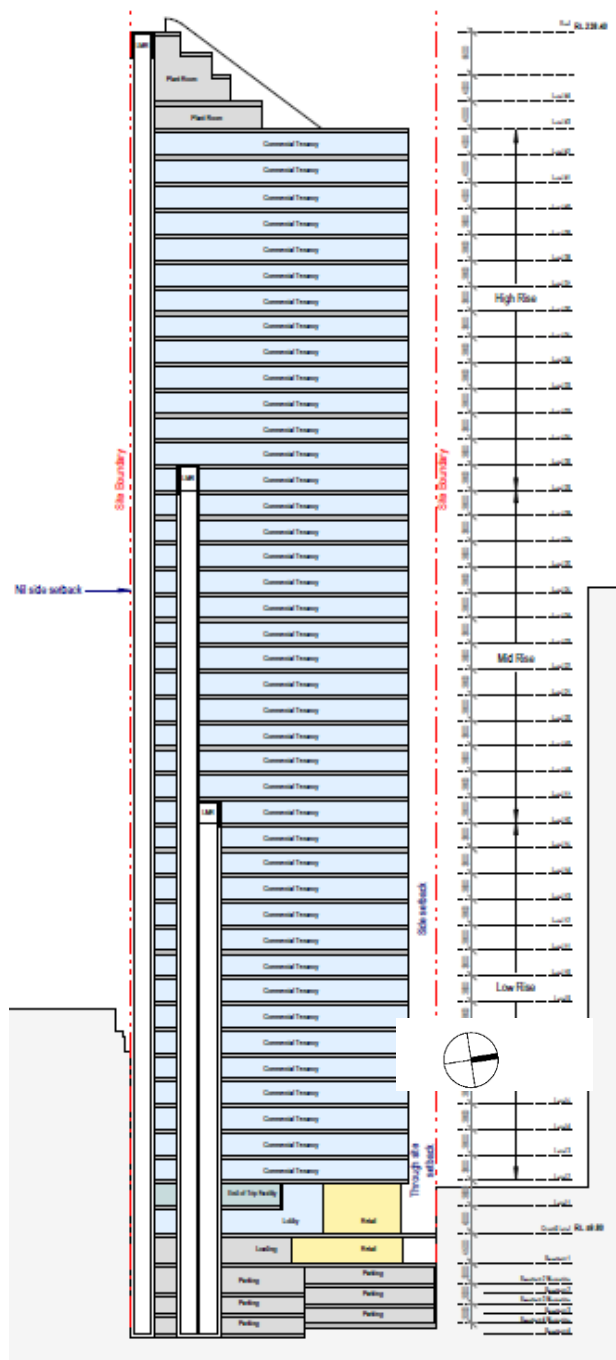
4.0 The proposed development

4.1 Proposed building design

The proposed development is situated in premium location for a high-quality commercial development, being in close proximity to public transport, including North Sydney train station (which is located 400m to the south, connecting the site to the whole metropolitan area) and the future Victoria Cross Station metro station that will link Barangaroo and Crows Nest. The M1 freeway and future Western Harbour Tunnel are both accessed via Berry Street, providing the site with direct car access to greater Sydney freeway network.

The development proposes a 44-storey commercial building to replace the current two buildings at 153 and 157 Walker Street, as shown in **Figure 4-1**.

Figure 4–1 North-south section of proposed building



Source: Architectus, 2021

4.2 Site yield

The total GFA for the proposal and the existing GFA are compared in **Table 4-1**.

Table 4-1 Proposed yield of the site

Uses		Existing 157 Walker Street^	Existing 153 Walker Street	Proposal	Yield
Commercial	Retail GFA	750m ²	-	Approximately 1,200m ²	450m ² GFA
	Office GFA	8,967m ²	5,050m ²	53,230m ²	39,213m ² GFA
Total GFA		9,717m ²	5,050m ²	54,430m ²	39,663m ² GFA
Total parking spaces		83 spaces	45 spaces	104 spaces	-24 spaces

Source: Architectus, 2021

4.2.1 Proposed transport access

The proposed transport access to / from the site remains largely unchanged from the current access arrangements with vehicular access provided via Little Walker Street and pedestrian access via Walker Street.

