

VIAE

CONSULTING

Pyrmont Peninsula Place-Based Transport Strategy

Strategy Report

Prepared for NSW Department of Planning Industry and Environment

Revision 2

July 2020

PART B



5. Pymont Peninsula transport network context

This chapter describes the broad spatial and behavioural parameters of the existing transport network within the Pymont Peninsula. Elements summarised in this section include:

- The transport network including roads, public transport and active transport.
- Existing travel behaviour and trends.
- The current and forecast future transport task based on land use growth forecasts.
- Benchmarking of existing and future travel task against other centres in Sydney.

5.1. Road network

Transport for NSW uses a Movement and Place framework to classify streets based on their relationship to both movement and place functions. The *Rozelle to Ultimo Precinct Road Network Plan* (2018) identifies the movement and place classifications for state roads within the Pymont Peninsula:

- **Segment 3 – Pymont Bridge Road/Bridge Road from Parramatta Road to Harris Street:** Designated as a Local Street (3B). It is a key local east–west connection, particularly for pedestrians and cyclists. Provides access to the Fish Markets and Anzac Bridge at the eastern end.
- **Segment 4 – Abercrombie Street/Wattle Street from Cleveland Street to Pymont Bridge Road:** Designated as a Local Street (3C). Provides north–south access in Pymont for traffic, freight, cyclists and pedestrians. Connections via Fig Street and William Henry Street to the Western Distributor.
- **Segment 5 – Harris Street from Lee Street to Bridge Road:** Designated as a Local Street (3C). Provides access to multiple national and city–wide destinations including the Powerhouse Museum and multiple universities. Connection from Western Distributor to Parramatta Road.

This movement and place classification, including other local roads in the Pymont Peninsula is shown in Figure 32. Streets not marked in this figure perform place functions and would be classified between 3D and 1E (Places for People). Examination of the road network through the movement and place framework shows that the majority of roads within the study area are primarily of lower movement function and higher place function, either Local Streets or Places for People. This is consistent with Pymont being a peninsula with limited through traffic to the north and through-traffic in the south concentrated on access to and from Western Distributor via Wattle Street and Harris Street.

A number of key roads pass through the Pymont Peninsula and these higher-order roads have a severance effect on the surrounding land use, forming barriers to active and public transport through the Pymont Peninsula. Figure 33 shows the lane capacity of streets within the Pymont Peninsula, showing that these key corridors are:

- **Anzac Bridge and Western Distributor:** A movement corridor, this motorway links Victoria Road and City West Link with Sydney Harbour Bridge and also provides access to Sydney CBD from the west. The Western Distributor has no direct property access and connects to the local road network in Pymont at Pymont Bridge Road, Allen Street, Pymont Street and Harris Street.
- **Pymont Bridge Road and Bridge Road:** Primarily a movement corridor, Pymont Bridge Road provides access to the Western Distributor from Glebe and the inner west. Through the Pymont Peninsula, it connects to Darling Drive and has limited property access and on-street parking.
- **Wattle Street:** Primarily a movement corridor, Wattle Street has historically been a high-capacity bypass corridor allowing traffic from the inner west to bypass Sydney CBD and access Western Distributor via Fig Street. Wattle Street is one-way northbound between Broadway and Fig Street forming a one-way pair with Harris Street. Parking is allowed on Wattle Street outside of peak periods with frequent property access along its length.

- **Harris Street:** North of the Western Distributor, Harris Street is primarily a local street with a single lane in each direction and parking allowed on both sides. South of Western Distributor, Harris Street is primarily a movement corridor that provides access from Western Distributor to Broadway and Sydney CBD south. South of Ultimo Road, Harris Street is one way southbound, with no on-street parking allowed during peak periods.
- **William Henry Street:** Primarily a movement corridor, William Henry Street provides a connection between Harbour Street and the inner west through Wentworth Park and Glebe. William Henry Street has limited property access and no on-street parking allowed during peak periods.

The Western Distributor is a critical component of the road network in the Pyrmont Peninsula; although it is only directly accessible at four locations, the corridor nevertheless forms a substantial barrier across the centre of the Pyrmont Peninsula, effectively forming the boundary between Pyrmont and Ultimo.

The Western Distributor performs both a movement and access function in the regional motorway network, providing access to the western edge of Sydney CBD and to the CBD fringe of the Pyrmont Peninsula, and Ultimo while also performing a bypass function that connects City West Link and Victoria Road with Sydney Harbour Bridge. Figure 34 shows the balance of access and bypass functions along the length of Western Distributor, demonstrating that traffic travelling along the Western Distributor through the Pyrmont Peninsula are accessing Sydney CBD particularly via Harris Street as well as travelling past the Sydney CBD to the north and west.

