Sydney West Metro:

Planning Proposal for Hunter Street Over Station Development

Transport and Accessibility Impact Assessment

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Glossary

Term	Definition
Concept SSD Application	A concept development application as defined in Section 4.22 the EP&A Act, as a development application that sets out concept proposals for the development of a site, and for which detailed proposals for the site or for separate parts of the site are to be the subject of a subsequent development application or applications.
Council	City of Sydney
CSSI	Critical State Significant Infrastructure
Stage 1 CSSI Approval	SSI-10038 approved 11 March 2021 all major civil construction works between Westmead and The Bays, including station excavation and tunnelling, associated with the Sydney Metro West railway line
DA	Development Application
DCP	Development Control Plan
DPE	NSW Department of Planning and Environment
EP&A Act	Environmental Planning and Assessment Act 1979
EPA	NSW Environment Protection Authority
GANSW	NSW Government Architect's Office
GFA	Gross Floor Area
LEP	Local Environmental Plan
LGA	Local Government Area
NLA	Net Lettable Area
OSD	Over Station Development
SEPP	State Environmental Planning Policy
SSDA	State Significant Development Application
Sydney Metro West	Construction and operation of a metro rail line and associated stations between Westmead and the Sydney CBD as described in Section 1.2
TfNSW	Transport for New South Wales

Executive summary

This Transport and Accessibility Impact Assessment has been undertaken to support a Sydney Metro West Hunter Street Station Over Station Development Planning Proposal Request (Planning Proposal) to amend the maximum building height and maximum floor space ratio permitted for both the east and west sites under *Sydney Local Environmental Plan 2012* (Sydney LEP 2012) at the West Hunter Street (Sydney CBD) station.

This report provides an assessment of the potential transport impacts of the Sydney Metro West Hunter Street Station Over Station Development (OSD) planning proposal (Planning Proposal) and recommends potential mitigation measures to avoid, minimise and manage impacts associated with the Hunter Street OSD. The scope includes the following:

- Identification of the existing transport conditions in the study area
- Assessment of the potential transport impacts resulting from the Sydney LEP compliant development at the Hunter Street OSD site. This scenario is referred to as the Base Case
- Assessment of the potential transport impacts resulting from the proposed LEP amendments at the Hunter Street OSD site. This scenario is referred to as the Planning Proposal
- Identification of recommendations and potential mitigation measures to avoid, minimise and manage impacts associated with Hunter Street OSD.

Key transport and accessibility findings of this report include:

- The proposed provision of car parking spaces is approximately 50% below the Sydney LEP maximum rates and is not anticipated to have a significant impact on the road network or pedestrian footpaths around entrances/exits at driveways
- Additional GFA proposed for both buildings is not expected to have a significant impact on local traffic due to low on-site parking provisions and convenient access to high quality public transport infrastructure
- As the developments have direct access to the future Hunter Street Metro station along with underground access to Wynyard and Martin Place Stations, the developments are expected to help reduce potential surface street foot traffic by keeping within and below the site
- While additional trips will be generated by the proposed increases in site GFA, the convenience of its location above the future Metro station, with direct pedestrian access, is expected to maximise public transport take-up within the local area
- The road network is expected to continue to remain at similar levels of service, with no notable change associated with the traffic generated by the development on the surrounding road network operation
- Pedestrian access is via Bligh Street for the east site and George Street for the west site. Through site links are also provided at both sites

- End of trip facilities services are provided in both sites which are accessed via two specific end of trip facilities lifts within the ground floor of each site, via Bligh Street for the East site and George Street for the West site
- The Planning Proposal is aiming to achieve a Green Star rating from the Green Building Council Australia
- Overall, the proposed amendments to the LEP framework for the site, are not forecast to have an adverse impact on the transport network, beyond those identified in the base case, compliant with existing Sydney LEP controls
- The current loading dock does not meet TfNSW Freight's recommended dock space capacities at both sites. However, the forecast operational service levels are approximately 85% at both sites, which indicates that the loading docks will be able to function appropriately subject to the implementation of dock management protocols and practices. These will need to be defined by the proponent and agreed prior to building occupation.

The mitigation measure and recommendations include:

- A reduction in vehicle speed from 40km/h to 30km/h on Hunter Street and O'Connell Street
- Provision of car share spaces to reduce individual car parking demands. Allocation and provision is subject to confirmation as the design evolves
- Required loading dock management protocols and practices, such as a booking system, extended operating dock hours or appointing a sole delivery contractor
- A Construction Traffic Management Plan (CTMP) to define the delivery methodology, transport impacts and mitigations
- A travel plan to encourage the use of active transport for short trips, and public transport for all long trips, thereby reducing the need for single occupancy vehicle travel.

1 Introduction

1.1 Purpose

The Sydney Metro West Hunter Street Station Over Station Development (OSD) Planning Proposal Request seeks to amend the maximum building height and maximum floor space ratio permitted for both the east and west sites under the *Sydney Local Environmental Plan* 2012 (Sydney LEP 2012).

This Transport and Accessibility Impact Assessment provides an assessment of the potential transport impacts of the Sydney Metro West Hunter Street Station Over Station Development (OSD) planning proposal (Planning Proposal) and recommends potential mitigation measures to avoid, minimise and manage impacts associated with the Hunter Street OSD.

The Hunter Street OSD site is divided into two developments located at Hunter Street West and Hunter Street East, both with proposed commercial and retail uses. This report provides an assessment of the potential transport impacts of the Sydney Metro West Hunter Street Station Over Station Development planning proposal (Planning Proposal) and recommends potential mitigation measures to avoid, minimise and manage impacts associated with the Hunter Street OSD.

1.2 Planning proposal objectives and intended outcomes

The Planning Proposal Request has been prepared to address the following objectives for future development on the Eastern and Western sites:

- Be a catalyst for positive change by regenerating and invigorating the city with new development that engages with the precinct, raises the urban quality and enhances the overall experience of the city
- Facilitate future development that promotes design excellence and is consistent with the objectives of the Central Sydney Planning Framework
- Deliver high quality employment generating floorspace that aligns with the objectives for development within the tower cluster areas identified within the Central Sydney Planning Framework
- Contribute towards the establishment of an integrated transport hub within the Sydney CBD which strengthens Sydney's rail network improving connectivity
- Delivers employment density alongside the delivery of significant new public transport infrastructure servicing the site and surrounding precinct.

The intended outcomes of the requested amendments include:

- To amend the maximum building height and maximum floor space ratio (FSR) permitted for both the east and west sites under the *Sydney Local Environmental Plan 2012* (Sydney LEP 2012) and allow an alternative approach to design excellence to deliver integrated station development that optimises the development potential of both sites

- To facilitate new development that demonstrates an appropriate distribution of built form and floor space as part of the delivery of the integrated station development.

1.3 Planning process

1.3.1 State Significant Infrastructure

Sydney Metro West was declared as State Significant Infrastructure (SSI) and Critical State Significant Infrastructure (CSSI) under sections 5.12(4) and 5.13 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) respectively on 23 September 2020.

Sydney Metro West is being assessed as a staged infrastructure application under Section 5.20 of the Environment Planning & Assessment Act 1979. The approved Concept and major civil construction work for Sydney Metro West between Westmead and The Bays (Stage 1 of the planning approval process- application number SSI-10038) were approved on 11 March 2021.

Stage 2 of the planning approval process (application number SSI-19238057) includes all major civil construction work, including station excavation and tunnelling, between The Bays and Sydney CBD an Environmental Impact Statement for this application was exhibited between 3 November and 15 December 2021. This application is relevant for this request for a Planning Proposal as it seeks approval for bulk excavation and tunnelling at the Hunter Street (station sites).

Stage 3 of the planning approval process (application number SSI-22765520 includes the tunnel fit-out, construction of stations, ancillary facilities and station precincts, and operation and maintenance of the Sydney Metro West line. This application is notably relevant for this request for a Planning Proposal, as it seeks approval for the construction of the Hunter Street Station, including above and below ground structures, public domain works, and spatial provisioning and works to facilitate the construction and operation of an OSD above the two station entries which are described further in this report.

1.3.2 Over Station Development

The OSD components of the Hunter Street integrated station development are not declared as SSI or CSSI under *State Environmental Planning Policy (State and Regional Development) 2011* (SRD SEPP). As such, separate development consent is required to be granted for the construction and operation of development above the Hunter Street Station.

The primary land use of the OSD sites is anticipated to be 'commercial premises' which has a capital investment value of more than $30 million, and which are located within a rail corridor and/or are associated with railway infrastructure. Consequently, the future OSD will be classified as State Significant Development . The Sydney LEP 2012 is a relevant environmental planning instrument for the future development, though the Sydney Development Control Plan 2012 (Sydney DCP 2012) will not apply to the OSD.

To inform the planning controls relevant for the Hunter Street OSD sites, amendments are proposed to the Sydney LEP 2012 to provide additional Maximum Height of Building and floor space ratio (FSR) controls. Further, as the Sydney DCP 2012 does not apply to the land, the Proponent will prepare a design and amenity guideline to support the Planning Proposal to inform the future built form on the site including details such as street frontage heights, setbacks, massing and tapering, development adjacent to heritage items, building exteriors, and managing wind impact.

The inter-relationship of the scope of Sydney Metro EIS 3 (part of Critical State Significant Infrastructure CSSI) and this Planning Proposal is illustrated in Figure 1-1.

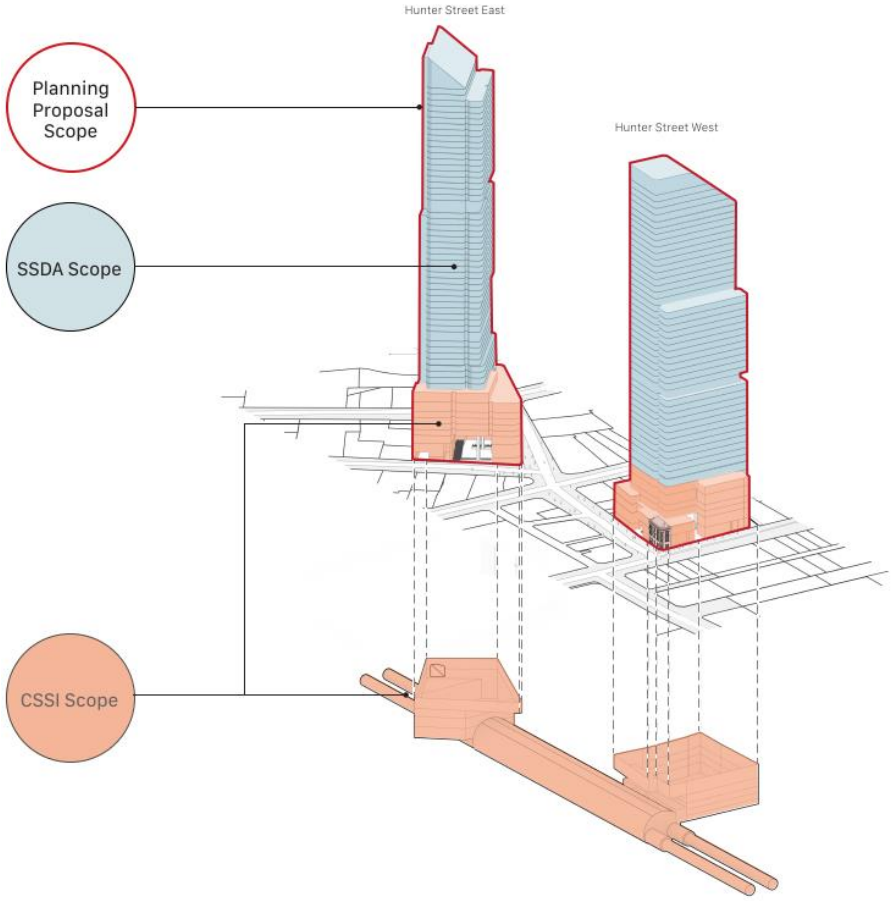

Figure 1-1: Hunter Street Station and proposed OSD

1.3.3 Planning Proposal

The Planning Proposal seeks to amend the *Sydney Local Environmental Plan 2012* to enable development on the site(s) as follows:

- Establish a maximum Height of Buildings control and maximum FSR control on the identified land, being the Hunter Street Station East and West sites.
- Enable the development of a commercial office building on the Hunter Street Station East and West sites
- Integration with the Hunter Street Station, the subject of a separate application process
- Adaptive reuse of the existing Former Skinners Family Hotel within the overall development on the West site
- Include site-specific controls which ensure the provision of employment and other non-residential land uses only on both the Hunter Street Station East and West sites.
- Include site-specific control allowing the provision of up to a maximum of 70 car parking spaces maximum total across both the Hunter Street Station East and West sites
- Include a site-specific design guideline within the site-specific controls to guide future development sought under a State Significant Development Application process

- Establish an alternative design excellence process for the Hunter Street Station East and West sites that responds to the integration of the development with the Sydney Metro West project and specifically the Hunter Street Station.

A summary of the key development outcomes resulting from the Planning Proposal is set out in Table 1-1 below.

Table 1-1: Proposed concept built form outcomes

Built Form Component	Proposed Development Outcome
East Site	**Based on a site area of 3,666 sqm**
Height	Building height of 257.7m (RL 269.10)
FSR	22.82:1
GFA	Up to 84,287 sqm GFA
Land Use(s)	Non-residential land uses only
West Site	**Based on a site area of 3,735 sqm**
Height	Building height of 213.0m (RL 220.00), including a setback interface from the heritage-listed Skinner Family Hotel
FSR	18.71:1
GFA	Up to 69,912 sqm GFA
Land Use(s)	Non-residential land uses only
Cl 7.6 – Carparking for Office and Business premises	Up to 70 car parking spaces, maximum total across both the Eastern and Western sites

1.4 Site context

1.4.1 The site

The Hunter Street integrated station development is located in the northern part of the Sydney CBD, within the commercial core precinct of Central Sydney, within the Sydney local government area.

The east site is located on the corner of O'Connell Street, Hunter Street and Bligh Street adjacent to the existing CBD and South East Light Rail that extends from Circular Quay to Moore Park, Kensington and Kingsford. The east site is adjacent to the new Martin Place Station which forms part of the Sydney Metro City and Southwest line, Australia's biggest public transport project connecting Chatswood to Sydenham and extending to Bankstown.

The west site is located on the corner of George and Hunter Street, including De Mestre Place and land predominantly occupied by the existing Hunter Connection retail plaza.

Refer to Figure 1-2 below which illustrates the location of the Hunter Street Station within its regional context.

Figure 1-2: Location of the new Sydney Metro station at Hunter Street

1.4.2 Local context

The Sydney CBD is a highly developed commercial core with a wide range of commercial, retail, health, government and community-based uses, as well as high density residential developments.

A number of key commercial buildings are located in or around the Sydney CBD, including educational facilities, historic buildings and structures, law courts, public gathering spaces and places of worship. Significant areas of open space, such as the Botanical Gardens, the Domain and Hyde Park are also located within or near the Sydney CBD area, as well as the World Heritage Sydney Opera House and iconic Sydney Harbour Bridge.

Land uses surrounding the Hunter Street Station sites include:

- North of the sites is a major commercial area comprising high density commercial towers along George Street, Pitt Street, and Bridge Street, including the MetCentre and Australia Square buildings. The area also comprises tourism and entertainment related uses including hotels, shops, restaurants, cafes, nightclubs and bars, with the area around Circular Quay and the Rocks a major tourism precinct and providing significant support for the night time economy
- East of the sites are major commercial towers along Hunter Street, including Chifley Tower, 8 Chifley Square, Aurora Place and Deutsche Bank Place.

Beyond Hunter Street, the State Library of NSW and the NSW Parliament House front onto Macquarie Street, and beyond that lies the public open space of The Domain

- South of the sites, the land use remains predominantly multi-storey commercial offices but also includes cafes, bars and nightclubs. Including the Ivy complex. Martin Place is a significant east–west pedestrian thoroughfare which contains many culturally significant buildings and structures including the Cenotaph memorial and the General Post Office building, as well as Martin Place Station. Beyond Martin Place the Sydney CBD continues towards Town Hall, Haymarket and the Central Station precinct
- West of the sites, the land use remains predominantly high-density commercial offices, anchored by Wynyard Station. George Street contains the Sydney Light Rail (L2 Randwick Line and L3 Kingsford Line) and is a major north–south axis through the CBD, and along with Pitt Street connects Circular Quay, Wynyard, Town Hall and Central. East of Wynyard, the CBD continues towards the major commercial and entertainment areas around King Street Wharf and Barangaroo, which also contain significant high density residential apartment buildings.