4.2.2 Vehicular access

The proposed vehicular access is provided on Little Walker Street to connect to four levels of basement car park, loading dock as well as bicycle parking from street level. It will consolidate current multiple driveways to two separate buildings at 153 and 157 Walker Street.

The vehicular access from the wider road network will also remain the same, with traffic entering from Berry Street into Little Walker Street and traffic leaving the site via Little Walker Street to Mount Street.

4.2.3 Active transport access

The pedestrian access is provided along Walker Street. At the podium level, a 4m setback has been provided on the southern edge of the site (from the property boundary) to allow for a future 5m wide through-site link to improve pedestrian connectivity between Walker Street and Little Walker Street, and further onto transport nodes such as the future metro station.

Bicycle parking will be provided at the basement level, with access via Little Walker Street. End-of-trip facilities will also be provided on Level 1 of the building.

4.3 Parking requirements and provision

Transport upgrades including the Victoria Cross metro station will provide additional transport capacity to reduce the need for parking and encourage mode shift towards sustainable travel modes. New development should consider car share schemes and reduced parking provision in North Sydney.

The development site is zoned B3 Commercial Core. The North Sydney Development Control Plan (DCP) 2013 provides maximum parking rates for developments in this zone. The objectives of the DCP's parking requirements are to minimise reliance on private car use and to facilitate the use of public and alternative transport modes, while ensuring sufficient car parking to cater for the users of the development.

Provisions for vehicles, bicycles and service vehicles are reviewed below.

4.3.1 Car parking

The proposed basement car park comprises three basement levels and could accommodate a maximum of 104 car parking spaces, which is equivalent to around one space per 520 m².

The parking space provision for the proposed development is compliant and lower than required in the North Sydney Council DCP where B3 Mixed Use in Northern Sydney Centre adopts 1 space per 400m² for non-residential GFA.

This is considered acceptable given the site's proximity to Victoria Cross and North Sydney stations and its intent to discourage private car use and promotes mode shift to other sustainable transport method.

Some of the off-street parking spaces could be dedicated to shared vehicle or electrical vehicle parking spaces, to be confirmed during detailed design stage.

4.3.2 Bicycle parking and facilities

The objective of DCP is to encourage the use of bicycles as an environmentally beneficial form of transport and an alternative to the use of private motor vehicles. The DCP requires developments to provide:

- Bicycle parking in accordance with the rate of 1 space per 150m² GFA and 1 space per 400m² GFA for occupants and visitors, respectively
- Lockers are to be provided at the rate of 1 locker per space
- Shower and change cubicles are to be provided at a rate of 2 shower / change cubicles per 20 spaces.

Table 4-2 provides a summary of the DCP requirements of bicycle parking spaces for occupants and visitors and highlights the required lockers, change rooms and shower facilities.

Table 4-2 Bicycle parking and end-of-trip facilities provision

DCP requirement	Rate	Required provision
Total spaces (minimum) for occupants	1 space / 150m ² GFA	363
Total spaces (minimum) for visitors / customers	1 space / 400m ² GFA	136
Lockers	1 / space	500
Shower / change cubicles	2 / 20 spaces	50