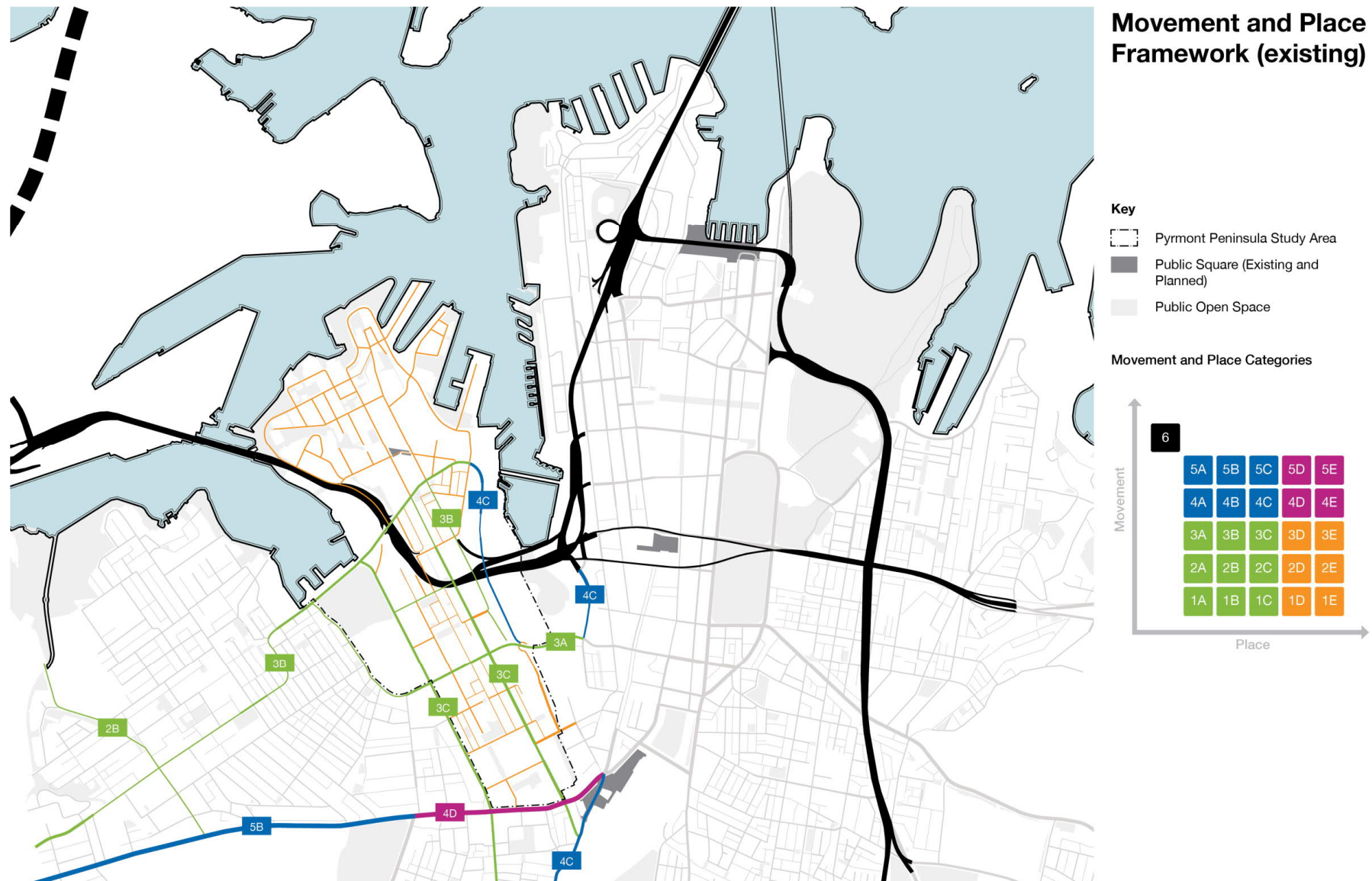


Figure 32 – Existing Movement and Place classification

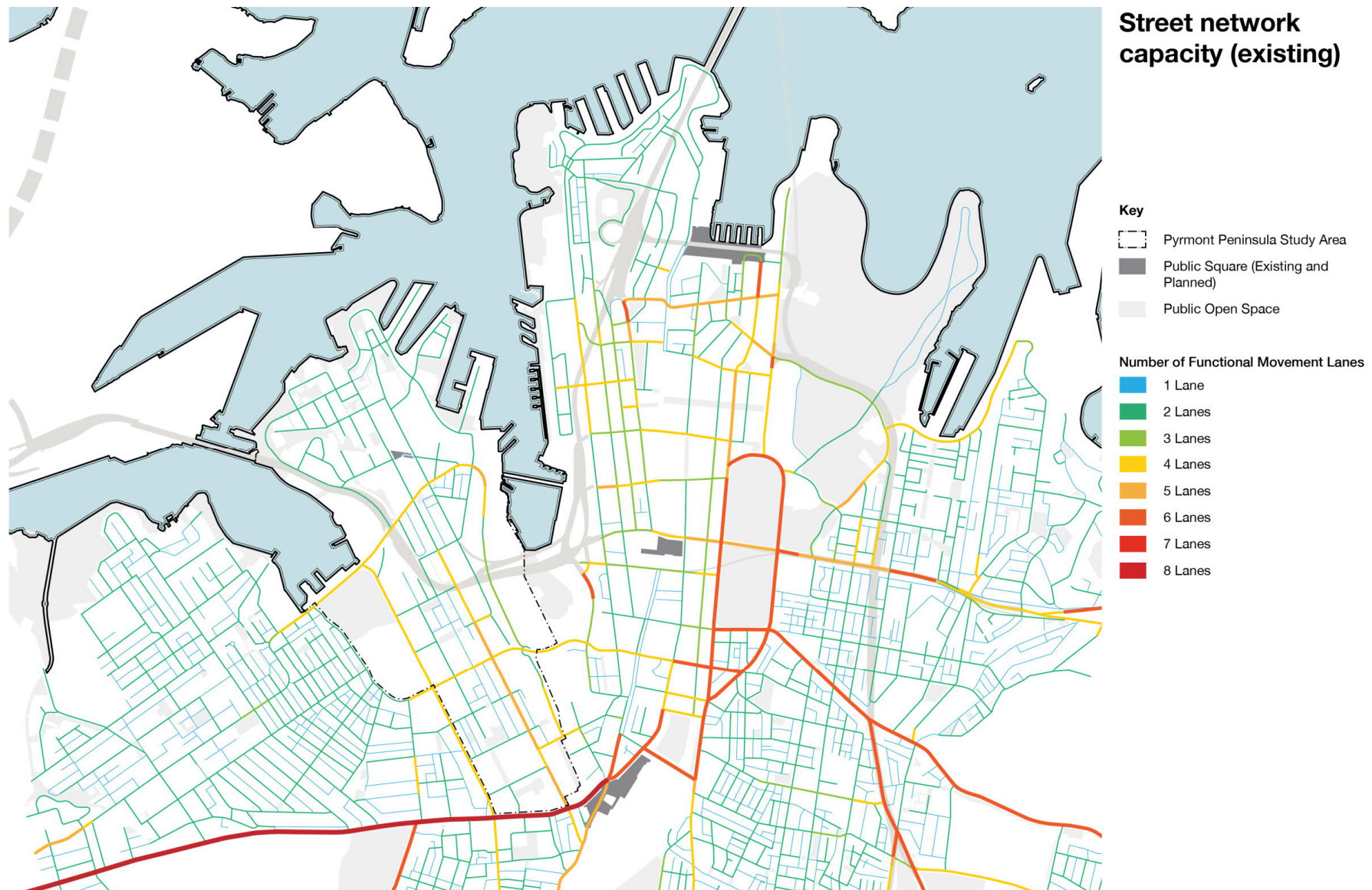


Figure 33 – Existing street network capacity

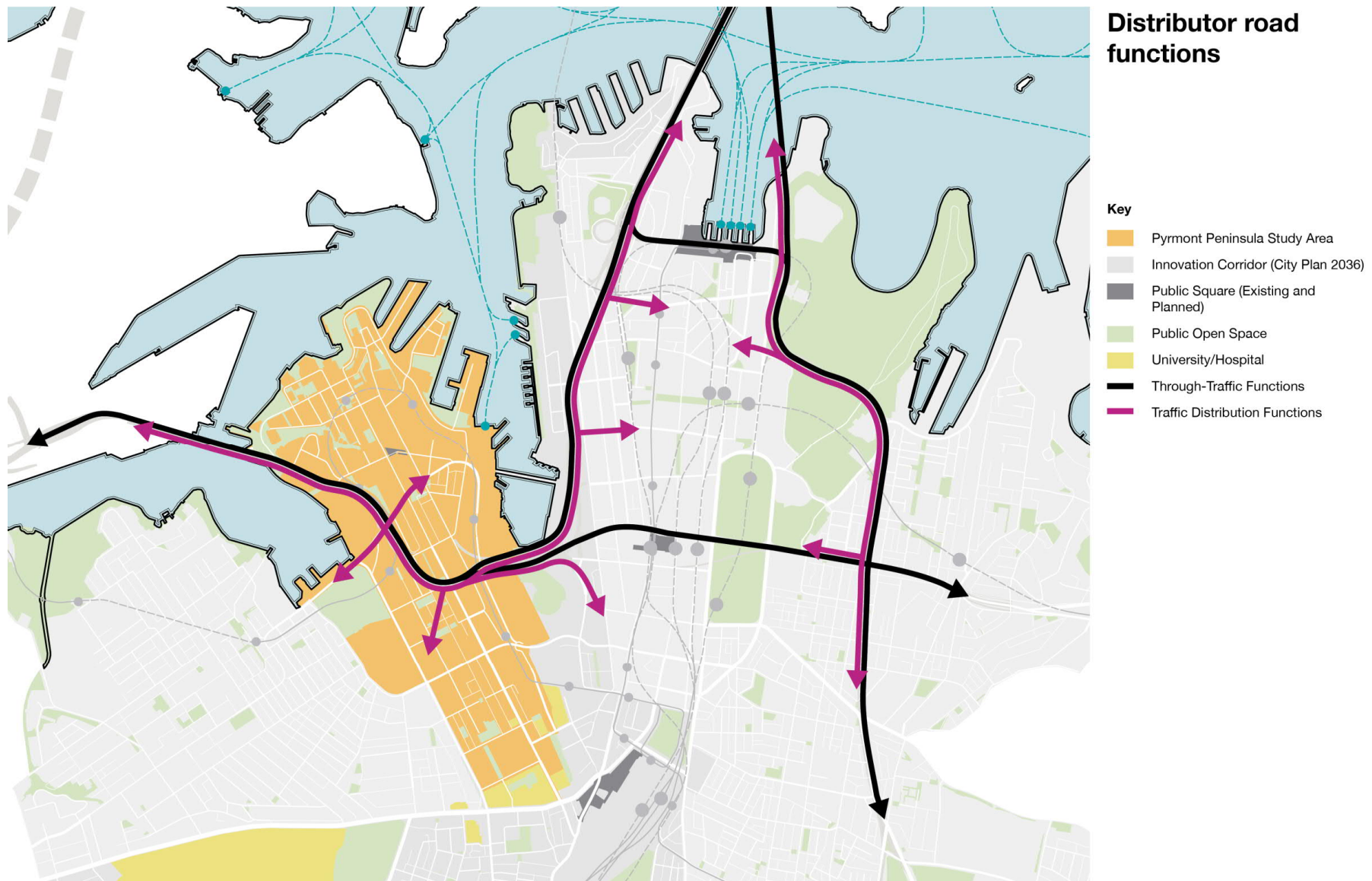


Figure 34 – Motorway bypass and access function surrounding Pyrmont Peninsula

Figure 35 and Figure 36 show the morning and evening traffic volumes through key intersections through the Pymont Peninsula surveyed in 2017. These traffic volumes show that the busiest intersections within the Pymont Peninsula are:

- Pymont Bridge Road, Bank Street and Western Distributor
- Harris Street and William Henry Street
- Harris Street and Fig Street
- Wattle Street and William Henry Street
- Bridge Road and Wattle Street

These intersections are located at or along routes that provide access to the Western Distributor and Cross City Tunnel. This is indicative of significant volumes of through-traffic using these routes to bypass Sydney CBD to reach other areas of the CBD fringe.