1.4.3 Site description

The Hunter Street integrated station development relates to the following properties:

- 28 O'Connell Street, 48 Hunter Street, and 37 Bligh Street, Sydney (East Site)
- 296 George Street, 300 George Street, 312 George Street, 314-318 George Street, 5010 De Mestre Place (Over Pass), 5 Hunter Street, 7-13 Hunter Street, 9 Hunter Street and De Mestre Place, Sydney (West Site).

Table 1-2 and Table 1-3 sets out the address, legal description and area of the parcels of land that comprise the Hunter Street Station land that is the subject of this Planning Proposal.

Table 1-2: Legal description of Hunter Street Station east site

Address	Lot and DP
28 O'Connell Street, Sydney	Lot 1, DP217112
28 O'Connell Street, Sydney	Lot 1, DP536538
28 O'Connell Street, Sydney	Lot 1, DP1107981
48 Hunter Street, Sydney	Lot 1, DP59871
48 Hunter Street, Sydney	Lot 2, DP217112
33 Bligh Street, Sydney	Lot 1, DP626651
37 Bligh Street, Sydney	CP and Lots 1-14, 21-31, 33-36, and 40, SP58859
37 Bligh Street, Sydney	CP and Lots 41-49, SP61852
37 Bligh Street, Sydney	CP and Lots 50-57, SP61922
37 Bligh Street, Sydney	CP and Lots 58-65, SP61923
37 Bligh Street, Sydney	CP and Lots 66 and 67, SP63146
37 Bligh Street, Sydney	CP and Lots 67-70, SP63147

Address	Lot and DP
37 Bligh Street, Sydney	CP and Lot 72, SP74004
37 Bligh Street, Sydney	CP and Lots 75-82, SP87437
37 Bligh Street, Sydney	CP and Lots 73-74, SP87628
	Total Area: 3,694 sqm

Table 1-3: Legal description of Hunter Street Station west site

Address	Lot and DP
296 George Street, Sydney	Lot 1, DP438188
300 George Street, Sydney	CP and Lots 1-43, SP596
312 George Street, Sydney	Lot 1, DP211120
314-318 George Street, Sydney	Lot 13, DP622968
5010 De Mestre Place, Sydney (Over Pass)	Lot 1, DP1003818
9 Hunter Street, Sydney	Lot 2, DP850895
5 Hunter Street, Sydney (Leda House & Hunter Arcade)	CP and Lots 1-63, SP71068
5 Hunter Street, Sydney (Leda House & Hunter Arcade)	CP and Lots 1-14, SP65054
7-13 Hunter Street, Sydney (Hunter Connection)	CP and Lots 1-53, SP50276
7-13 Hunter Street, Sydney (Hunter Connection)	Lots 57 and 58, SP61007
7-13 Hunter Street, Sydney (Hunter Connection)	Lots 54, 55 and 56, SP60441
7-13 Hunter Street, Sydney (Hunter Connection)	Lots 59, 60 and 61, SP62889
7-13 Hunter Street, Sydney (Hunter Connection)	Lots 62, 63, 64 and 65, SP69300
7-13 Hunter Street, Sydney (Hunter Connection)	Lots 66 and 67, SP77409
7-13 Hunter Street, Sydney (Hunter Connection)	Lot 2, SP50276
De Mestre Place, Sydney	N/A
	Total Area: 3,735 sqm

2 Methodology

2.1 Overview

This technical paper provides an assessment of the potential transport impacts of the Planning Proposal and recommends potential mitigation measures to avoid, minimise and manage impacts associated with the Hunter Street OSD.

The scope of this technical paper includes the following:

- Identification of the existing transport conditions in the study area
- Assessment of the potential transport impacts resulting from the Sydney LEP compliant development at the Hunter Street OSD site. This scenario is referred to as the Base Case
- Assessment of the potential transport impacts resulting from the proposed LEP amendments at the Hunter Street OSD site. This scenario is referred to as the Planning Proposal
- Identification of recommendations and potential mitigation measures to avoid, minimise and manage impacts associated with Hunter Street OSD.

The following sections detail the methodology and assumptions used for the assessment.

2.2 Existing conditions

This section describes the existing transport conditions at the proposed Hunter Street OSD site. It includes the existing land use context and parking arrangements as well as the current transport environment, including provision of active transport, public transport (suburban rail, light rail and bus) and the current performance of the road network. It also looks at the existing travel patterns for workers in the vicinity of the site using Australian Bureau of Statistics census data.

Performance of the existing road network has been assessed through analysis of existing traffic volumes and patterns on the road network surrounding the Hunter Street OSD site. Traffic surveys were undertaken in March 2021.

Assessment of existing intersection performance in the vicinity of the Hunter Street OSD Site has been undertaken using SIDRA Intersection 9 software. Base year traffic models were developed to replicate existing traffic conditions for a morning and evening peak hour. No weekend (Saturday) SIDRA analysis has been undertaken as part of the assessment as the subject site would attract more traffic volumes during the weekday thereby representing the worst case scenario.

2.3 Parking and access

The proposed provision of car, motorcycle and bicycle parking for the proposed Hunter Street OSD site has been detailed and referenced against the requirements of the City of Sydney Development Control Plan (DCP) 2012. The parking requirements stipulated in the City of Sydney DCP, references the Sydney LEP.

The proposed development is aiming to achieve a Green Star rating from the Green Building Council Australia. The Green Star Buildings Movement and Place Credit assessment tool has been used to calculate the quantities of bicycle parking and end of trip facilities and applied where it is more onerous than the DCP.

The criteria include:

- Minimum expectation
- The building must include showers and changing facilities for building occupants
- These facilities must be accessible, inclusive and located in a safe and protected space
- Credit achievement
- Access for cyclists and the provision of bicycle parking facilities must be prioritised
- A Sustainable Transport Plan must be prepared and implemented
- Transport options that reduce the need for private fossil fuel powered vehicles must be prioritised.

Consultation with the Transport for NSW Freight Division and application of their Last Mile Toolkit forecasting tool has been undertaken to estimate the loading requirements for the proposed subject site.

This tool is a bespoke application developed to provide guidance on the urban freight demands of developments and calculates the efficacy of proposed docking bays. In the context of urban freight, efficacy is a measurement of the effectiveness of the docking arrangement and its ability to meet demand. The tool is a guide based on recent research into demands generated by buildings in Metropolitan Sydney.

The tool uses land use as an input and aims to achieve a service level performance of approximately 95 percent.

Access arrangements to the proposed development for pedestrians, cyclists and vehicles is also presented in section 5.3.

2.4 Transport impact assessment

Integration of the proposed development with the precinct is discussed in section 6, including consideration of safe and efficient integration of the pedestrian network, cycle network, public transport network and surrounding road network. Impacts on access to adjacent properties to the proposed subject site have also been assessed.

The future mode share for the trips generated by the proposed subject site has been estimated based on existing travel patterns in the area and with consideration of the availability of additional modes (e.g. light-rail and metro) and the expectation that private vehicle use will decrease, or at a minimum be constrained by the amount of parking.

The number of vehicle trips in the AM and PM peak have been based on the RMS (now TfNSW) Guide to Traffic Generating Developments.

Public Transport Project Model (PTPM) 2036 future year model runs have been used to assess the potential impacts on the road network for the base case scenario. The traffic growth factor derived from PTPM model outputs was used to extrapolate 2021 traffic survey flows (adjusted to account for Covid-19 impacts) to future year 2036 base case traffic flows. The growth factor applied is 1.35.

To account for the impact of the Covid-19 pandemic and the reduction in traffic levels on the road network during the pandemic, the March and June 2021 observed traffic volumes were increased by an amount equivalent to the average monthly reduction for March and June between 2019 (pre-Covid) and 2021. These reduction percentages were identified from NSW permanent traffic counter sites.

Analysis of traffic flow data from NSW permanent traffic counter sites at Hawkesbury Road (at Westmead), Centenary Drive, Western Distributor and Cahill Expressway indicates that in the AM peak there was an average reduction of three per cent and nine per cent in March and June peak hour flows respectively between 2019 (pre-Covid) and 2021, while in the PM peak there was an average reduction of three per cent and four per cent in March and June peak hour flows respectively between 2019 (pre-Covid) and 2021. The March and June 2021 observed traffic volumes were therefore increased accordingly to account for the reduction of traffic levels during the Covid-19 pandemic in 2021. The adjusted flows were used for purposes of the baseline performance assessment.

2036 future year has been used as Hunter Street Metro Station and the Hunter Street OSD site will be operational, plus this aligns with PTPM and Census data.

SIDRA Intersection 9 has been used to test how the road network and key intersections surrounding the proposed development may operate in the forecast 2036 year. The future year traffic impact assessment considered two scenarios, including:

- 2036 Base Case (Sydney Metro and Sydney LEP compliant development at Hunter Street OSD site
- 2036 Project Case (Sydney Metro and proposed LEP amendments at the Hunter Street OSD site).

Other known developments or credible proposals which may have a cumulative impact on the transport network in the vicinity of the Hunter Street OSD are factored into the Metro patronage forecast, and the pedestrian and traffic growth rates adopted for this assessment.

2.5 Mitigation measures

Recommendations and mitigation measures have been developed to avoid, reduce, and manage the potential transport impacts of the proposed Hunter Street OSD. This is described in section 7.

2.6 Data sources

The data in Table 2-1 was used to inform this transport assessment.

Table 2-1 Data sources

Data	Source
Current transport trends	Australian Bureau of Statistics 2016 Census
2021 AM and PM traffic and pedestrian flows	Traffic and Pedestrian Surveys commissioned by Sydney Metro and undertaken in March 2021
Global Traffic Statistics for Precinct (Link Traversal Volumes, SA2 Volumes, VHT, VKT) – 2017 AM peak hour – 2036 AM peak hour with Sydney Metro West and SSD development	PTPM
Development architectural drawings	Metro East and Metro West envelope drawings and reference design drawings , December 2021, FJMT
Freight and servicing requirements	Freight and Servicing Summary, 1 September 2021, Transport for NSW Urban Freight

2.7 Assumptions

Assessment of traffic and transport modelling scenarios was based on the following assumptions:

- Intersection geometries for intersections were based on available aerial photography and site observations. SIDRA modelling has been carried out for signalised intersections and un-signalised intersections where required.
- Phasing and timings for signalised intersections were based on information from Traffic Control Signal (TCS) plans and Sydney Coordinated Adaptive Traffic System (SCATS) data provided by Transport for NSW
- Intersections were assessed as a network of intersections using SIDRA Intersection 9 analysis software
- The future year base case modelling assumes total pedestrian volumes calculated by applying a growth factor derived from future land use projections to existing pedestrian volumes
- Separate Metro station pedestrian demands and OSD pedestrian demands have not been defined. Metro Station and OSD demands are combined.
- Calibration of existing base year models was completed based on available aerial photography, site observations and SCATS data. Queue length survey data, as well as on-site observations were used to validate the performance of the base models
- Traffic movements for the 2036 future year base case scenario were informed by outputs from PTPM traffic model runs.

- The PTPM growth rate is assumed to include the traffic generated by the Sydney LEP compliant development at the subject site.
- It is assumed that nearby developments under construction, or credible proposals, are already factored into the PTPM growth rates so cumulative traffic impacts are accounted for.
- The traffic generation for the proposed Hunter Street OSD site was calculated using the RMS (now TfNSW) Guide to Traffic Generating Development and agreed first principles:
    - Retail trips are assumed to occur outside of the peak periods.
    - Access/egress splits were assumed to be: In the AM peak: 80 percent in, 20 percent out (commercial).

In the absence of appropriate mode share splits, ABS 2016 Journey to Work data was used to estimate 2036 mode share choice for commercial (DZN) trips. As this data did not include Metro or light rail, modifications have been made based on previous SSDA examples including Pitt Street north site SSDA, Martin Place south tower, and Victoria Cross OSD. The estimated future mode share for inbound trips are listed in in Table 2-2

Table 2-2 Future mode share splits

Mode	Inbound %
Train	40%
Metro	32%
Bus	11%
Ferry	4%
Light rail	5%
Total public transport	**90%**
Taxi	0%
Car, as driver	1%
Car, as passenger	0%
Bicycle	2%
Walked only	5%
Total	**100%**

Person trip generations at the Hunter Street OSD site were calculated using the assumptions listed in Table 2-3.

Table 2-3 Total building generation assumptions

Land use	Assumption
Commercial	Employee to Space Ratio of 0.1 (i.e.1 person per 10m^2 of NLA)
	GFA to NLA efficiency: 85%
	Attendance: 85%
	Proportion of trips occurring in the AM peak hour: 50%
	Final rate: 0.036
Retail	Retail areas are small and would not attract any dedicated trips

- AM to PM conversion factor for pedestrian trip generation is assumed to be 0.94 which is consistent with the pedestrian modelling undertaken for the Sydney Metro West stations.
- The pedestrian distribution is based on the Travel Zone Projections 2019 (TZP19) for 2036, the NSW Government's publicly available land use forecasts. Each travel zone within 800m of the proposed development (approximated by the Metro Station Entrances) has been assigned to footpaths approaching the proposal, considering crossing opportunities, severance, and amenity. TZP19 is based on best available data available as at late 2019 and does not consider impacts from the Covid-19 pandemic. This distribution is an estimation and is provided as a guide only.
- The TfNSW Freight Toolkit was used to assist in defining required loading dock space provisions/capacities. There is scope for Metro station allocated dock spaces to be shared with OSD. This will be defined and agreed as part of the development approval.

2.8 Assessment criteria

Traffic performance has been assessed at an intersection level using SIDRA Intersection 9 analysis software. In line with Transport for NSW guidance (Guide to Traffic Generating Developments, October 2002), vehicle delay was used to categorise performance into level of service (LOS) categories ranging from A (good) to F (unsatisfactory). Table 2-4 shows the criteria that SIDRA Intersection adopts in assessing the LOS.

Table 2-4 SIDRA intersection level of service criteria

Level of Service	Average Delay per Vehicle (sec/veh)	Traffic Signals, Roundabout	Give Way & Stop Signs
A	<14	Good operation	Good operation
B	15 to 28	Good with acceptable delays & spare capacity	Acceptable delays & spare capacity
C	29 to 42	Satisfactory	Satisfactory, but accident study required
D	43 to 56	Operating near capacity	Near capacity & accident study required
E	57 to 70	At capacity; at signals, incidents will cause excessive delays. Roundabouts require other control mode	At capacity, requires other control mode
F	>70	Unsatisfactory with excessive queuing	Unsatisfactory with excessive queuing

Source: Roads and Traffic Authority (2002) Guide to Traffic Generating Developments

3 Existing conditions

This section described the existing (Year 2021) transport conditions.

3.1 Road network

The proposed west site location precinct is bounded by the following roads:

- Hunter Street to the north
- George Street to the west.

The proposed east site location precinct is bounded by the following roads:

- O'Connell Street to the north-west
- Bligh Street to the south-east
- Hunter Street to the south.

Hunter Street is currently a four-lane, two-way undivided local road with a posted speed limit of 40km/h. Parking and loading zones are provided on both kerbside lanes, reducing capacity to a two-lane, two-way road during weekday business hours. Although classified as a local road under the City of Sydney road network hierarchy, Hunter Street supports high volumes of through traffic between George Street and Pitt Street. The configuration and movements on Hunter Street have changed over recent years with the development of the light rail.

George Street is a north-south road with a posted speed limit of 40km/h. North of the intersection of Hunter Street, it is a two-way, two-lane road with light rail infrastructure and services running through the centre of the roadway, dividing opposing directions of general traffic travel. South of this intersection, George Street is a shared road environment for pedestrians and light rail services. General traffic is not permitted to travel on this section of the road.

O'Connell Street is a four-lane, one-way undivided local road with a posted speed limit of 40km/h. A bus layover facility, coach drop-off zone (for surrounding hotels), parking zone and loading zone occupy kerbside space on both kerbside lanes, reducing capacity to a two-lane, one-way road during weekday business hours. O'Connell Street is used by several public transport bus services and through traffic from the M1.