Source: SCT Consulting, 2021

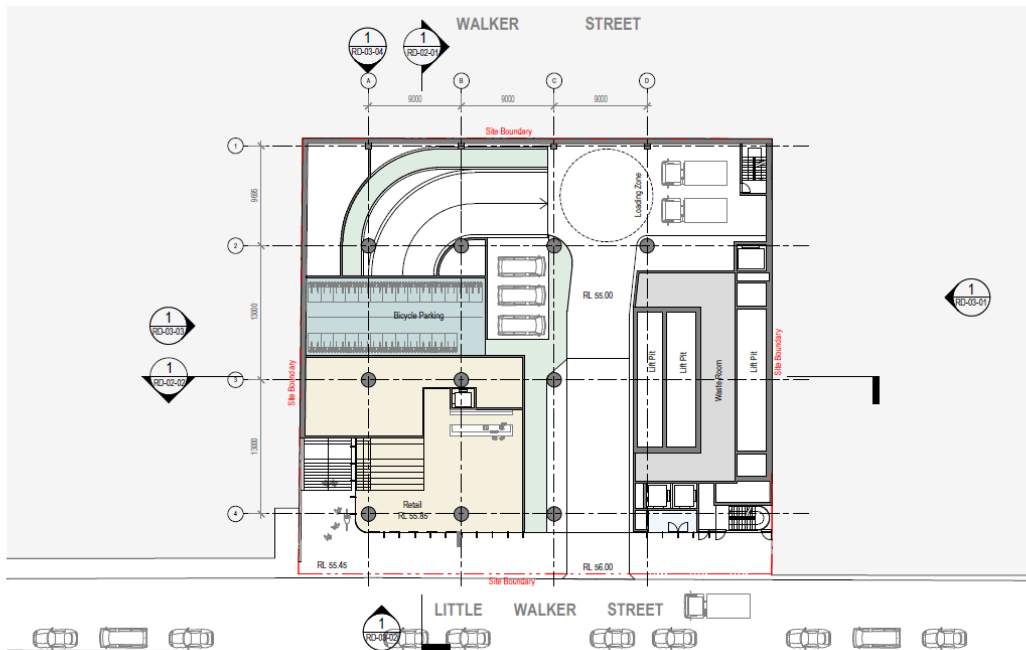
4.4 Loading and servicing facilities

The objective of DCP is to ensure that adequate off-street loading, delivery and servicing facilities are provided. Off-street loading and unloading facilities are a requirement for all major commercial premises. The DCP does not specify a required number of spaces; instead, the number and size of loading bays are determined by Council on a case-by-case basis, having regard for the intended use of the premises, frequency of deliveries, size of the deliveries, size of the vehicles, practicality of accommodation and impacts on traffic and safety on adjoining roads.

The development proposes loading dock spaces at the basement (B1) level, as shown in **Figure 4-2**. The loading dock is accessed via Little Walker Street at the eastern side of the site. The loading dock provides five spaces for heavy vehicle loading / unloading activities. A truck turntable is proposed to ensure the truck manoeuvring in a forward direction and avoid vehicle's reversing in such a compact site.

Traffic safety measures would be recommended to improve driver's sight distance and minimise the conflicts with other traffic flows on site.

Figure 4-2 Proposed loading dock at B1 level



153-157 Walker Street, North Sydney

Drawing:
Drawing no:
Issue:
Scale @ A3:
Date:

Basement Level 01
RD-01-05
1:300
12/03/21



0 1.5 3 4.5 6 7.5 9 15

Architectus Sydney
Level 18 MLC Centre
19 Martin Place
Sydney NSW 2000
sydney@architectus.com.au

architectus

Source: Architectus, 2021

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 (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.

A Travel Plan should be developed by future developers and monitored by strata management to deliver best practice travel programs and initiatives to manage travel demand for a transit-oriented development. Key initiatives and measures of Travel Demand Management Strategies should be further developed into a Travel Plan to:

- Re-think the mode of travel
 - Walking and cycling:
 - A highly permeable and safe pedestrian network throughout and surrounding 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 – NSW bicycle week, cycle to work day, free bike check-up events
- Establishment of a Bicycle User / Consultation Group.
- Public transport:
 - 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
 - Parking spaces dedicated to car share scheme and community car-share vehicles, both on-street and incorporated in easily accessed public car parks.
- Development and use of carpooling app for the wider precinct and community.
- Re-time and Re-route journeys:
 - Development of specific community app / 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
 - Employers to promote and encourage flexible working hours and arrangements.