In addition to these key locations where through traffic volumes are high during peak periods, the following intersections within the core of the Pymont Peninsula also carry higher traffic volumes than would be appropriate for streets with such a high place value as Local Streets or Places for People:

- Pymont Bridge Road and Harris Street
- Pymont Bridge Road and Pymont Street
- Allen Street and Harris Street

These streets have higher than desirable traffic volumes due to the existing road network arrangements that allow for through-traffic movements to permeate through the Pymont Peninsula via the Allen Street and Pymont Street ramps, which provide alternatives to entering the Western Distributor at Pymont Bridge Road.

Pymont Peninsula – Place-Based Transport Strategy

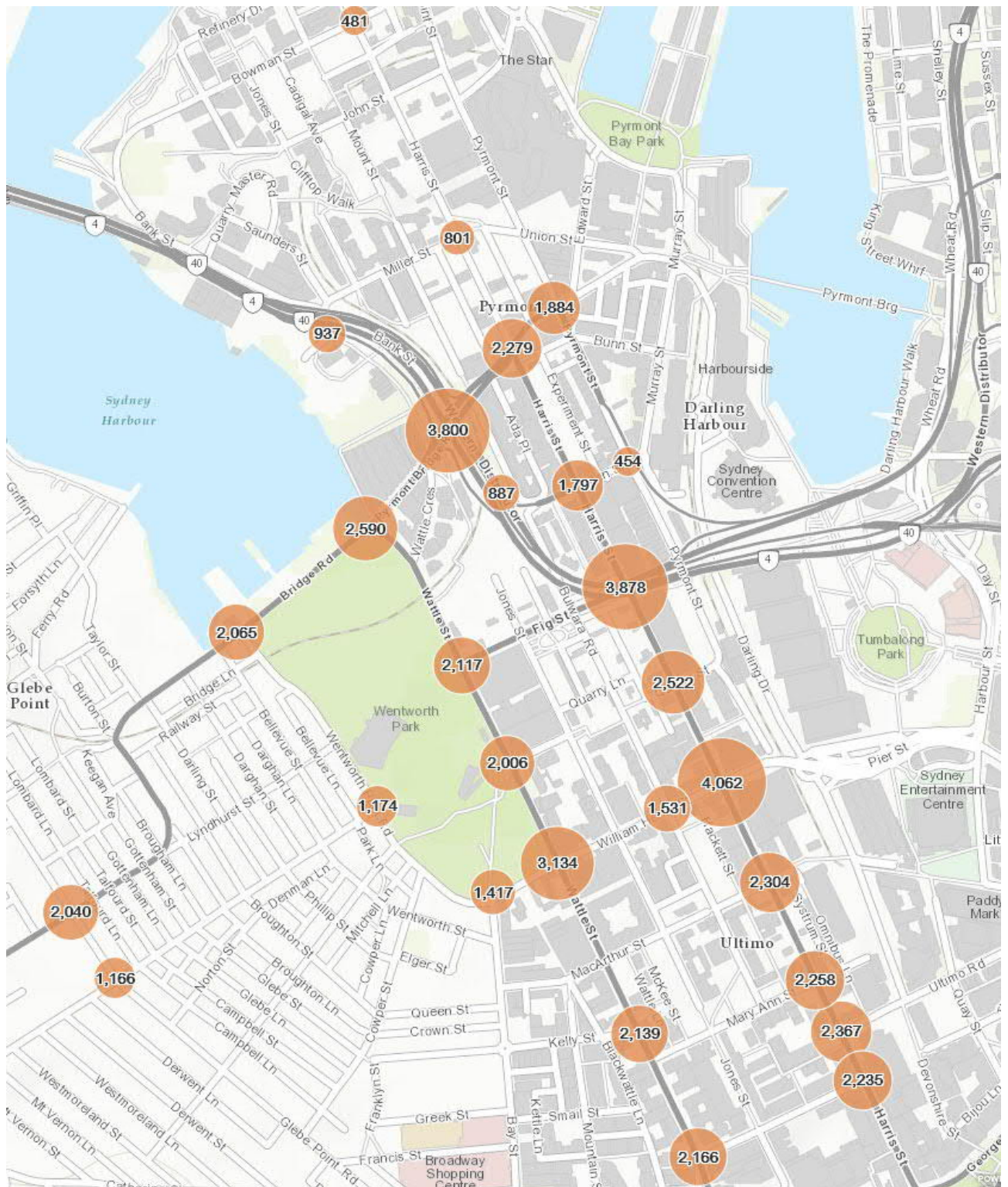


Figure 35 – Morning peak hour traffic volumes through intersections in Pymont

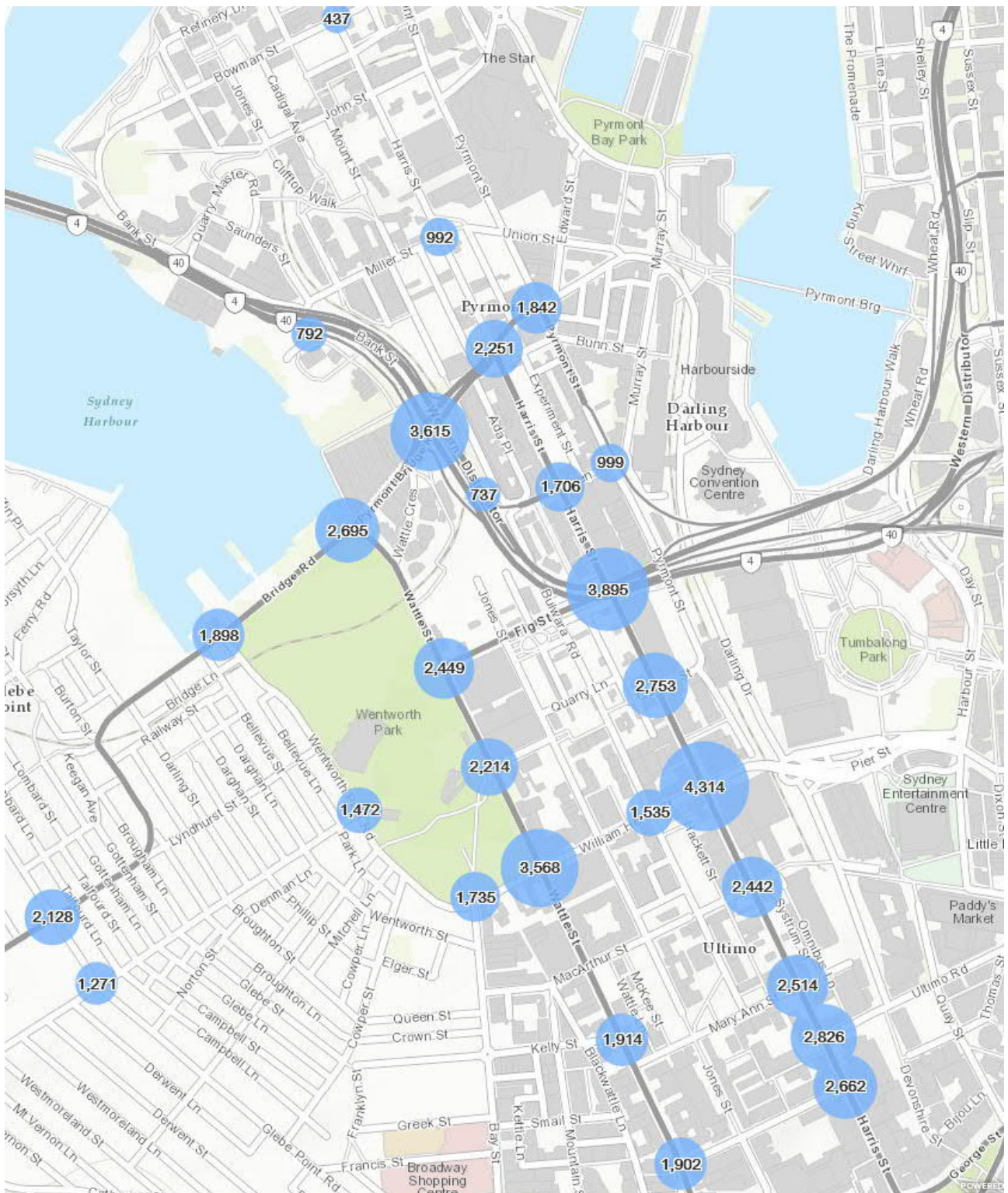


Figure 36 – Evening peak hour traffic volumes through intersections in Pyrmont

5.2. Public transport network

Figure 37 shows an overview of the public transport network in the Pymont Peninsula. The defining features of the existing public network are:

- **Limited access to heavy rail:** the nearest stations to Pymont are Central Station (2.2km from Union Square) and Town Hall Station (1.4km from Union Square), meaning that half of the peninsula is outside of the 800m walking catchments of the nearest heavy rail stations.