Bligh Street is a one-lane, one-way undivided local road with a posted speed limit of 40km/h. Parking and loading zones are provided on both shoulders, though the wide cross section of the roadway does not impact general traffic flow. Bligh Street is used by several public transport bus services and as a layover for terminating bus routes.

Table 3-1 provides AM and PM peak hour link volumes for roads forming the precinct's surrounding road network based on traffic counts conducted in March 2021. Survey data indicates that the peak hour periods on the road network are between 8:00-9:00am and 5:00-6:00pm.

Table 3-1 Existing peak hour traffic volumes by direction – Hunter Street (2021)

Road	Location	AM peak volume (vehicles per hour)		PM peak volume (vehicles per hour)	
		Light	Heavy[1]	Light	Heavy[1]
Hunter Street	Westbound	480	9	408	4
	Eastbound	244	15	277	21
Bond Street	Westbound	188	11	73	21
	Eastbound	9	5	48	0
Spring Street	Westbound	289	9	259	16
	Eastbound	30	9	121	11
O'Connell Street	Northbound	0	0	0	0
	Southbound	152	9	124	37
Pitt Street	Northbound	0	0	1	0
	Southbound	217	19	304	21

Source: TfNSW Traffic surveys, March 2021

[1]Buses are included as heavy vehicles in the table

[2]Northbound vehicle movements on O'Connell Street and Pitt Street are prohibited through the one-way alignment of the roadway.

Existing network performance for the AM and PM peak hours for key intersections in the vicinity of the proposed metro station is provided in Table 3-2Table . Note that observed traffic volumes for baseline intersection performance assessment have been adjusted to account for the impacts of the Covid-19 pandemic.

Table 3-2 Existing intersection performance – Hunter Street (2021)

Intersection	AM peak		PM peak	
	Average delay (sec)	LOS	Average delay (sec)	LOS
George Street and Hunter Street	24	C	23	C
Pitt Street, O'Connell Street and Hunter Street	55	D	34	C
Bligh Street and Hunter Street	39	D	30	C

Existing intersection performance indicates that most intersections perform at LOS E or better during the AM and PM peak hours, suggesting higher density traffic flow that

may restrict speed and freedom to manoeuvre, although flow is likely to remain stable.

Vehicle volumes in peak periods are generally not causing notable delays or impacting driver's ability to make mid-block lane changes on surrounding roads and intersections. Drivers on Hunter Street between Pitt Street and Bligh Street may experience unstable and irregular flows that cause delays in the AM peak.

3.2 Parking arrangements

Existing parking arrangements around the Hunter Street OSD site are primarily on-street, with off-street parking within walking distance to the north of both sites. Figure 3-1 shows existing parking arrangements, which are also described below.

3.2.1 On-street parking

On-street parking arrangements around the proposed Hunter Street OSD sites are presented in Figure 3-1 and are as follows:

- On-street parking on Hunter Street are primarily allocated as loading zones to service commercial and retail businesses. General traffic parking is restricted during weekday daylight hours and Saturday mornings
- On-street parking on the northern shoulder of O'Connell Street is restricted daily between 7am-7pm, with parking permitted for a maximum of 5 minutes at all other times. Parking on the southern shoulder is allocated as loading zone only during weekday daylight hours and on Saturday mornings, with this changing to 4-hour restricted parking at all other times
- On-street parking is only permitted on the eastern shoulder of Pitt Street, with 2-hour limited accessible parking near the intersection of Hunter Street. Parking to the south is allocated as loading zone during weekday daylight hours and Saturday mornings, with this changing to a taxi zone at all other times
- Parking is provided for motorcycles only on the southern shoulder of Curtin Place

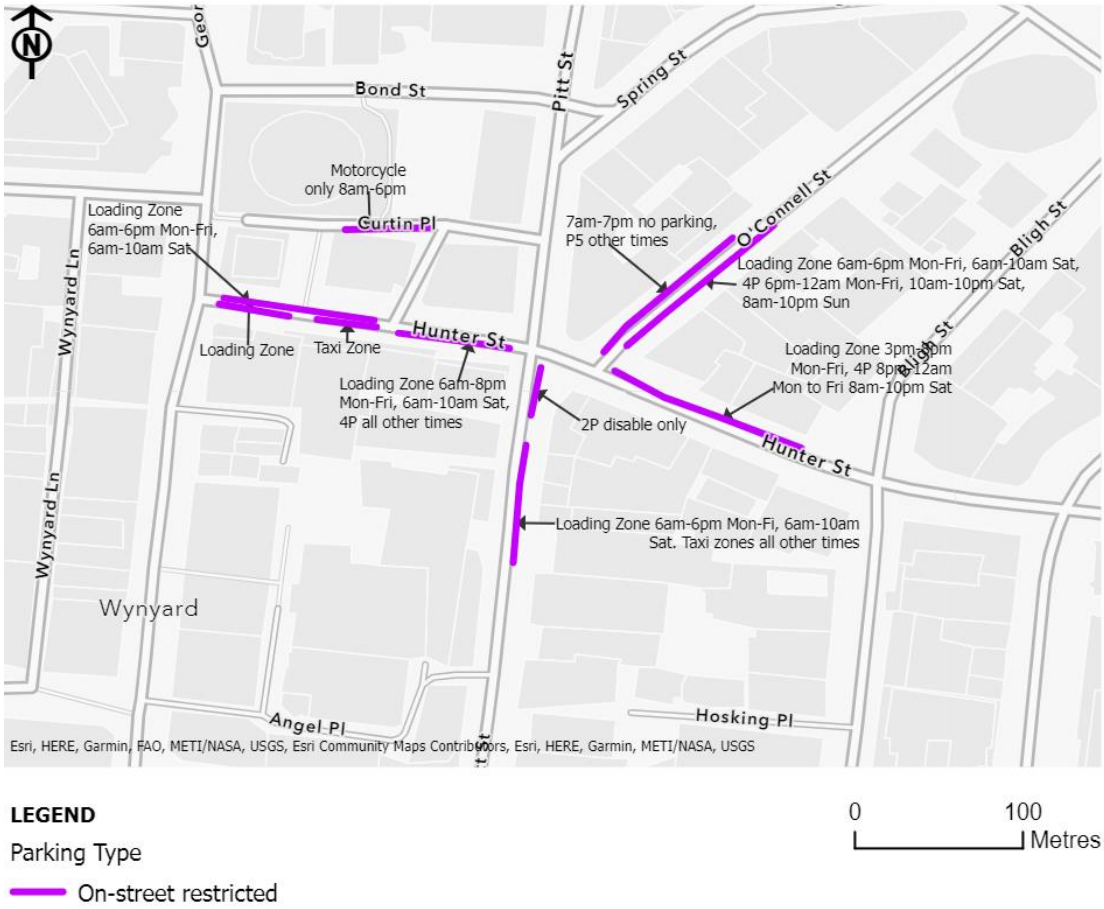

Figure 3-1 Existing parking arrangements – Hunter Street precinct

3.2.2 Proposed permanent changes to transport infrastructure under preceding Sydney Metro West planning applications

There are no proposed permanent changes to transport infrastructure under preceding Sydney Metro West planning applications.

3.2.3 Off-street parking

The plots occupied by the east site currently have 41 parking spaces distributed as follows:

- 48 Hunter Street: 6 parking spaces
- 28 O'Connell Street: 35 parking spaces

An additional 45 parking spaces existed in the buildings at 33 Bligh Street before it was demolished in late 2015.

In total, there were 86 parking spaces on the plots allocated to the east site.

There are no parking spaces on the sites occupied by the west site.

3.3 Public transport services

3.3.1 Bus services

Existing bus stands on Carrington Street and York Street outside Wynyard Station form the largest and nearest bus interchange near the proposed station location, servicing bus routes to and from Gore Hill, Chatswood, Mascot, Walsh Bay and Mona Vale. Bus stops are also located around the proposed site on Castlereagh Street and Elizabeth Street, servicing routes to and from North Bondi, Little Bay, Coogee, South Maroubra and Kingsford. Bus stops in the wider precinct area can be found in Figure 3-2.

As a major transport hub, the bus stands at Wynyard Station are serviced by 74 bus routes. A number of these services include school routes and express peak hour services or operate outside of peak hour periods, such as night only services. High frequency routes that service the Wynyard Station bus interchange during weekday AM and PM peaks are listed in Table 3-3.

Table 3-3 Existing bus services – Hunter Street (2021)

Route	Description	Frequency (number of bus services)	
		Weekday AM 7:00 am – 9:00am	Weekday PM 4:00pm – 6:00pm
Wynyard Station			
B-Line	City Wynyard to Mona Vale	15	18
	Mona Vale to City Wynyard	18	14
100	Taronga Zoo to City QVB (Loop Service)	16	25
120	Chatswood to City QVB (Loop Service)	24	14
246	City Wynyard to Balmoral Heights	-	16
	Balmoral Heights to City Wynyard	21	-
251	City Wynyard to Lane Cove West via Freeway	-	8
	Lane Cove West to City Wynyard via Freeway	12	-
288	City Erskine St to Epping	6	12
	Epping to City Erskine St	5	5
292	City Erskine St to Marsfield via Macquarie Park	4	12

Route	Description	Frequency (number of bus services)	
		Weekday AM 7:00 am – 9:00am	Weekday PM 4:00pm – 6:00pm
	Marsfield to City Erskine St via Macquarie Park	14	3
320	Gore Hill to Mascot	12	14
	Mascot to Gore Hill	14	11
324	City Walsh Bay to Watsons Bay via Old South Head Rd	5	7
	Watsons Bay to City Walsh Bay via Old South Head Rd	5	3

3.3.2 Light rail services

Light rail services operate on George Street. Two stops provide access within interchanging distance, to the north at the intersection at Bridge Street and south of the proposed station at Wynyard. Both stops are within 150 metres of the proposed station access points and can be seen in Figure 3-2. Light rail services to Wynyard Station are listed below in Table 3-4.

Table 3-4 Light rail services – Wynyard Light Rail Station

Line	Direction	Weekday AM 7:00 am – 9:00am	Weekday PM 4:00pm – 6:00pm
L2	Circular Quay to Randwick	14	15
	Randwick to Circular Quay	14	15
L3	Circular Quay to Kingsford	15	15
	Kingsford to Circular Quay	14	15

3.3.3 Rail services

Wynyard Station is located 120 metres west of the proposed metro station, as shown in Figure 3-2 and is served by services listed in Table 3-5. The station is DDA compliant from the York Street entrance, with lifts providing platform access. There are no cycle racks or facilities for cyclists to securely store cycles.

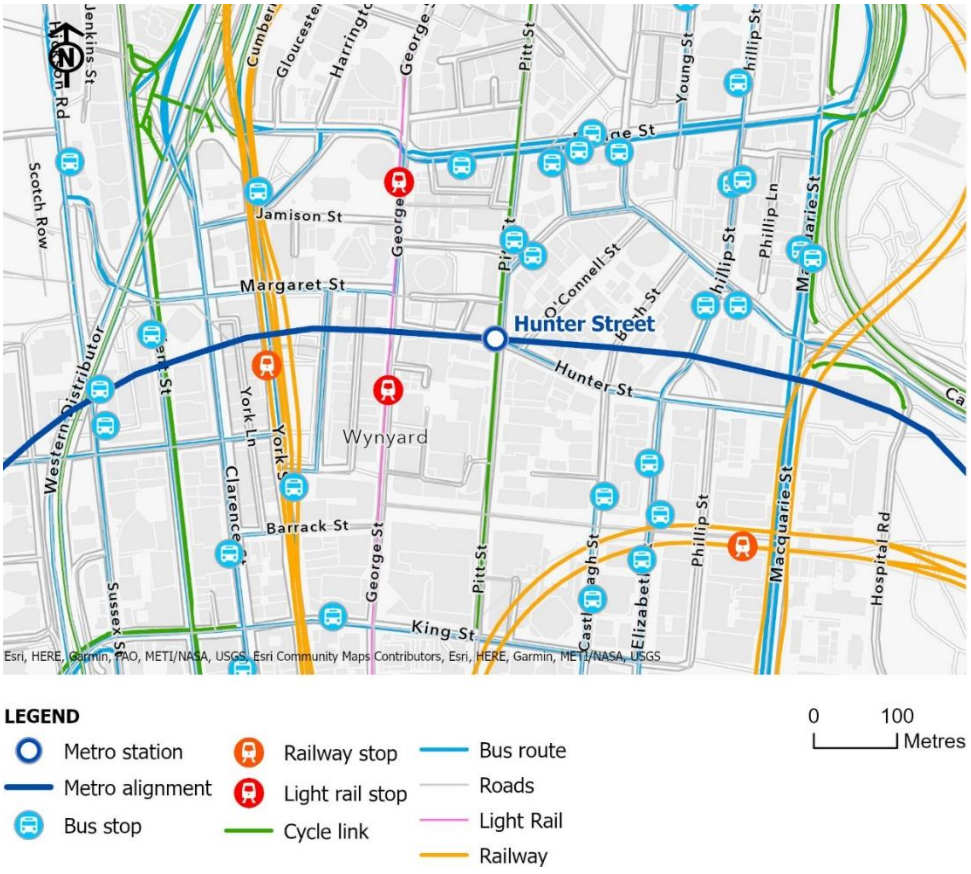

Figure 3-2 Existing public transport network with proposed Hunter Street Metro Station and alignment - Hunter Street

Table 3-5 Existing Sydney Trains suburban rail network services and frequency – Wynyard Station

Line	Direction	Weekday AM 7:00 am – 9:00am	Weekday PM 4:00pm – 6:00pm
T1	Berowra to City via Gordon	34	23
	City to Berowra via Gordon	37	33
	Emu Plains or Richmond to City	36	32
	City to Emu Plains or Richmond	33	37
T2	Parramatta or Leppington to City	33	23
	City to Parramatta or Leppington	4	4
T3	Liverpool or Lidcombe to City via Bankstown	12	12
	City to Liverpool or Lidcombe via Bankstown	12	12
T8	Macarthur to City via Airport or Sydenham	24	24
	City to Macarthur via Airport or Sydenham	17	25
T9	Hornsby to North Shore via City	9	9

Line	Direction	Weekday AM 7:00 am – 9:00am	Weekday PM 4:00pm – 6:00pm
	North Shore to Hornsby via City	9	8

3.4 Active transport network

3.4.1 Walking

Pedestrian connectivity around the station precinct is satisfactory, with footpaths on both sides of all roads. Accessibility on Hunter Street is however constrained by high pedestrian volumes on the footpath, restricting flow and causing crowding, particularly around the intersection of Pitt Street.

Several roads in the surrounding area are pedestrianised, including George Street (south of Hunter Street), Martin Place, Angel Place, Ash Street and De Mestre Place. High levels of pedestrian activity are generated in north-south and east-west directions on Hunter Street, Bligh Street, Pitt Street and George Street by a range of commercial and retail businesses.

Pedestrian movements within the pedestrianised area of George Street are not uniform and have been observed to be omnidirectional. When the station is operational it is expected that these routes will remain heavily utilised for destination and through traffic trips by pedestrians.

Pedestrian counts were collected in March 2021 at footpaths and signalised intersections within the vicinity of the proposed station precinct and are summarised in Figure 3-3 and Figure 3-4 and for AM and PM peak hours respectively. The pedestrian counts have been factored having regard to Covid impacts.