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 that provides significant opportunities for alternative travel options and reduces the need for car travel.

5.0 Transport Impact Assessment

5.1 Trip generation

5.1.1 Vehicle trip generation

According to **Section 4.2**, the development proposes to deliver approximately 54,430m² GFA of commercial floorspace with a total of 104 parking spaces. Despite an increase of approximately 40,000m² GFA, the proposal will deliver a net reduction in car parking spaces (24 fewer parking spaces including the removal of the public car park currently operates by Wilson Parking) when compared to existing provision by both buildings at 153 and 157 Walker Street.

Hence, the number of vehicular trips expected to be generated by the proposed development will be fewer than the current buildings and there will also be a net reduction of traffic volumes on the surrounding road network as a result of this proposal.

It is also assumed that retail component would not generate additional traffic given it is very likely to service the office building and surrounding development within a walking catchment, without the generation of any additional vehicular trips.

5.1.2 Pedestrian trip generation

With the restrained parking provision of the proposal, the uplift of GFA will lead to an increased person trip demand during peak hours. It is assumed that those demand will use the surrounding footpaths to access public transport or cycle to / from the proposed development.

Based on Roads and Maritime *Technical Direction TDT 2013/04a*, the average person trip rates for other office in North Sydney are 1.26 and 1.08 person trips per 100m² GFA per hour for AM and PM peak. This leads to a total peak hour generation of 600-700 person trips, a net increase of approximately 400-500 person trips during AM and PM peak hour (as shown in **Table 5-1**).

Table 5-1 Persons trip generation for the proposal

Proposed activity	Yield	Person trips (hourly)	
		Weekday AM peak	Weekday PM peak
Office (proposed development)	54,430m ² GFA	685	588
Existing buildings	14,767m ² GFA	186	159
Net increase	39,663m² GFA	+499	+428

Source: SCT Consulting, based on Roads and Maritime Services, 2021

Given its location adjacent to existing North Sydney station, future Victoria Cross metro station and extensive bus network, most of these person trips associated with the site will be using surrounding public transport services, some would be walking / cycling from trip origins given a number of the employees could reside in the same LGA and well-provided end of trip facilities on site.

5.2 Transport impact appraisal

5.2.1 Public transport network impact

The site is located within 400m of North Sydney station as well as the future Victoria Cross metro station. The wide network coverage, train frequency, journey-time reliability and improved customer offering of Sydney Metro, will increase journey to work trips by non-car modes. The extensive bus network on the Pacific Highway and Miller Street also continues to play a key role to attract commuters to public transport.

The delivery of this site would support a development with sustainable travel behaviour, by providing increased mixed-use density in proximity to high frequency and capacity public transport services. Sydney Metro will provide employees with greater access to public transport and employment options, while promoting the use of sustainable travel options.

On this basis, **Section 5.1.2** estimated the majority of an additional 500 person-trips during the peak hour that generated by the proposal will be using public transport to access the development. These additional trips during the peak hours can be accommodated through the high frequency train / metro services and frequent bus services.

Impacts on the public transport system are expected to be limited and little capacity issue would be expected.

5.2.2 Pedestrian network impact

Based on the non-car generation of the proposed development, up to 500 additional pedestrians would be generated in the busiest peak period (AM peak), which is considered as a moderate generation of pedestrian activities.

Therefore, the number of trips generated by the development during the peak periods is at a level able to be accommodated by the existing footpaths along Walker Street, the crossing facilities at surrounding critical intersection as well as new laneways created to improve connectivity to Victoria Cross metro station.

Being situated in a CBD area accessible to public transport, those demand will be closely linked with North Sydney train station, Victoria Cross metro station and bus stops on Miller Street and the Pacific Highway as well, making it important to ensure a safe, quality and well connected footpaths system around the site to promote the sustainable transport use.