- **Inner West Light Rail:** seven stops along the Inner West Light Rail line are within the Pymont Peninsula. These stops are either underground (John Street Square, The Star and Pymont Bay) or difficult to access from street level (Wentworth Park, Fish Market, Convention Centre and Exhibition Centre). Due to high demands from stops to the east of the Pymont Peninsula, the Inner West Light Rail is typically at capacity when traveling through stops in the Pymont Peninsula during peak periods. The Inner West Light Rail is also relatively slow for travelling between the Pymont Peninsula and Central station, particularly from the western stops due to intersection constraints through Haymarket and Central.
- **Bus services:** Two routes serve the majority of the Pymont Peninsula; 389, which provides local access between the north of the Pymont Peninsula and Town Hall station and on to Bondi Junction via Harris Street and the 501 which provides access between Central and Harris Street and on to Ryde. Both these services are characterised by poor reliability and slow speeds during peak periods as a result of a number of constraints on Harris Street at Fig Street and at Pymont Bridge Road.
- **Ferry services:** Currently only the F4 cross-harbour ferry service serves the Pymont Peninsula from Pymont Bay wharf. This service provides access to Barangaroo, Balmain East, McMahon's Point, Milsons Point and Circular Quay. An on-demand ferry trial was conducted in 2019 that provided on-demand ferry services from Blackwattle Bay, Fish Market or Pirrama Park wharves directly to Barangaroo. This trial is currently on hold, but is likely to resume service in late 2020.