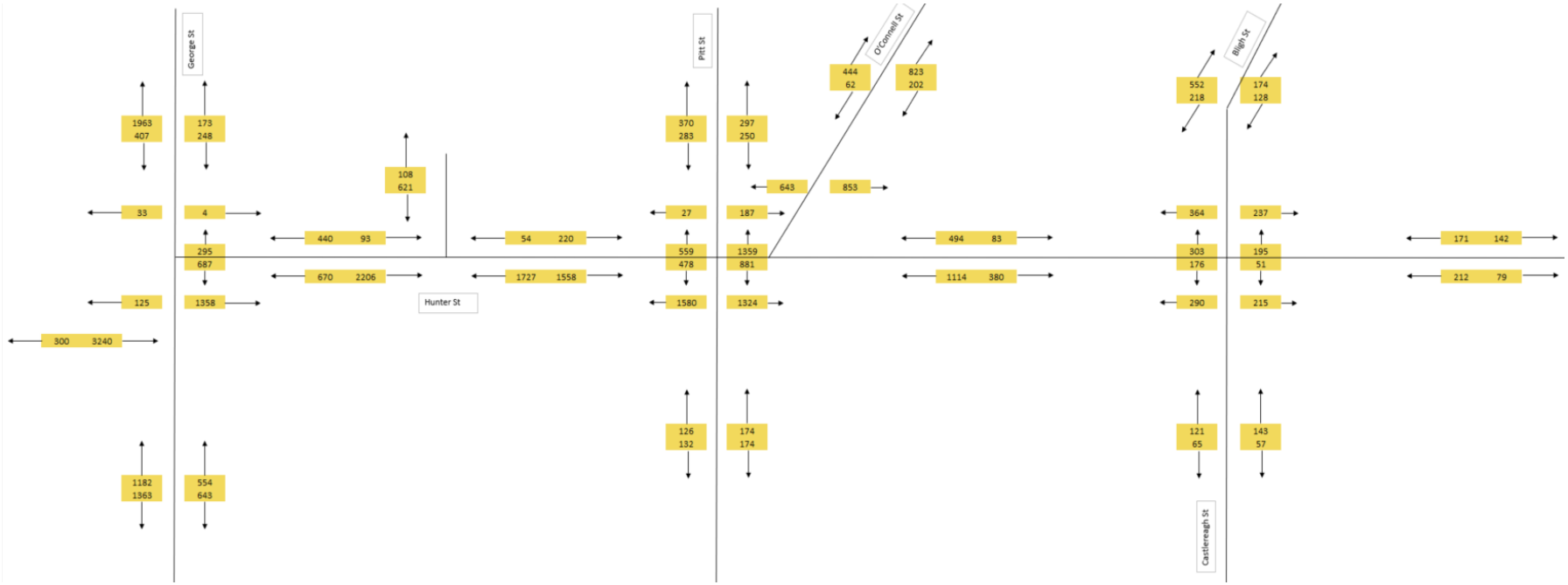

Figure 3-3 Existing AM peak hour pedestrian counts – Hunter Street (March 2021)

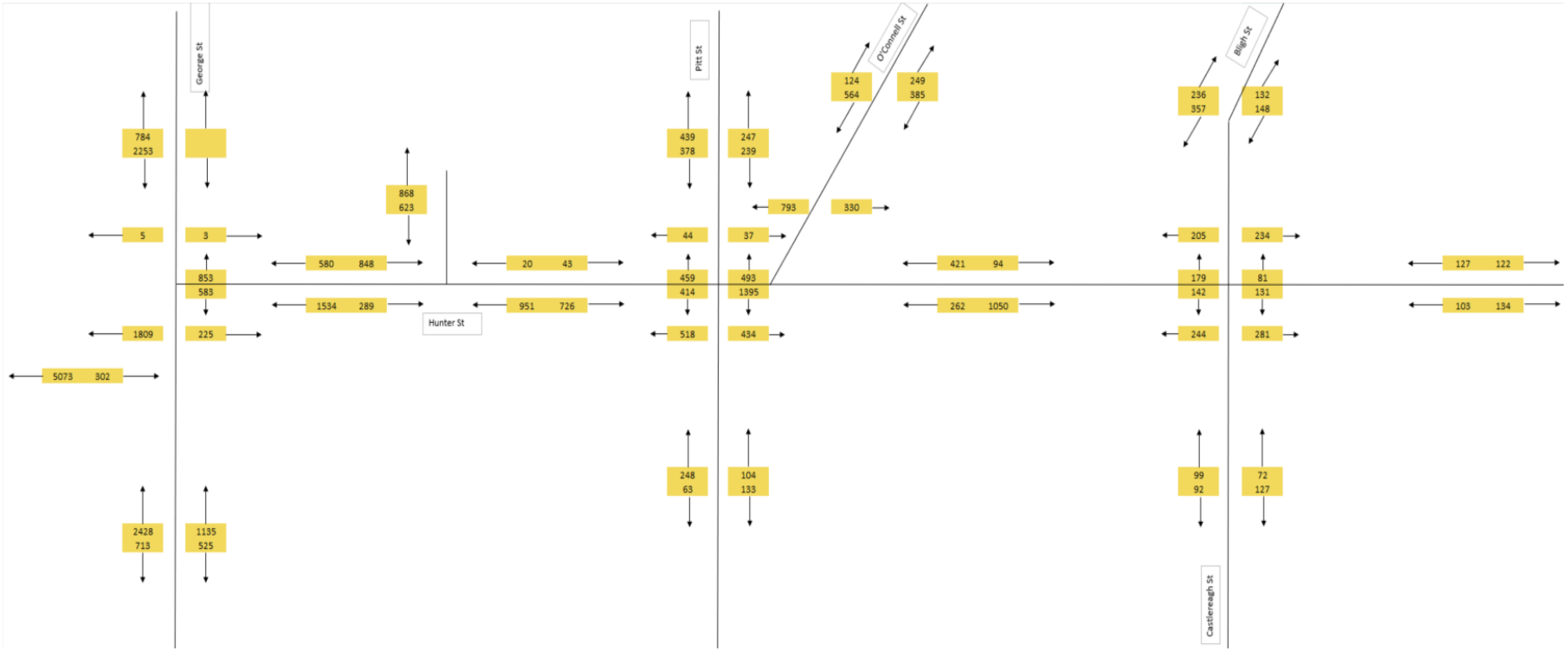

Figure 3-4 Existing PM peak hour pedestrian counts – Hunter Street (March 2021)

3.4.2 Cycling

Cycling infrastructure surrounding the station precinct is sparse, as road space within the Sydney CBD is primarily orientated around the movement of pedestrians on footpaths and vehicles on the roadway. This means that cyclists are required to share road space with vehicles, or non-compliant movement on footpaths with pedestrians.

As can be seen in Figure 3-5, the Pitt Street cycleway is the main cycle route and the only existing dedicated separated cycle infrastructure that may be used by cyclists to access the proposed station location. Currently, the north-south alignment of this route provides the main cycle connection to and from the station precinct to the wider cycle network on King Street.

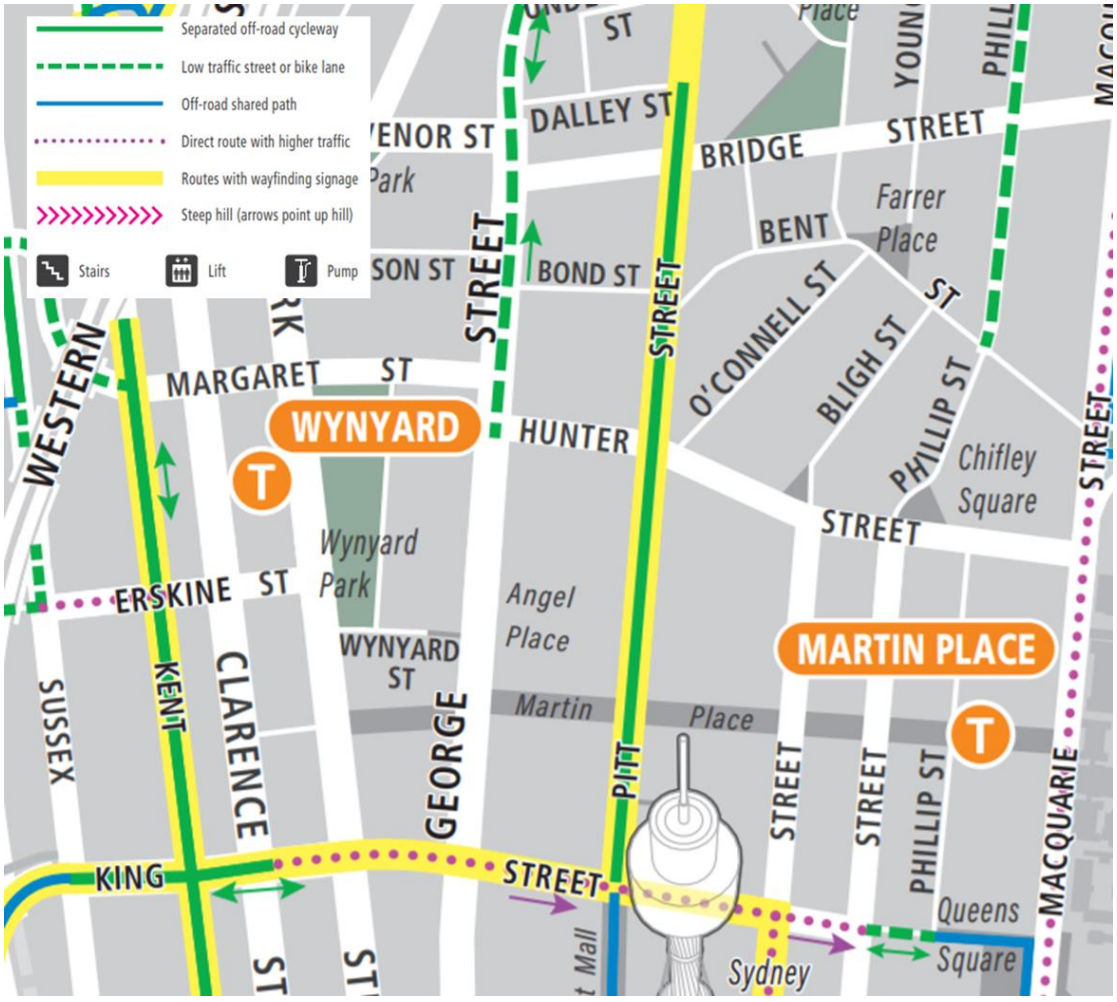

Figure 3-5: City of Sydney - cycling map

3.5 Current transport trends

Journey to Work (2016) census data has been analysed to establish primary modes of travel for inbound and outbound workers for travel zones within 800 metres of the proposed site. The current mode share is presented in Figure 3-6.

Walking is the primary form of access and egress for workers to and from the study area. Inbound workers are more likely to use active or public transport modes to

complete their trip, whereas outbound workers are more likely to transfer to a car (as driver or passenger) or another train service.

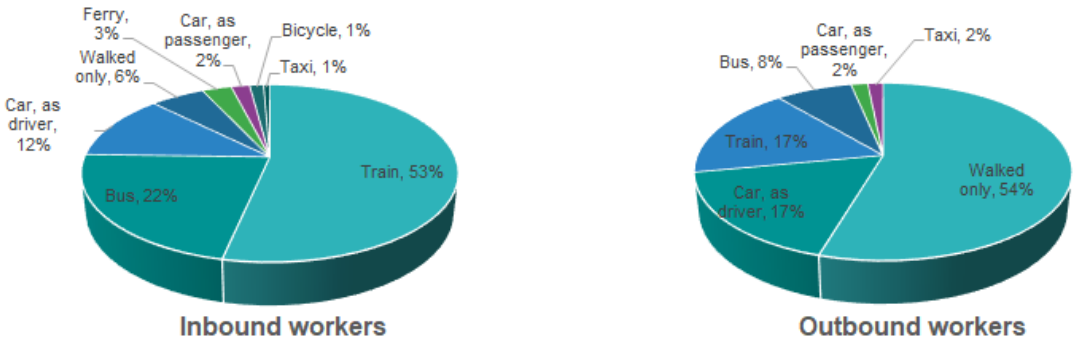

Figure 3-6 Existing mode share – Hunter Street

The Journey to Work (2016) census data has also been interrogated to extract the top five origins and destinations for inbound and outbound trips associated with an 800m station catchment, which are summarised in Table 3-6.

Table 3-6 Top five origins and destinations for inbound and outbound trips

Inbound	Outbound
13% - Sydney Inner City	72% - Sydney Inner City
7% - Eastern Suburbs – North	5% - North Sydney – Mosman
6% - North Sydney - Mosman	3% - Ryde – Hunters Hill
5% - Chatswood-Lane Cove	3% - Eastern Suburbs – North
5% - Eastern Suburbs - South	2% - Chatswood – Lane Cove

4 Base case assessment

4.1 Introduction

This section describes the base case Hunter Street OSD site, including the future proposed Sydney Metro Station subject to SSI and compliance with Part 4 and 6 of the Sydney LEP.

4.1.1 Sydney Metro

The proposed Hunter Street Station is located in the centre of Sydney's CBD, east of the renewed entrance at Wynyard Station and west of Martin Place Station currently under construction as part of Sydney Metro City & Southwest.

Two station entries are proposed, a west and east site. The west site is bounded by George Street to the west and Hunter Street to the north. The east site is bounded by O'Connell Street to the north-west, Hunter Street to the south and Bligh Street to the east.

Entrances to the metro station include:

- The main western entry onto George Street with additional surface access through to Hunter Street and Pitt Street (through connections to existing pedestrian links). The station would also connect to an existing unpaid underground connection, under George Street, through to Wynyard Station
- The main eastern entry onto O'Connell Street, with a through site connection to Bligh Street. A paid underground connection is also proposed, under Hunter Street, to the City & Southwest Martin Place metro station.

4.1.2 Development compliant with existing Sydney LEP controls

Part 4.4 (Floor space ratio) of the LEP permitted the proposed floor space ratio (FSR) of 12.83:1 (46,971m2 GFA) for the east site and 12.83:1 (44,700m2 GFA) for the west site, as shown in Figure 4-1.

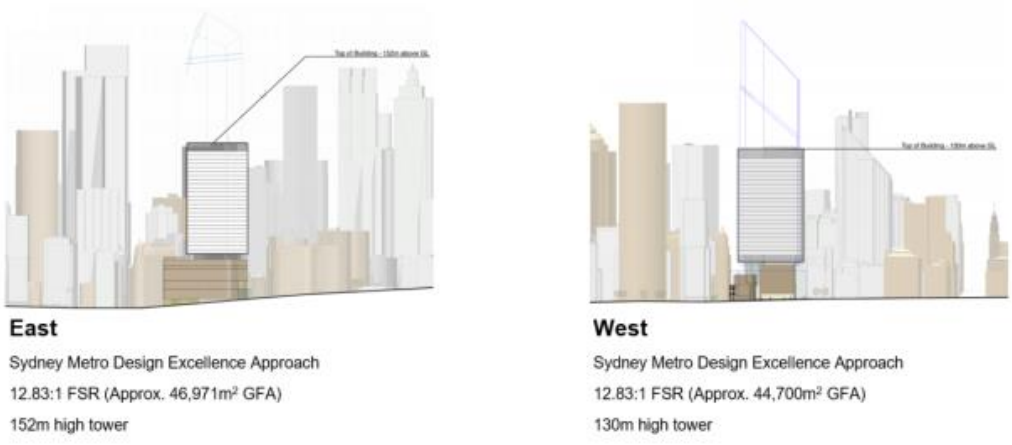

Figure 4-1 Hunter Street compliant with existing City of LEP controls

4.2 Person trip generation

The person trip generation for the Sydney LEP compliant Hunter Street OSD site has been estimated using a first principles approach. These assumptions are detailed in Section 2.7 and result in a trip rate of 0.036 persons per square metre of GFA.

The application of this rate to the proposed commercial GFA component at each site results in the person trips shown in Table 4-1. 80 percent of the AM peak trips are assumed to be inbound while the remaining 20 percent are outbound trips.

Table 4-1: Total person trips generated by the Sydney LEP Compliant Hunter Street OSD site during the AM peak hour

Building	LEP Compliant Commercial GFA	Rate per sqm of Commercial GFA	Person Trips - AM Peak Hour		
			Total	Inbound	Outbound
East Tower	46,971	0.036	**1,697**	1,357	339
West tower	44,700	0.036	**1,615**	1,292	323

Trips generated by the retail areas are not calculated as these areas will be food and beverage outlets and other supporting retail uses (such as convenience stores) and any trips to these areas will be linked trips from persons already in the area.

4.3 Integration with pedestrian network

Walking is anticipated to be the primary mode of both access and egress for the Hunter Street OSD site. For this reason, integrating legible access points to and from the building is a key consideration.

The pedestrian network surrounding the subject site is extensive, providing walking connectivity to interchangeable transport modes and high-quality footpath connections to local destinations in all directions.

Footpath density assessments have been carried out using the Fruin Outdoor Walkway density criteria, for the year 2036 and results are presented in Figure 4-2 and Figure 4-3.

Due to current constraints, there is limited scope for significantly changing signal timings or increasing the footpath widths to improve walking experience in the CBD. Any improvements to the surrounding pedestrian network would be investigated in consultation with key stakeholders such as City of Sydney and Transport for NSW.