The proposed through-site link will support / promote pedestrian connections between Walker Street and Little Walker Street, and further onto transport nodes such as the future metro station, as well as overall improvements of pedestrian network in North Sydney CBD.

5.2.3 Cycling network impact

The development will encourage the uptake of cycling in North Sydney through the provision of 500 bicycle parking spaces and good quality end-of-trip facilities. 500 bicycle parking spaces for such an office development means that the development will cater for a large mode share of cyclists, both for workers as well as visitors to the building. Those cycle trips would become an important component for short distance trips by the commuters, supported by cycle infrastructure and public domain upgrades planned and proposed by Council.

5.2.4 Road network impact

As discussed in **Section 5.1.1**, as a result of a net reduction in car parking spaces for the proposal, the number of vehicular trips expected to be generated by the proposed development will be fewer than the current buildings and there will also be a net reduction of traffic volumes on the surrounding road network as a result of this proposal.

5.2.5 Parking impact

The proposed development adopts lower car parking rates than those suggested in the DCP requirements, in order to fully support the initiative of mode shift to green transport and reduction car use in an area that is located near the Victoria Cross metro station.

On site car share spaces can also be designated to densify the car share locations in the local area and further reduce business-related car trips.

6.0 Summary and Conclusions

6.1 Summary of findings

The traffic and transport impacts of the proposed 153-157 Walker Street development were assessed in this report. The development proposes a 44-storey commercial building to replace the current two buildings at 153 and 157 Walker Street. From a transport perspective, the proposal is consistent with strategic planning directions to support job growth around public transport corridors and promotion of sustainable transport modes use.

The area that the site is located in North Sydney CBD, reflects higher public transport and active transport mode share than the Greater Sydney average for the employees due to shorter than average travel distance and good accessibility by green transport methods. This trend would be further enhanced associated with the opening of Victoria Cross metro station, further investment in public transport and cycle network upgrade in the vicinity of the site by state and local governments as discussed in the strategic plans.

The proposal would include an office tower with minor retail totalling to approximately 54,430m² GFA and 104 parking spaces. In summary:

- The site is located within the 400m walking catchment of North Sydney station and Victoria Cross metro station. Hence, this supports the aspiration of 30-minute access to employment centres such as North Sydney, Chatswood and Sydney CBD by high frequency and high-quality mass transit.
- The site's proximity to frequent bus services along the Pacific Highway and Miller Street will encourage future employees to commute by bus.
- The site's proximity to future cycling network and continuous footpath system (including the introduction of laneways to connect with Victoria Cross metro station) will also encourage local short trips to be made by walking and cycling.
- The provision of end of trip facility on site caters for future cycling demand of the site and facilitate both employee and visitor's travel by bike.
- Vehicular and bicycle access to the development is proposed via Little Walker Street. A three-level basement car park is designed that could accommodate up to 104 parking spaces, which is less than the maximum standard set out in Council DCP and less than the current total parking provision of both buildings. The proposal of restrained parking at this site would restrict private car use and minimise the impact on road network.
- As a result of a net reduction in car parking spaces for the proposal, the number of vehicular trips expected to be generated by the proposed development will be fewer than the current buildings. Therefore, there will also be a net reduction of traffic volumes on the surrounding road network as a result of this proposal.
- The 500 additional person trips will be mainly using public transport and active transport, which is considered to be accommodated by the existing and planned services.
- On site car share spaces can be designated to densify the car share locations in the local area and further reduce business-related car trips.
- The proposed through-site link will support / promote pedestrian connections between Walker Street and Little Walker Street, and further onto transport nodes such as the future metro station, as well as overall improvements of pedestrian network in North Sydney CBD.

6.2 Conclusions

The Traffic and Parking Study concluded that the impacts of the planning proposal are negligible and are able to be mitigated by the existing and planned infrastructure.