The public transport catchments across the Pymont Peninsula are shown in Figure 38. This figure shows that Pymont Peninsula is well-covered by local and intermediate public transport (shown in blue), but lacks access to heavy rail catchments (shown in red) when compared to nearby areas of the City of Sydney. This shows that Pymont Peninsula residents and workers have a 15 to 20-minute walk to access a heavy rail station such as Town Hall or Central. The construction of a metro station as part of Sydney Metro West project for Pymont would improve accessibility by public transport as well as connecting it directly to the regional public transport network and substantially increase its 30-minute catchment.

**Existing public
transport network**

- Key**
- Pymont Peninsula Study Area
 - Innovation Corridor (City Plan 2036)
 - Public Square (Existing and Planned)
 - Public Open Space
 - University/Hospital
 - Metro Rail (Indicative)
 - Suburban Rail
 - Light Rail
 - Ferry
 - Bus

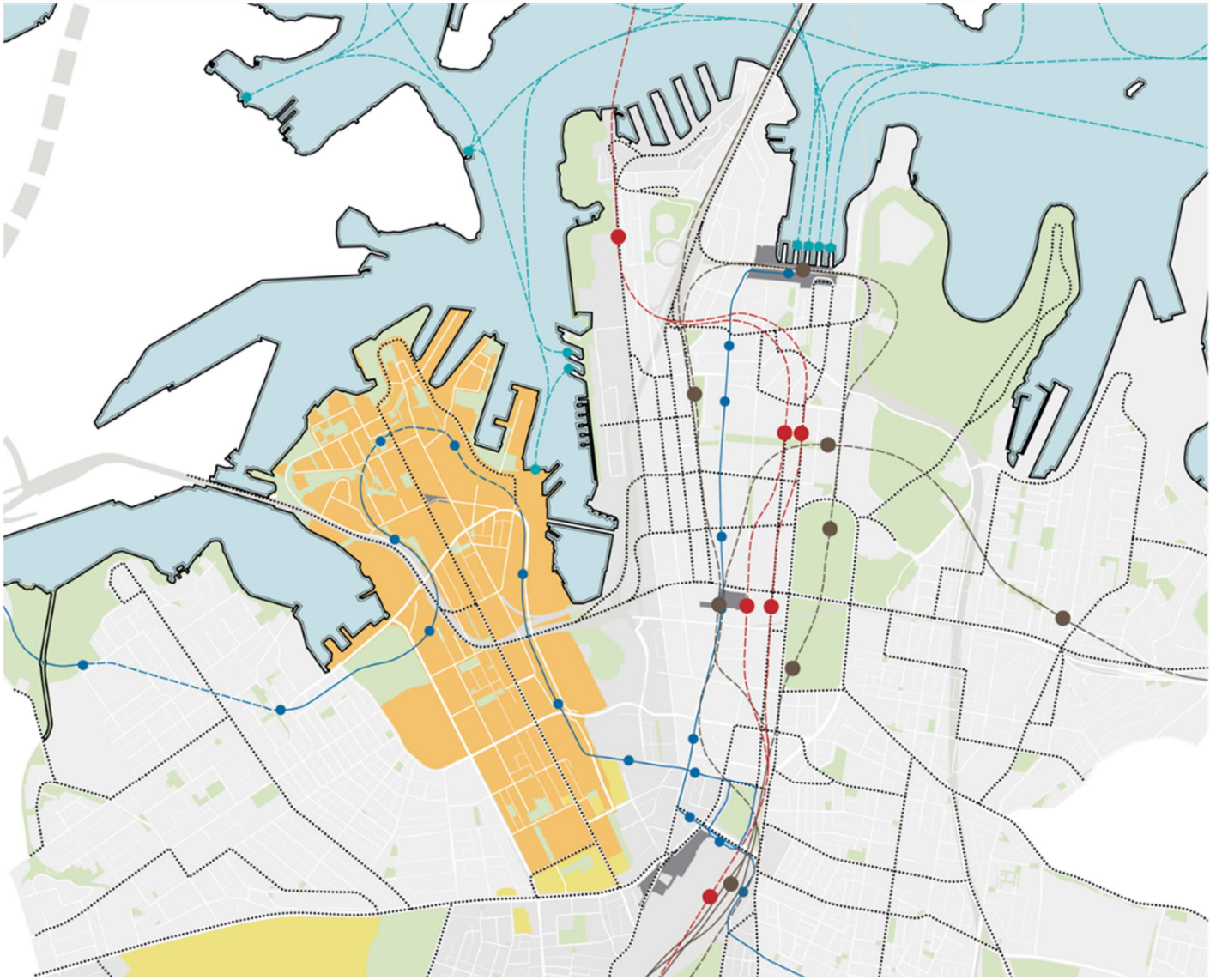


Figure 37 – Existing public transport network

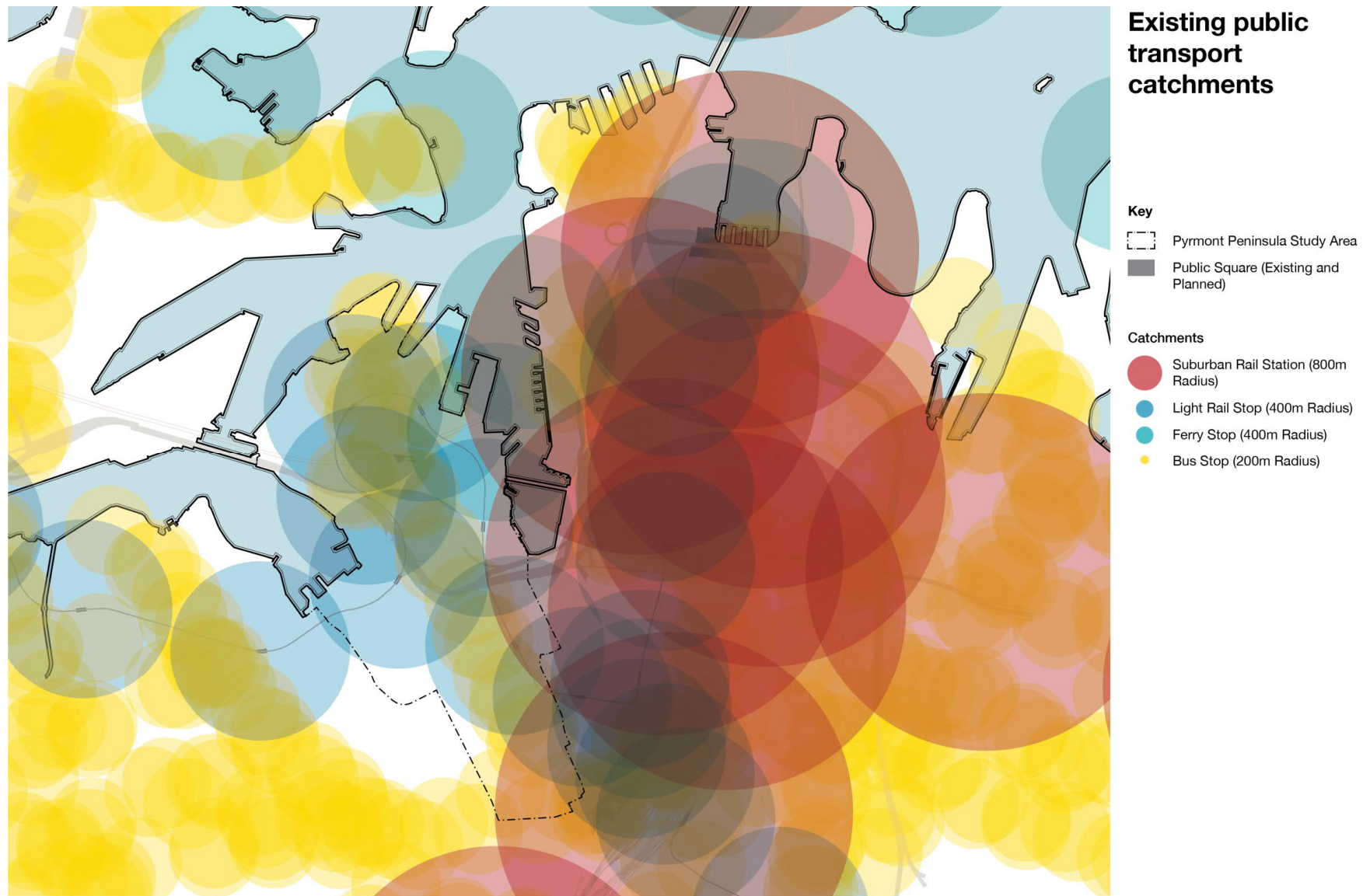


Figure 38 – Public transport catchments across Pyrmont Peninsula

5.2.1. Light rail network performance

Figure 39 shows light rail station demand based on OPAL tap-on and tap-off volumes from 2019 at each light rail stop in the Pymont Peninsula during the morning and evening weekday peak hour. Figure 40 shows the typical light rail loading along the Inner West Light Rail for the morning peak inbound service and evening peak outbound service.

These OPAL data indicate the following:

- During the morning peak, light rail tap-offs exceed tap-ons by a factor of more than 10 times. This indicates that the light rail service is primarily used by people working in the Pymont Peninsula, with resident demand to Central in the morning being comparatively low.
- During the evening peak, tap-ons exceed tap-offs by a similar proportion, also indicating the light rail is used primarily by workers in the Pymont Peninsula travelling home in the evening.
- Morning tap-ons through the Pymont Peninsula are relatively consistent across all stops (around 50 passengers per stop per hour), with a similar pattern in the evening peak, indicating a consistent resident demand for light rail across Pymont Peninsula.
- The Star casino has substantially more tap-offs in the evening peak, indicating that there is also a significant demand for visitors to the Star casino taking light rail in the evening peak.
- The busiest stops within Pymont Peninsula are located at the Pymont Bay and The Star Casino, where the majority of employment is located along the light rail line through Pymont, further supporting the use of the light rail for workers commuting to the Pymont Peninsula.

Typical light rail loading data also supports these observations indicating that the majority of passengers on the Inner West Light Rail originate from west of the Pymont Peninsula and use the light rail to commute to jobs in the northern end of the peninsula. Morning peak loading typically peaks at Glebe where the light rail reaches comfortable capacity during the morning peak.

During the evening peak, outbound loading also peaks at Glebe, however evening peak loading doesn't typically reach comfortable capacity, indicating there is some spare capacity for outbound services in the evening peak.