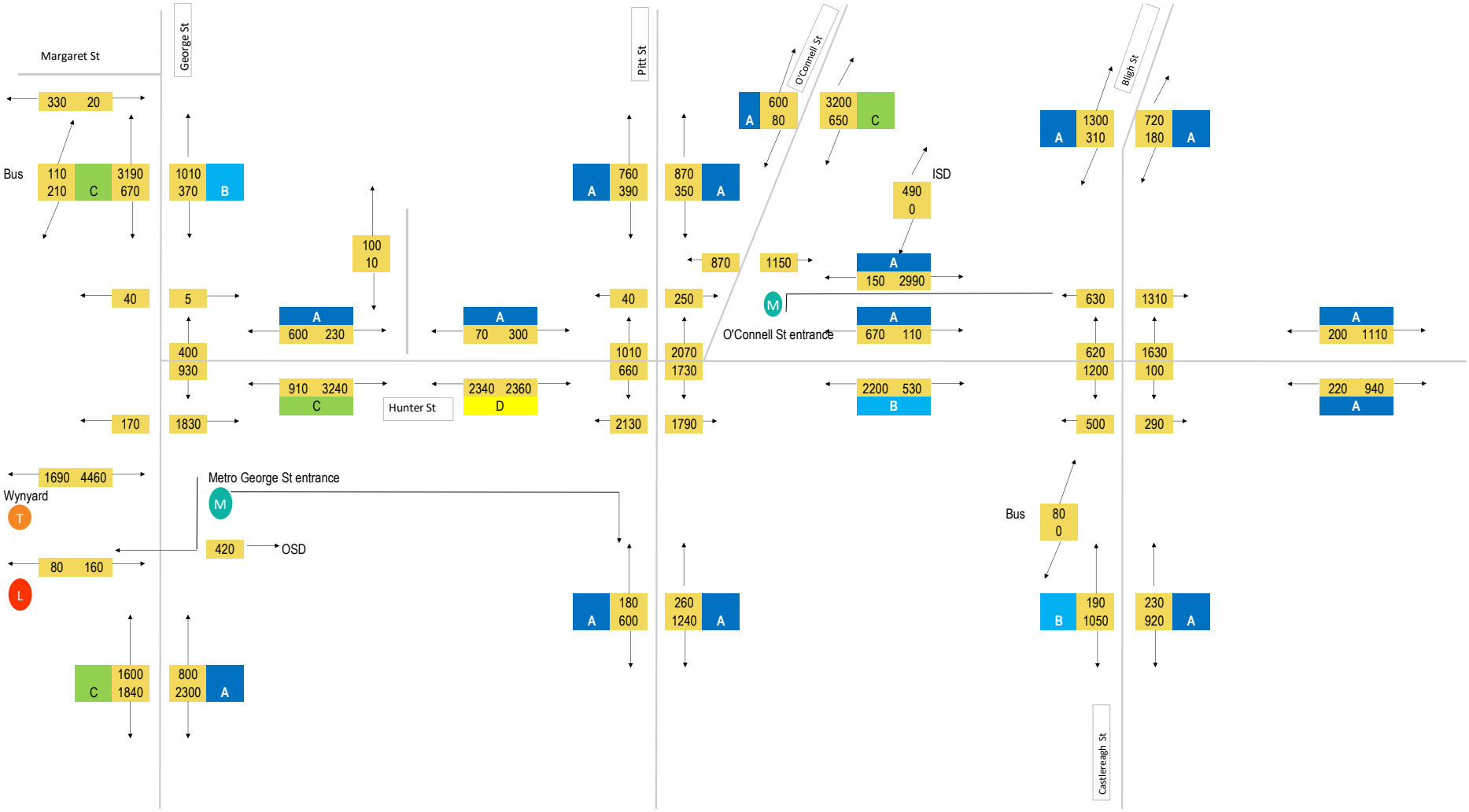

Figure 4-2: Base case future year precinct pedestrian modelling results - AM

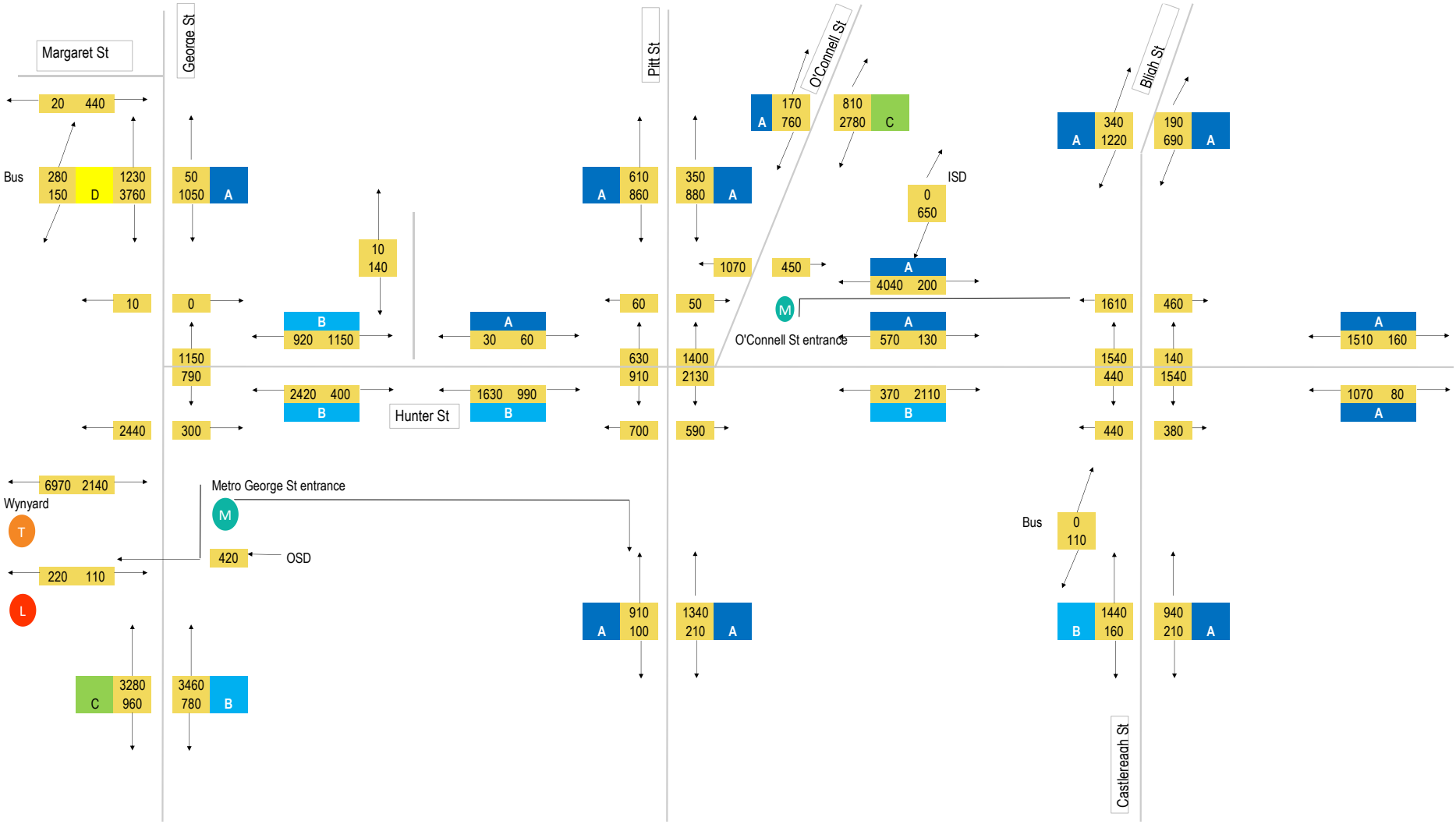

Figure 4-3: Base case future year precinct pedestrian modelling results - PM

4.4 Integration with cycle network

Connectivity to the Hunter Street OSD sites via the cycle network is adequate, with the Pitt Street cycle link providing a north-south cycle link through the middle of the precinct. Under current cycle infrastructure arrangements, cyclists from the Pitt Street Cycleway would have to travel in mixed traffic along Hunter Street to access the east site via an entrance on O'Connell Street. This cycle link has turning facilities at its signalised intersection with Hunter Street for cyclists travelling southbound, which would facilitate access to the east site via an entrance on O'Connell Street. The pedestrian boulevard on George Street can also be used be used by cyclists to access the west site.

Existing cycling routes in the Sydney CBD are off-road, bi-directional cycleways to segregate cyclists from pedestrians on footpaths and vehicles in the roadway. Since road space is constrained and kerbside space is highly contested in the CBD, opportunities to implement dedicated cycle infrastructure would require road space reallocation and further consultation with stakeholders.

Cycle parking facilities would be provided within both east and west Hunter Street OSD sites to meet expected demands.

4.5 Integration with public transport network

Positioning of the Hunter Street OSD sites within the Sydney CBD provides the development with ample access to multiple public transport modes. It is positioned above the future Hunter Street Station, adjacent to the future Martin Place station and is within walking distance to other heavy rail stations, light rail and bus transport options.

An unpaid underground connection from the west site provides access to the Wynyard bus stands and train station, with a planned future paid underground connection from the east site to facilitate access to Martin Place station.

No changes are proposed to other public transport infrastructure or services within the local area as part of the Hunter Street OSD site development.

4.6 Traffic generation

The RMS (now TfNSW) Guide to Traffic Generating Developments provides vehicle trip generation rates for commercial (office block) uses and assumes GFA as the basis for the number of trips generated. As the Hunter Street OSD sites share geographical similarities with the North Sydney office building referenced in Appendix D2 of the guide, trip generation estimates for this location have been used as estimates.

The number of vehicle trips generated by the Hunter Street OSD site for the Sydney LEP compliant scenario is shown in Table 4-2.

Table 4-2 Estimated peak hour vehicle trips for Sydney LEP compliant Hunter Street OSD

Site	LEP Compliant Commercial GFA	Total Trips (AM)		Total Trips (PM)	
		Rate	Trips	Rate	Trips
West	44,700 sqm GFA	0.17 per 100m^2 GFA[1]	76	0.14 per 100m^2 GFA[1]	63
East	46,971 sqm GFA)		80		66

[1]*North Sydney office block trip rate used*

4.7 Integration with road network

No changes are proposed to the current road network or intersections, both within the station precinct and in the surrounding area. Driveway entrances are proposed at both sites, with minimal additional general traffic expected to be generated primarily by low volumes of Sydney Metro maintenance, building service vehicles and commercial car parking.

4.8 2036 future year road network performance

Network performance was modelled for the future year 2036. Observed traffic counts were adjusted to account for Covid-19 impacts (section 2.4) and growth factors applied to expand adjusted 2021 traffic flows to 2036 (with and without the proposal), which were calculated using outputs extracted from the PTPM strategic transport model. Signal phasings were adopted from SCATS data.

Modelled network performance for 2036 during the AM and PM peak hours for key intersections in the vicinity of the subject site and metro station is shown in Table 4-3.

Table 4-3 2036 intersection performance – base case

Intersection	AM Peak				PM Peak			
	Without project		With project		Without project		With project	
	Average delay (s)	LOS	Average delay (s)	LOS	Average delay (s)	LOS	Average delay (s)	LOS
George Street and Hunter Street	35	D	33	C	37	D	40	D
Pitt Street, O'Connell Street and Hunter Street	131	F	125	F	50	D	58	E
Bligh Street and Hunter Street	54	D	57	E	90	F	82	F

Future base case intersection performance in the AM peak is anticipated to be similar with or without the inclusion of the Hunter Street OSD site.

Intersection performance in the PM peak shows increased delays at Pitt Street, O'Connell Street and Hunter Street, with decreased delays at the intersection of George and Hunter Street. Vehicle flows here are anticipated to be unstable, causing flows to become irregular.

4.9 Parking impacts

There would be no impacts to on-street parking.

4.10 Property access impacts

There would be no impacts to property access.

4.11 Summary of proposed transport infrastructure

Due to current constraints, there is limited scope for significantly changing signal timings or increasing the footpath widths to improve walking experience in the CBD. Any improvements to the surrounding pedestrian network would be investigated in consultation with key stakeholders such as City of Sydney and Transport for NSW.

The construction of the new Metro station may trigger the need for potential footpath upgrades. The scope of these has yet to be defined and will be developed in consultation with Council and other key stakeholders. Any assessments undertaken for the SSI planning approval, included the impacts of the cumulative OSD in the vicinity, includes these two Hunter Street sites.

Any assessments undertaken for the SSI planning approval, included the impacts of cumulative developments including the Sydney LEP approved OSD.

5 Planning proposal

5.1 The proposal

The Hunter Street Planning Proposal seeks to amend the maximum building height and maximum floor space ratio beyond that permitted for both the east and west sites under the Sydney Local Environmental Plan 2012 (Sydney LEP 2012).

5.2 Land use and quantities

The proposed concept for the Hunter Street Over Station Development is summarised in Table 5-1.

Table 5-1 Proposed Hunter Street Planning Proposal development land use and quantities

Land Use		Existing C SLEP 2012 Controls		Proposed additional development under LEP amendments		Total	
		East Site	West Site	East Site	West Site	East Site	West Site
Commercial and retail	sqm GFA	46,971	44,700	37,316	25,212	84,287	69,912

This proposal would optimise the outcomes for the sites and align with the City of Sydney's vision. The proposal would increase the above ground FSR from 12.83:1 to 22.82:1 at the East site, and from 12.83:1 to 18.71:1 for the West site.

5.3 Proposed access and parking

The architectural drawings referenced within this section are indicative only to demonstrate that the sites are capable of achieving an acceptable built form outcome within the Planning Proposal controls.

5.3.1 Pedestrian access

Pedestrian access to each of the sites is illustrated in Figure 5-1 and Figure 5-2 and is described below:

- The East site commercial lobby can be assessed from Bligh Street and O'Connell Street. There is also a pedestrian through site link between Bligh Street and O'Connell Street. Retail is assessed from Hunter Street and the through site link
- The West site commercial lobby can be assessed from George Street and from the Metro entry. There are also pedestrian through site links from Hunter Street and George Street, and potential future site links to Pitt Street and Ash Street. Retail is assessed from George Street, Hunter Street and through the site link improving pedestrian access and permeability.

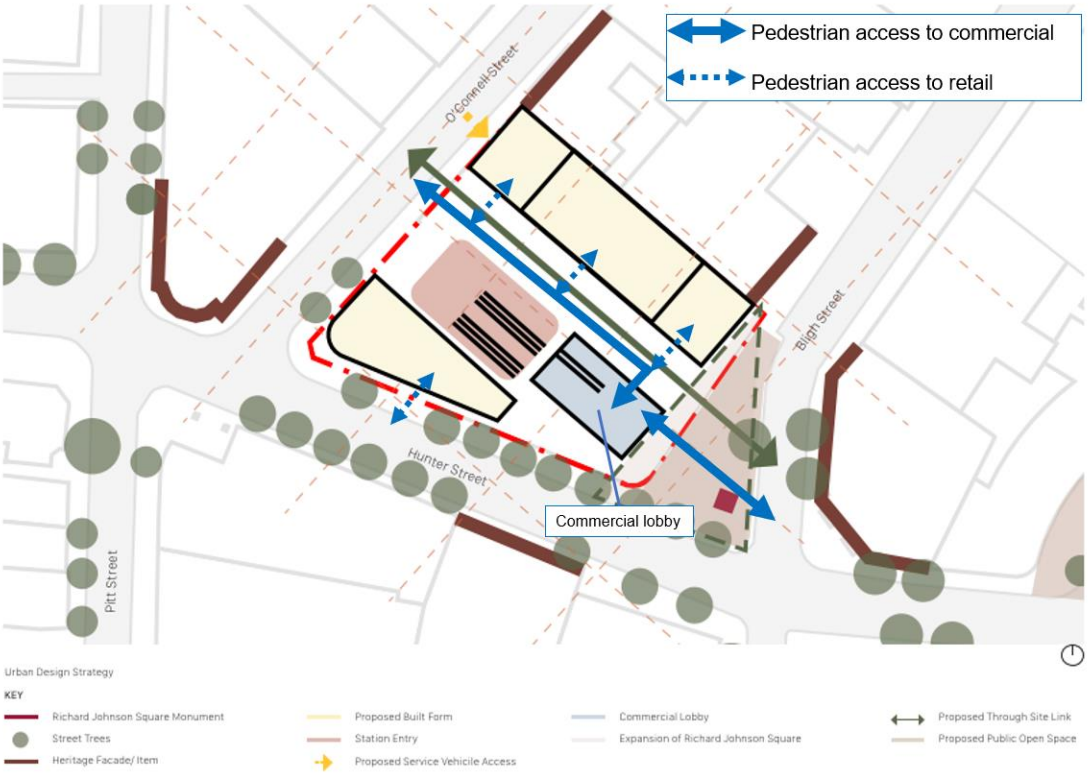

Figure 5-1 East site pedestrian though site link

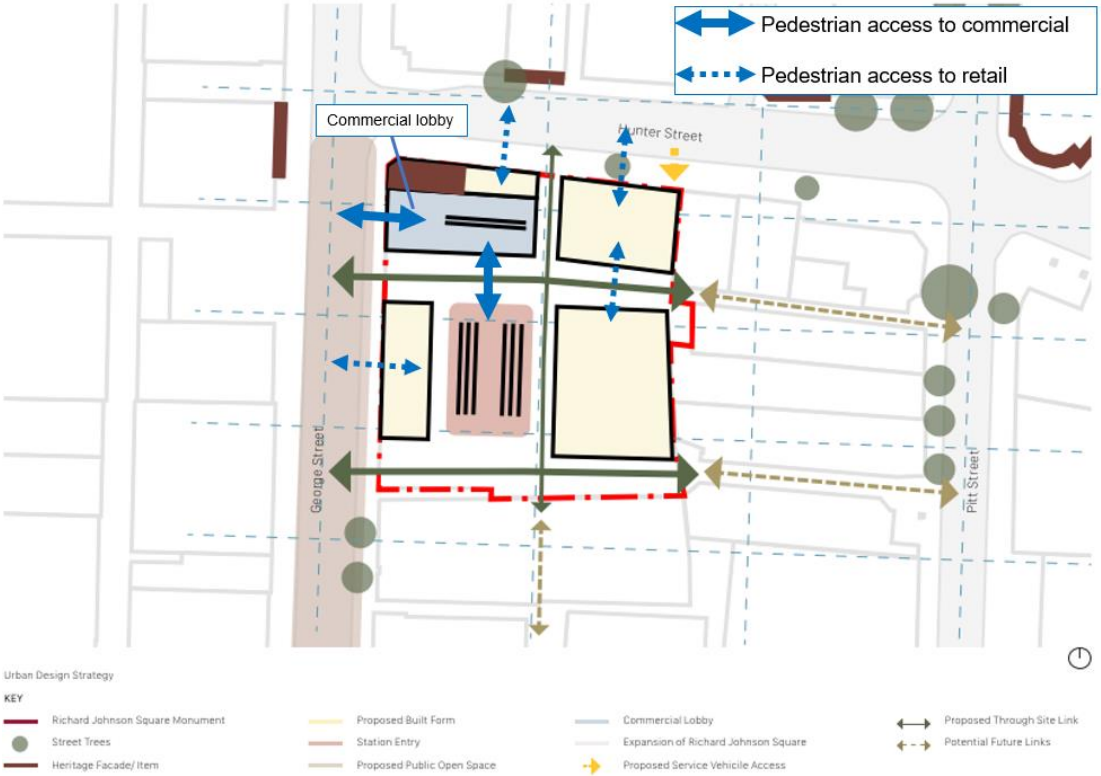

Figure 5-2 West site pedestrian though site links

5.3.2 Bicycle parking and end of trip facilities

The reference scheme prepared includes bike parking and end of trip facilities serving the proposed developments are provided on Level 3 of the East site and Level 3 of the West site.

The bike parking and end of trip facilities are accessed via two specific end of trip facilities lifts with the ground floor of each site, via Bligh Street for the East site and George Street for the West site. To access the lifts, cyclists will need to cross the pedestrian footpaths on either Bligh Street or George Street and dismount through the site link. The access locations are marked on Figure 5-3 and Figure 5-4.

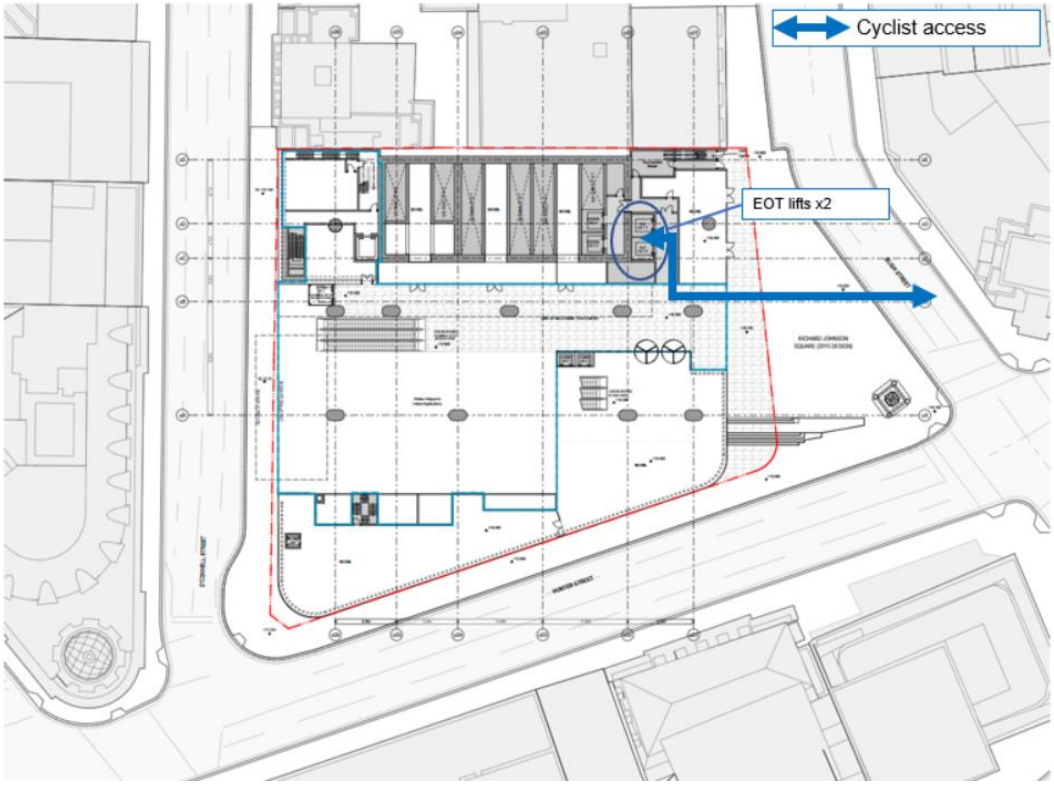

Figure 5-3 Access and egress routes for cyclists – East site

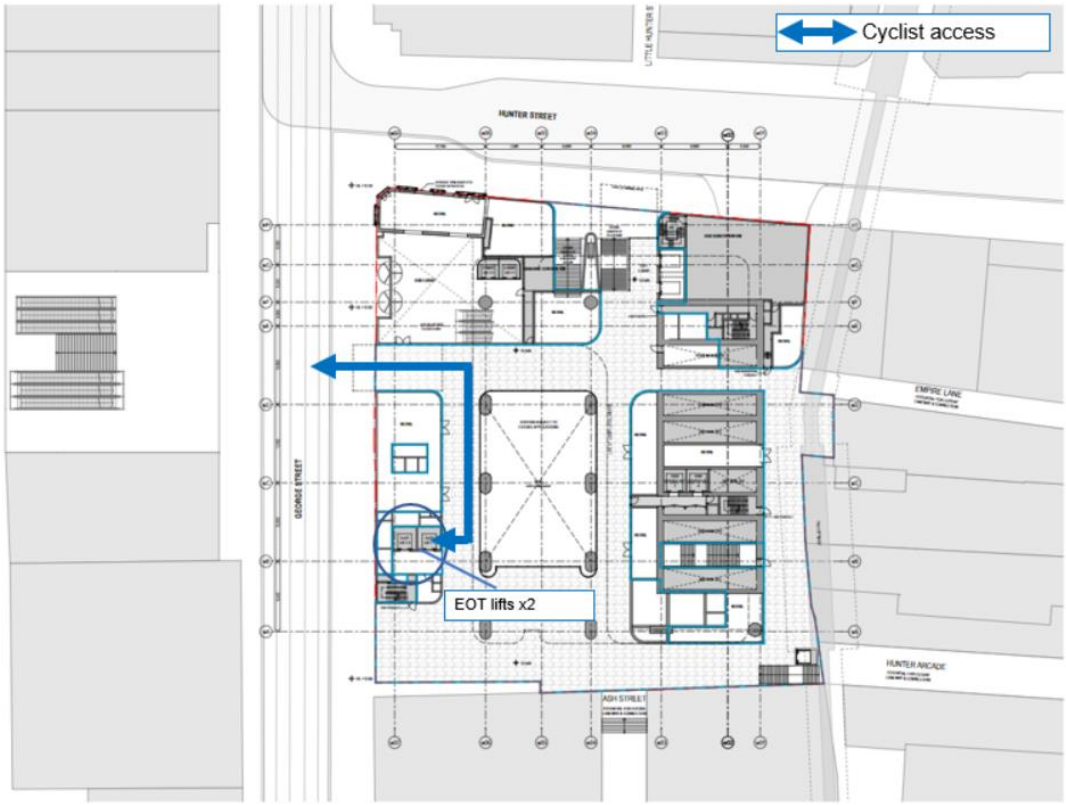

Figure 5-4 Access and egress routes for cyclists – West site

The Sydney DCP requires the following number of bicycle parking spaces:

- Commercial – one per 150sqm GFA for employees and one per 400sqm GFA for visitors
- Retail – one per 250sqm area for employees and two plus one per 100sqm over 100 GFA.

The subject site is aiming to achieve a Green Star rating from the Green Building Council Australia. The Green Star Buildings Movement and Place Credit assessment tool has been used to calculate the quantities of end of trip facilities and is found to be more onerous than the Sydney DCP requirements.

The relevant Sydney DCP 2012 design controls and Green Star Building criteria has been applied when determining the required number of showers, lockers and bicycle parking provision, as shown in Table 5-2.

Table 5-2 Drivers of end of trip facilities

	East		West	
	Commercial	Retail	Commercial	Retail
Bike racks	DCP	DCP	DCP	DCP
Showers	DCP	Green Star	DCP	Green Star
Lockers	Green Star	Green Star	Green Star	Green Star

The following drivers are used for the end of trip facilities:

- Bicycle parking – DCP (both commercial and retail)
- Showers – DCP (commercial), and Green Star (retail)
- Lockers – Green Star.

The number of bicycle facilities required for the development are set out in Table 5-3. Note this is subject to minor changes as the land use quantities are refined.

The number of showers and lockers is based on:

- 1 personal locker for each bike parking space
- 1 shower and changing cubicle for up to 10 bike parking spaces
- 2 showers and changing cubicles for 11 to 20 or more bike parking spaces
- 2 additional showers and cubicles for each additional 20 bike parking spaces

Table 5-3 Required bicycle parking and end of trip facilities*

Building	Use type	Area (m2)	Sydney DCP required bicycle racks (no.)	Recommended bike racks (no.)	Required showers (no.)	Required lockers (no.)
East	Commercial	81,769	750	760	75	1,023
	Retail	1,454	22	30	5	61
West	Commercial	65,914	605	610	61	824
	Retail	933	15	20	5	39
Total			**1,392**	**1,420**	**146**	**1,947**

Design layouts showing the end of trip facilities are shown on Figure 5-5 and Figure 5-6. The end of trip provision for both the east and west site will align with the relevant Sydney DCP or Green Star requirements.

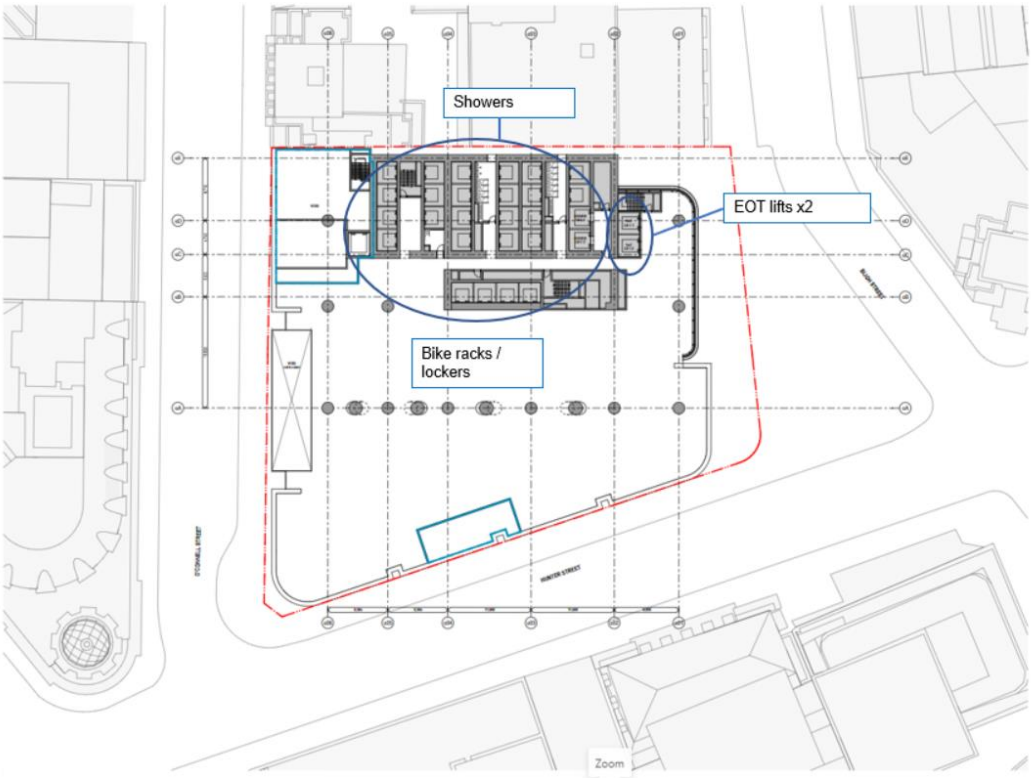

Figure 5-5 Indicative end of trip facilities – East side

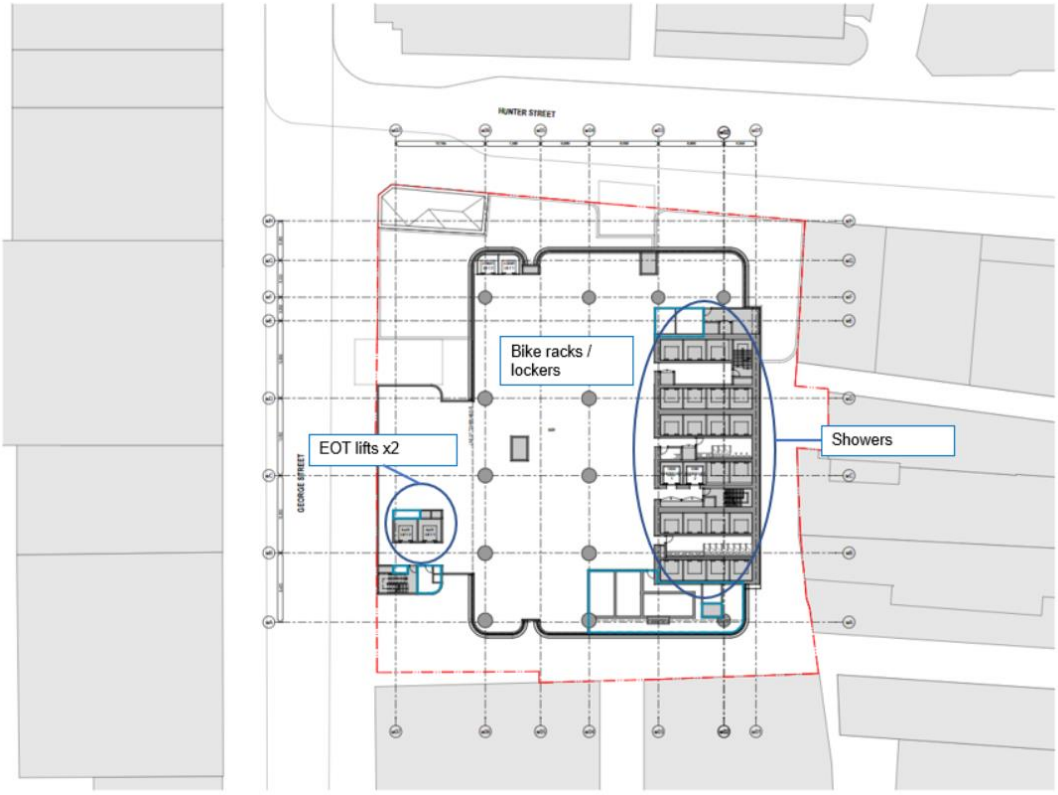

Figure 5-6 Indicative end of trip facilities - West side

The Hunter Street OSD sites are committed to providing sufficient bicycle parking spaces and associated facilities. The provision required will be determined at a later stage through the Development Application process.

5.3.3 Vehicular access

Vehicular access to/from the east site is proposed via O'Connell Street. The driveway will provide access to/from the ground floor loading dock, as shown in Figure 5-7. Access to the loading dock from O'Connell Street would be confined to left-in, left-out given the current one-way configuration of O'Connell Street.

Vehicular access to the west site is via a ramp to a basement from Hunter Street as shown in Figure 5-8. All movements are assumed at the Hunter Street access (left in / left out / right in / right out).

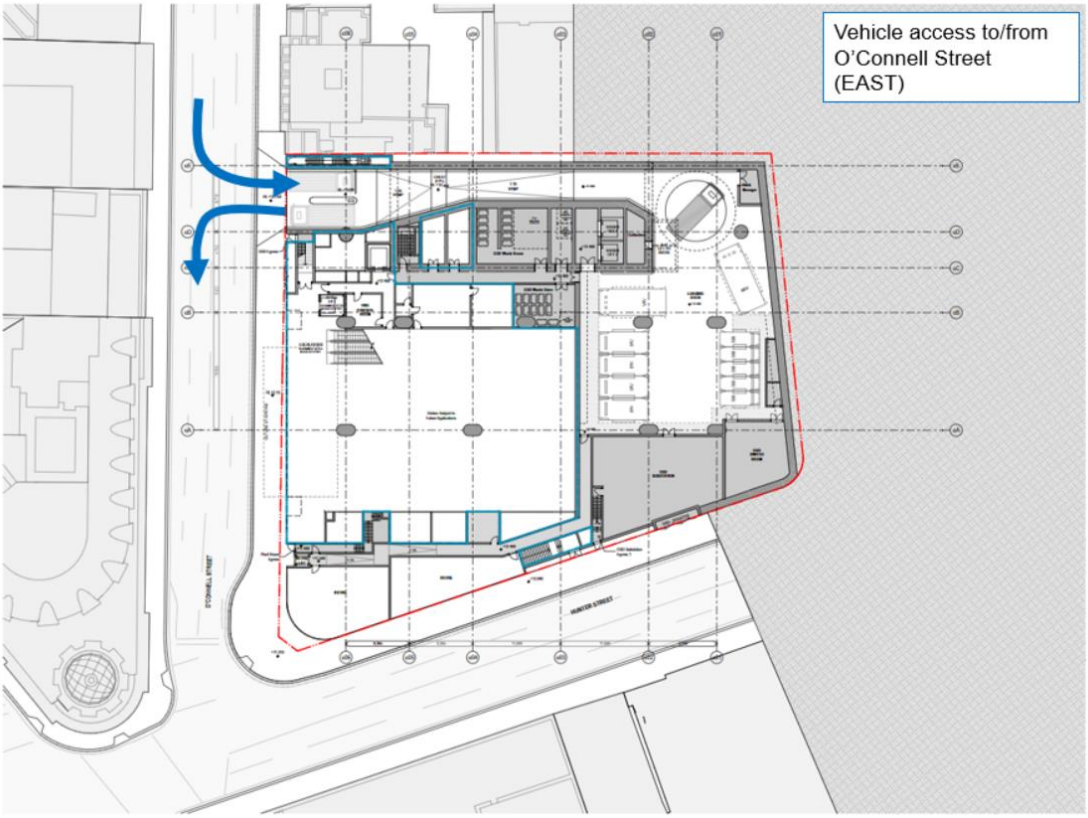

Figure 5-7 vehicle access to/from the East site

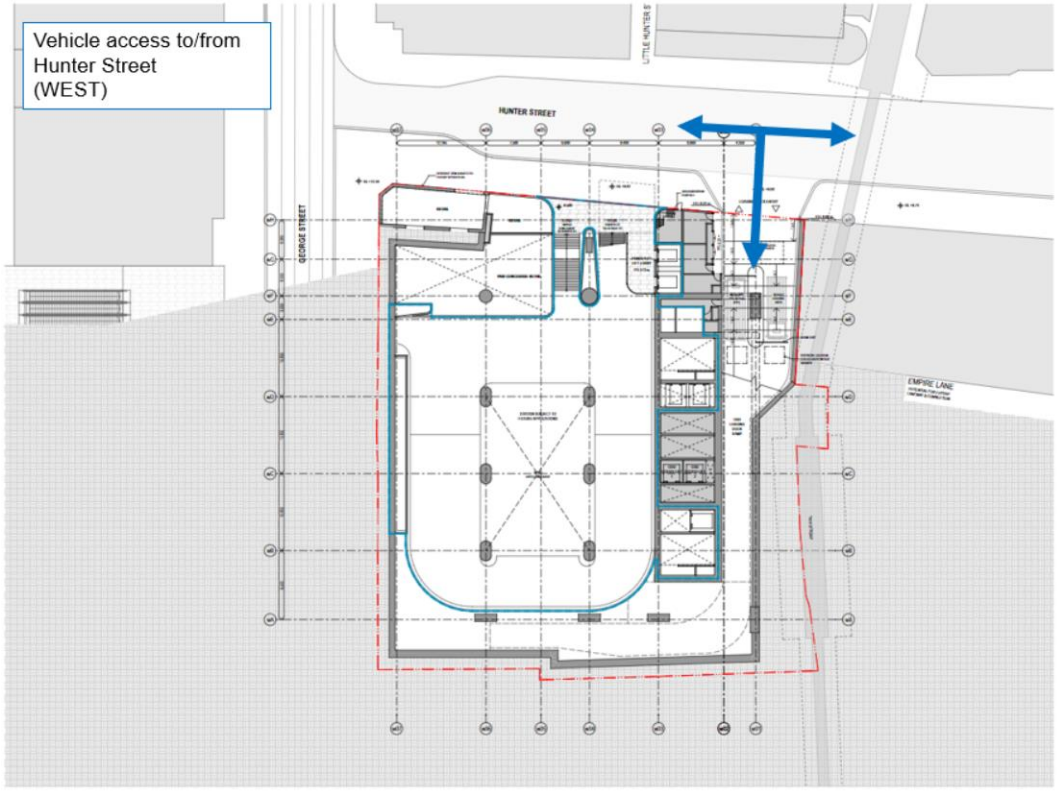

Figure 5-8 Vehicle access to/from the West site

5.3.4 Car parking

The proposed development is subject to the parking requirements stipulated in the City of Sydney LEP, which in turn references the Land Use and Transport Integration Maps (LUTI) and the Public Transport Accessibility Level Map (PTAL) for maximum on-site car parking rates. Table 5-4 summarises the LEP maximum parking rates and spaces based on the proposed development land use yields for each building. This includes allocation for 1 in 20 accessible spaces for visitors.

Table 5-4 Maximum car parking spaces per building

Land use	LEP Parking Rates (maximum)	Maximum permissible spaces per building	
		East	West
Commercial	Category D: If FSR is more than 3:5:1 No. of spaces = (GFA of commercial x site sqm) / (50 x total GFA sqm)	72	74
Retail	Category D: If FSR is more than 3:5:1 No. of spaces = (GFA of retail x site sqm) / (50 x total GFA sqm)	1	1
	Total	**73**	**75**

Table 5-5 sets out the maximum permissible parking spaces, as well as the proposed provision of car parking spaces, per location. Whilst the maximum permissible number of car parking spaces is 148 under the LEP, only 70 car parking spaces are proposed in total at either the east or west site. As the distribution of car

parking across sites is subject to confirmation as the design develops, maximum provision at both sites has been applied.

Table 5-5 Maximum car parking spaces per basement and proposed provision

Land use	LEP Parking Rates (max)	Maximum permissible spaces			Number of parking spaces used for analysis		
		East	West	**Total**	West	East	Total
Commercial	As per Table 5-4	72	74	146	70	70	**70**[1]
Retail	As per Table 5-4	1	1	2	-	-	-
Total		**73**	**75**	**148**	**70**	**70**	**70**[1]

[1]*Total number of proposed parking spaces located at either the west or east site is not to exceed 70*

It should be noted that the total number of proposed car parking spaces (70) is less than the total number of car parking spaces that were included within the east sites previous on-site developments (86) prior to their demolition, as can be seen in Table 5-6. Detailed design of parking spaces for west and east sites are to be confirmed at a later stage as the design develops.

Table 5-6 Prior parking provisions (east site)

Address	Number of parking spaces
48 Hunter Street	6
28 O'Connell Street	35
33 Bligh Street	45
37 Bligh Street	0
Total	**86**

The proposed parking provision of 70 spaces across both subject sites is approximately 50% less than the LEP maximum rates. Given the proximity of the subject site to a range of public transport links, the reduction in the number of spaces compared to the prior parking provisions, the total proposed supply is considered appropriate.

By providing a significantly lower number of commercial and retail parking spaces than the LEP maximum, employees will be discouraged from using private vehicles for work commuting trips, catalysing a shift to sustainable transport modes and reducing impacts on the broader road network.

The DCP also specifies that one space for every twenty parking spaces should be allocated as accessible visitor parking. The allocation and locations of these are to be confirmed as the design develops.

5.3.5 Car share provision

The proposed development is required to provide on-site car share scheme parking spaces. Applicable standards for car share schemes are defined in the Sydney LEP and subject to minimum on-site requirements determined in the City of Sydney

DCP. Applicable rates for car scheme parking spaces are stipulated by zoned categories found in the LUTI and PTAL maps. Car share parking spaces are to be provided in addition to the maximum number of car parking spaces permitted for the development, must be clearly marked, designated for car share scheme use only, located together and near an accessible public road.

Table 5-7 summarises the DCP minimum car scheme parking space rates based on the development land yields for each building. The number of car share parking spaces to be provided as part of the Hunter Street OSD is to be confirmed in later stages of design.

Table 5-7 Maximum car share parking spaces per building

Land use	LEP Parking Rates (maximum)	Maximum permissible spaces per building	
		East	West
Commercial	1 per 30 car spaces provided	1	1
Retail			
Total		**1**	**1**

5.3.6 Motorcycle parking

The City of Sydney DCP stipulates that parking spaces for motorcycles is required to be included for the proposed development. Separate parking for motorcycles is required in all buildings that provide onsite parking, with one motorcycle parking space for every twelve car parking spaces.

The allocation and location of the motorcycle parking is to be confirmed as the design for the Hunter Street OSD develops.

5.3.7 Loading docks

The loading dock entry at the East site is via O'Connell Street, with spaces provided on the ground level. The loading dock entry at the West site is via Hunter Street, with spaces provided via a ramp in the basement.

The number of loading dock spaces required for the east site and west site for medium rigid vehicles (MRV), small rigid vehicles (SRV) and B99 have been provisioned in consultation with TfNSW Freight. Ongoing consultation with TfNSW Freight will be required to define appropriate dock management protocols and practices.

The number of loading docks calculated as required and provided for each site for medium rigid vehicles (MRV), small rigid vehicles (SRV) and B99 vehicles are provided in Table 5-8. The TfNSW Last Mile Toolkit was used by the TfNSW Freight division to provide the following information:

- A recommended dock space supply sufficient to achieve a service level of 95%, which indicates successful loading dock operation (i.e. minimal rejected vehicles) with minimal management interventions; and
- A performance assessment of the proposed provision in light of the proposed land use, expressed as a service level.

Table 5-8: Loading dock requirements and provision for Hunter Street OSD

Loading Docks	B99	SRV	MRV	Service Level
Calculated recommended requirements				
East site	7	4	2	95.5%
West site	7	3	1	94.7%
Total recommended requirement	**14**	**7**	**3**	
Provision*				
East site	4	4	1	78.4%
West site	6	1	1	84.7%
Total Provision	**10**	**5**	**2**	
Difference	-4	-2	-1	

**Note: The provision values in this table are the number of spaces shown on the Reference Design Drawings, (December 2021, FJMT) that are available for OSD delivery and servicing. Station operations require 1xB99 and 1xMRV in the Hunter Street East loading dock, which are not available to service the OSD. The Station-dedicated spaces have been deducted from the drawn provision. There is scope for Metro station allocated dock spaces to be shared with OSD. This will be defined and agreed as part of the development approval.*

Table 5-8 indicates that the current loading dock provision does not meet TfNSW Freight's recommendation at either site. However, the forecast service levels at the West site are close to 85%, which indicates that the West loading dock can be operated acceptably with management interventions, such as a booking system. The forecast service level at the East site is about 78% which will require both a greater allocation of B99 spaces for servicing purposes as well as the introduction of management interventions.

A swept path analysis will be carried out at the next stage to confirm the suitability of the loading docks and each space allocated using the vehicle dimensions in Table 5-9. B99, SRV and MRV dimensions are drawn from *AS2890.2 Off-street commercial vehicle parking*, while the Council Garbage Truck dimensions are drawn from the City of Sydney DCP.

Table 5-9 Assumed service vehicle dimensions

Vehicle type	Overall length (m)	Design width (m)	Wheel Base (m)	Clear Height (m)
B99	5.20	1.94	3.05	2.20
SRV	6.40	2.33	3.80	3.50
MRV	8.80	2.50	5.00	3.63
Council Garbage	9.25	2.60	variable	3.8

6 Transport impact assessment

6.1 Person trip generation

The person trip generation for the proposed Hunter Street OSD site has been estimated using a first principles approach. These assumptions are detailed in Section 2.7 and result in a trip rate of 0.036 persons per square metre of GFA. The application of this rate to the proposed commercial GFA components for each in the following person trips shown in Table 6-1. 80 percent of the AM peak trips are assumed to be inbound while the remaining 20 percent are outbound trips.

Table 6-1: Total person trips generated by the Hunter Street OSD site

Building	Proposed Commercial GFA	Rate per sqm of Commercial GFA	Person Trips - AM Peak Hour		
			Total	Inbound	Outbound
East tower	81,769	0.0361	2,954	2,363	473
West Tower	65,914	0.0361	2,381	1,905	381
Total			**5,335**	**4,268**	**854**

Trips generated by the retail areas are not calculated as these areas will be food and beverage outlets and other supporting retail uses (such as convenience stores) and any trips to these areas will be linked trips from persons already in the area.

While Table 6-1 presented the trips generated by the entire development, the net additional trips generated as part of the cluster tower strategy are presented in Table 6-2.

Table 6-2: Additional person trips generated by the site compared to the base case LEP approved site

Building	Proposed additional commercial GFA	Rate per sqm GFA	Additional Person Trips - AM Peak Hour		
			Total	Inbound	Outbound
East tower	34,798	0.036	+1,257	+1,006	+251
West Tower	21,214	0.036	+766	+613	+153
Total			**+2,023**	**+1,619**	**+404**

6.2 Mode share

Table 6-3 presents the future mode share and volume of trips by mode, with the existing mode share for the local area presented for comparison. Explanation for how this was derived is provided in Section 2.

It is estimated that the proportion of car trips will significantly reduce given the provision of the Sydney Metro West metro line. While public transport is already the primary form of travel to and from the area, mode share will continue to increase.

Car movements are not expected to be significant, and represent around 1% of all trips. The number of car parking spaces proposed as part of the Concept SSDA is limited, and this is not intended to cover increases in vehicle movements.

Table 6-3: Existing and predicted future mode share

Mode shift estimation (AM peak)		
Mode	**Existing**	**Proposed (2036)**
Metro West (Hunter Street)	0%	20%
Train (Wynyard Station)	40%	27%
Metro (Martin Place)	0%	12%
Train (ILW)	13%	13%
Bus	23%	11%
Light Rail	0%	5%
Ferry	4%	4%
Private Vehicle	13%	1%
Cycling	2%	2%
Walking	5%	5%
Total	100%	100%

6.3 Impacts on road network

6.3.1 Traffic generation

As discussed in Section 4.6, The RMS (now TfNSW) Guide to Traffic Generating Developments (2013) provides vehicle trip generation rates for commercial (office block) uses and assumes GFA as the basis for the number of trips generated. The application of these rates to the proposed development is shown in Table 6-4 and Table 6-5.

Table 6-4 Estimated AM peak hour vehicle trips per site

Site	Land use	Rate	AM base case vehicle trips (LEP compliant)		AM planning proposal vehicle trips (LEP amendment)		Additional vehicle trips as a result of the proposed LEP amendment
			GFA	Trips	GFA	Trips	
East	Commercial	0.17 per 100m^2 GFA[1]	46,971	80	81,769	139	**59**
West	Commercial		44,700	76	65,914	112	**36**
Total				**156**		**251**	**95**

[1]*North Sydney office block trip rate used*

Table 6-5 Estimated PM peak hour vehicle trips per site

Site	Land use	Rate	PM base case vehicle trips (LEP compliant)		PM planning proposal vehicle trips (LEP amendment)		Additional vehicle trips as a result of the proposed LEP amendment
			GFA	Trips	GFA	Trips	
East	Commercial	0.14 per 100m^2 GFA[1]	46,971	66	81,769	114	**48**
West	Commercial		44,700	63	65,914	92	**29**
Total				**129**		**206**	**77**

[1]*North Sydney office block trip rate used*

This method of estimating trip generation results in approximately 251 vehicle trips in the AM peak and 206 vehicle trips in the PM peak. The number of trips generated by the Hunter Street OSD sites would likely be in excess of the number of parking spaces. It is likely that the traffic generated by the proposed development would be limited by the number of parking spaces provided at each site or captured by nearby car parking facilities. Also, a loading dock management plan is recommended to manage delivery times and operations. Pick and drop off spaces are not proposed at the OSD sites.

As mentioned in Section 5.3.4, 70 parking spaces are proposed across the towers, with the distribution of these 70 spaces confirmed at a later stage in the design.

A first principles approach has been therefore taken based on the number of the maximum number of spaces (70 per site) and the assumptions discussed in Section 2.7. AM and PM peak period traffic generation estimates for both site basements are provided in Table 6-6.

Table 6-6 Estimated AM and PM peak hour basement vehicle trips

Location	AM peak vehicle trips				PM peak vehicle trips			
	Inbound	Outbound	Loading dock	Total	Inbound	Outbound	Loading dock	Total
Eastern Basement	56	14	26	**96**	14	56	26	**96**
Western Basement	56	14	22	**92**	14	56	22	**92**

6.3.2 Intersection modelling

As can be seen in Table 6-6, it is estimated that changes to the Hunter Street OSD would result in an additional 188 trips in both AM and PM peak hours. On this assumption, an additional 1.6 vehicle movements per minute would be generated by each Hunter Street OSD site during peak hours. This would be further reduced with the introduction of a loading dock management plan.

The proposed changes indicate that the additional traffic generated would be minimal, and for this reason it is anticipated there would be no significant impact to local traffic from vehicle movements to and from the subject sites. Public transport is expected to remain as the main form of transport into the CBD, with the subject sites accessibility to the future metro station and existing bus, rail, light rail and ferry services favourable to private vehicle usage.

6.4 Public transport

The Hunter Street OSD site will be located at the heart of a major transport interchange hub in Sydney CBD. The subject site will be within the same block as the new Sydney Metro West Hunter Street Station, and within a short walking distance to Wynyard Train Station and bus interchange, Martin Place Train Station, and Light Rail on George Street.

Circular Quay Wharf and Barangaroo Wharf are also located up to 1km from the subject site. The ferry services connect to destinations further afield, such as North Sydney, Manly and Parramatta. However, given the services are slow in comparison to rail, this is unlikely to be a popular mode choice during the peak periods, as reflected in the predicted future modal splits (3 percent).

The Hunter Street OSD site is considered to offer very high levels of public transport accessibility and connectivity for future workers, as reflected in the predicted future modal splits (90 percent total).

6.4.1 Rail

The introduction of Sydney Metro will double the rail capacity between the Sydney CBD and Parramatta CBD1. Based on the estimated mode share, approximately 29 percent of arrivals to the proposed Hunter Street OSD site will be utilising the service and will benefit from its immediate proximity.

The metro station will provide an indirect connection of less than five minutes with existing Wynyard and Martin Place Train stations, so the 36 percent of trips arriving to the subject site from the suburban rail will also benefit from this short distance.

6.4.2 Light rail

The Hunter Street OSD site will also be served by the CBD and South East Light Rail. Services run on George Street. The closest stops to the subject site will be Bridge Street and Wynyard. Approximately, 5 percent of arrivals will travel by this mode.

6.4.3 Bus

Around 11 percent of trips are estimated to arrive to the Hunter Street OSD site by bus. Wynyard Station is the largest existing major transport hub, located directly

[1] Sydney Metro West Project Overview | Sydney Metro

west of the proposed development. The existing bus stands on Carrington Street and York Street are expected to remain. Bus stops are also located around the subject site within walking distance on Castlereagh Street and Elizabeth Street.

Workers of the subject site would be able to use existing crossings to access the bus interchange at Wynyard Station via:

- Pedestrian crossings at signalised intersections, including the intersections of George Street / Hunter Street and Margaret Street / Carrington Street
- Footpaths along George Street, Margaret Street, Carrington Street and York Street.

6.5 Active transport

6.5.1 Walking

Around 5 percent of people are accessing and egressing the Hunter Street OSD site are estimated to travel by walking alone. This equates to an estimated 544 trips (274 at east site and 270 at west site).

6.5.2 Cycling

Around 2 percent of the people accessing and egressing the Hunter Street OSD site are estimated to travel by bicycle, which equates to an estimated 218 cyclists in the AM peak hour. This is based on the estimated future mode share for inbound trips as detailed in Table 2.1.

It is essential that safe crossing points are provided for cyclists to provide protection from other road users. Surrounding the subject site, cyclists would be able to dismount and cross safely at signalised intersections including:

- Existing intersection of George Street/ Hunter Street
- Existing intersection of Pitt Street/ Hunter Street
- Existing intersection of O'Connell Street/ Hunter Street
- Existing intersection of Bligh Street / Hunter Street

The City of Sydney Cycling strategy and action plan 2018 – 2030 commits to improve the existing cycling infrastructure through additional shared paths and separated cycleways.

6.6 Impacts on pedestrian network

As discussed in Section 6.1, the proposed LEP amendments are estimated to generate an additional 2,172 person trips across both the west and east sites during the AM peak hour.

The impact on surrounding footpaths from people only walking is expected to be minimal, once the distribution across the network is considered. Major movements are between public transport and the Hunter Street OSD development, particularly from the metro and suburban rail line. People accessing the metro will not need to cross any roads. There will also be existing pedestrian links from the west site to Wynyard Station via an unpaid below ground connection using a tunnel under George Street, and from the East site to Martin Place Station platform level via a new paid below ground connection. This accounts for 59% of trips.

102 additional trips are estimated to be by car which would have none to minimal impacts on the existing footpaths surrounding the proposed Hunter Street OSD site.

The Hunter Street OSD site would therefore result in a low impact on the surrounding pedestrian network. This would be significantly less than if development was elsewhere and movements were from the metro and suburban rail line.

Impacts around the east and west basements are also expected to be minimal. Private and service vehicle movements across footpaths on O'Connell Street (east site) and Hunter Street (west site) are not expected to exceed 1.6 movements per minute in either AM or PM peak with 70 car parking spaces in either basement.

The Hunter Street OSD, along with cumulative impacts of the Hunter Street Station and surrounding land use, may trigger the need for potential mitigations. Due to current constraints, there is limited scope for significantly changing signal timings or increasing the footpath widths to improve walking experience in the CBD. Any improvements to the surrounding pedestrian network would be investigated in consultation with key stakeholders such as City of Sydney and Transport for NSW.

It should be noted that all intersections within the precinct area have wide crossings (greater than 7 metres), with the exception of Bligh and Hunter Street (typical crosswalk width of 3 metres).

6.7 Adjacent property impacts

There would be no impacts to property access as no driveways are being impacted by the OSD sites.

6.8 Cumulative impacts

Other known developments or credible proposals which may have a cumulative impact on the transport network in the vicinity of the Hunter Street OSD are understood to be factored into the Metro patronage forecast and the pedestrian and traffic growth rates adopted for this assessment.

7 Management and mitigation measures

The following mitigation measures and recommendations are proposed as a result of the proposed changes to the Hunter Street OSD sites.

7.1 Pedestrian priority

Pedestrian access and movements should be prioritised over vehicles within the development precinct to create a walkable and safe environment and to achieve the Green Star rating. This is also in line with the Transport for NSW Road User Space Allocation Policy.

Hunter Street and O'Connell Street will provide service vehicle access to the west site and east site. Low speeds (30km/hr) and appropriate signage should be provided subject to securing relevant approvals. This is a reduction from 40km/hr).

Operation of the new Metro station may trigger the need for potential footpath mitigations. This is also the case for the OSD. Due to current constraints, there is limited scope for significantly changing signal timings or increasing the footpath widths to improve walking experience in the CBD. Any improvements to the surrounding pedestrian network would be investigated in consultation with key stakeholders such as City of Sydney and Transport for NSW.

7.2 Service vehicle and loading dock management

The proposed loading dock provisions/capacities for the east site and west site have been defined in consultation with TfNSW Freight.

While the proposed provision does not meet TfNSW Freight's recommendation, the estimated service level of the proposed provision indicates that the loading dock will be able to function appropriately subject to the implementation of dock management protocols and practices. Potential loading dock management measures may include a booking system, extended operating dock hours or appointing a sole delivery contractor. Further consultation with TfNSW Freight is required. .

7.3 Construction traffic management

An indicative Construction Traffic Management Plan (CTMP) would be prepared as part of a future Development Application for the proposal. The indicative CTMP would outline the guidelines, general requirements and specific procedures to be used for any works that may have an impact on traffic operation. The Plan would be modified subsequent to planning approval and prepared in accordance with the City of Sydney's Appendix A: Standard Requirements for Construction Traffic Management Plan.

Items to be addressed would include but not be limited to:

- The safety of all road users
- Details of routes and roads to be used by construction vehicles
- Construction vehicle access arrangements
- Construction vehicle types

- Any temporary adjustments to existing traffic and transport infrastructure that may be required
- Details of any applications required to organise appropriate approvals for works zones and/or road closures, use of driveways, cranes, barricades or hoarding, and consent of construction hours
- Management of traffic including the use of traffic controllers to direct vehicles, pedestrians, or cyclists

7.4 Measures to promote sustainable travel

A travel plan at Hunter Street would be provided in a future development application.

This would encourage the use of active transport for short trips, and public transport for all long trips, thereby reducing the need for single occupancy vehicle travel.

The travel plan would include the following measures:

- Targets – these are typically aimed at reducing the number of single occupant car trips
- Travel data – An initial estimate of the number of trips to the site by mode. Travel Plans require an annual travel survey to estimate the change in travel behaviour to and from the site and a review of the measures
- Measures – a list of specific tools or actions to achieve the sustainable targets.

The following measures could help achieve a high level of sustainable travel users:

- Public transport coverage – due to the location within walking distance to existing bus, train, light rail, ferry, and future metro services. The public transport network is well linked to a wide area within Sydney.
- Dedicated cycle routes – the City of Sydney Cycling strategy and action plan 2018 – 2030 commits to improve the existing cycling infrastructure through additional shared paths and separated cycleways. This will make cycling convenient, safe, and a good option for short trips.
- Bicycle parking – a high provision of bicycle parking and end of trip facilities are included within the proposed development into order to achieve Green Star rating from the Green Building Council Australia. The facilities include lockers, showers and changing rooms, and will be accessible via dedicated end of trip facilities lifts.
- Pedestrian network – a high-quality pedestrian network is provided around the proposed development, which includes continuous footpaths, and pedestrian crossing facilities at key locations. The design of a high quality, safe network, with direct connections to land uses would encourage walking as a key mode.
- No parking for retail use – no car parking is proposed for retail within the development, limiting private vehicles to park on street in paid locations.

8 Conclusion

This report presents the results of a transport and accessibility impact assessment for a potential OSD development on Hunter Street in line with the Planning Proposal Request. It has been prepared to outline the impacts to the transport network and parking for the end-state of development in response to the Scoping Report Requirements.

8.1 Transport impact assessment key findings

The key findings of the assessment of the Hunter Street OSD Planning Proposal are that:

- The proposed provision of 70 car parking spaces is approximately 50% below the Sydney LEP maximum rates and is not anticipated to have a significant impact on the road network or pedestrian footpaths around entrances/exits at driveways.
- The proposed provision of car parking at the east site represents a reduction from the 86 on-site car parking spaces which were previously within the subject site area before building demolition. These spaces accommodated both the east and west sites.
- Additional GFA proposed for both buildings is not expected to have a significant impact on local traffic. It is estimated that this will only result in a maximum additional 1.7 vehicle movements per minute during AM peak hour
- It is estimated that 2,023 *additional* pedestrian trips could be generated by the proposed changes to the subject sites in the AM peak (See Table 6-2). As the development is located above the station, impacts to footpath capacity are not expected to be significant as trips to both sites will occur within the site.
- While additional trips will be generated by changes to the proposed development, the majority of these trips are expected to be by Metro, increasing the mode share of public transport within the local area
- The road network is expected to continue to remain at similar levels of service, with no notable change associated with the traffic generated by the development on the surrounding road network operation
- The Hunter Street OSD site will be located at the heart of a major transport interchange hub in Sydney CBD. The subject site will be within the same block as the new Sydney Metro West Hunter Street Station, and within a short walking distance to Wynyard Train Station and bus interchange, Martin Place Train Station, and Light Rail on George Street. The subject site is considered to offer very high levels of public transport accessibility and connectivity for future workers, as reflected in the predicted future modal splits (90 percent total)
- Around 5 percent of people accessing and egressing the subject site are estimated to travel by walking alone, and 2 percent by bicycle
- Cyclists will benefit from direct access to the Hunter Street OSD development from the planned conversion of the temporary Pitt Street cycleway to a permanent active travel corridor

- Pedestrian access is via Bligh Street for the east site and George Street for the west site. Through site links are also provided at both sites
- The reference scheme prepared includes bike parking and end of trip facilities services are provided in Level 3 of the East site and Level 3 of the West site. The end of trip facilities are accessed via two specific end of trip facilities lifts with the ground floor of each site, via Bligh Street for the East site and George Street for the West site To access the lifts, cyclists would need to cross the pedestrian footpaths on either Bligh Street or George Street and dismount through the site link.
- The subject site is aiming to achieve a Green Star rating from the Green Building Council Australia. The Green Star Buildings Movement and Place Credit assessment tool has been used to calculate the quantities of end of trip facilities and is found to be more onerous than the Sydney DCP requirements. The proposed number of bike ranks meets the recommended provision.
- Major movements are between public transport and the subject site, particularly from the metro and suburban rail line
- Overall, the impacts should not have an adverse impact on the transport network, beyond those identified in the base case, compliant with existing Sydney LEP controls
- The current loading dock space provisions/capacities do not meet TfNSW Freight's recommendations at both sites. However, the expected service levels are approximately 85% at both sites, which indicates that the loading docks will be able to function appropriately subject to the implementation of dock management protocols and practices, including but not limited to a dock management plan and dock booking system. Access to adjacent properties will be maintained in their existing form, with no proposed changes to the existing road network or driveway access.

8.2 Proposed mitigation measures and recommendations

The following mitigation measure and recommendations are proposed for the Hunter Street OSD:

- Subject to securing required TfNSW approvals, a reduction in posted vehicle speeds from 40km/h to 30km/h on Hunter Street and O'Connell Street
- Provision of car share spaces to reduce individual car parking demands. Allocation and provision is subject to confirmation as the design evolves.
- Potential loading dock management measures, such as a booking system, extended operating dock hours and or appointing a sole delivery contractor.
- A Construction Traffic Management Plan (CTMP) to outline the guidelines, general requirements and specific procedures to be used for any works that may have an impact on traffic operation
- A travel plan to encourage the use of active transport for short trips, and public transport for all long trips, thereby reducing the need for single occupancy vehicle travel

9 References

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