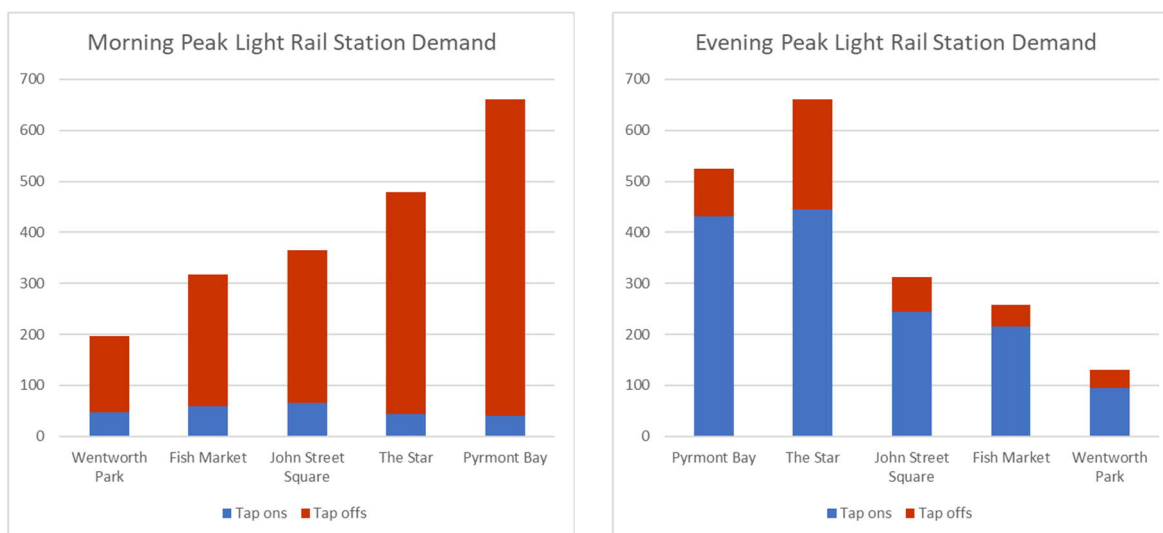


Figure 39 – Inner West Light Rail peak period station demand

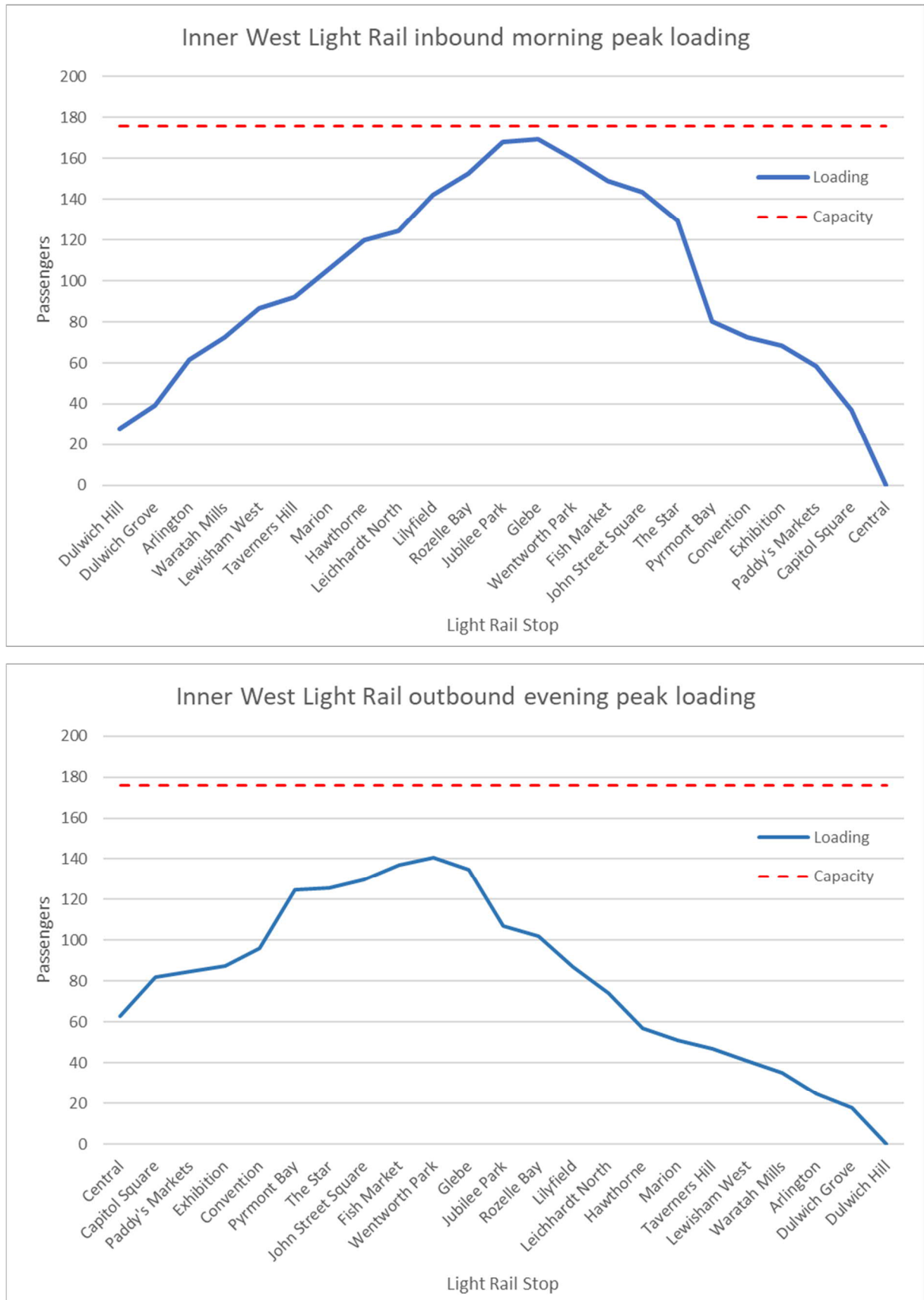


Figure 40 – Inner West Light Rail typical peak service loading

5.2.2. Bus network performance

The key bus routes that serve the Pyrmont Peninsula are:

- 389 Pyrmont to Bondi Junction – timetabled to run every 8 minutes in the peak period
- 501 West Ryde to Central station – timetabled to run every 10 minutes during the peak period

Maps of these routes through the Pyrmont Peninsula are shown in Figure 41.

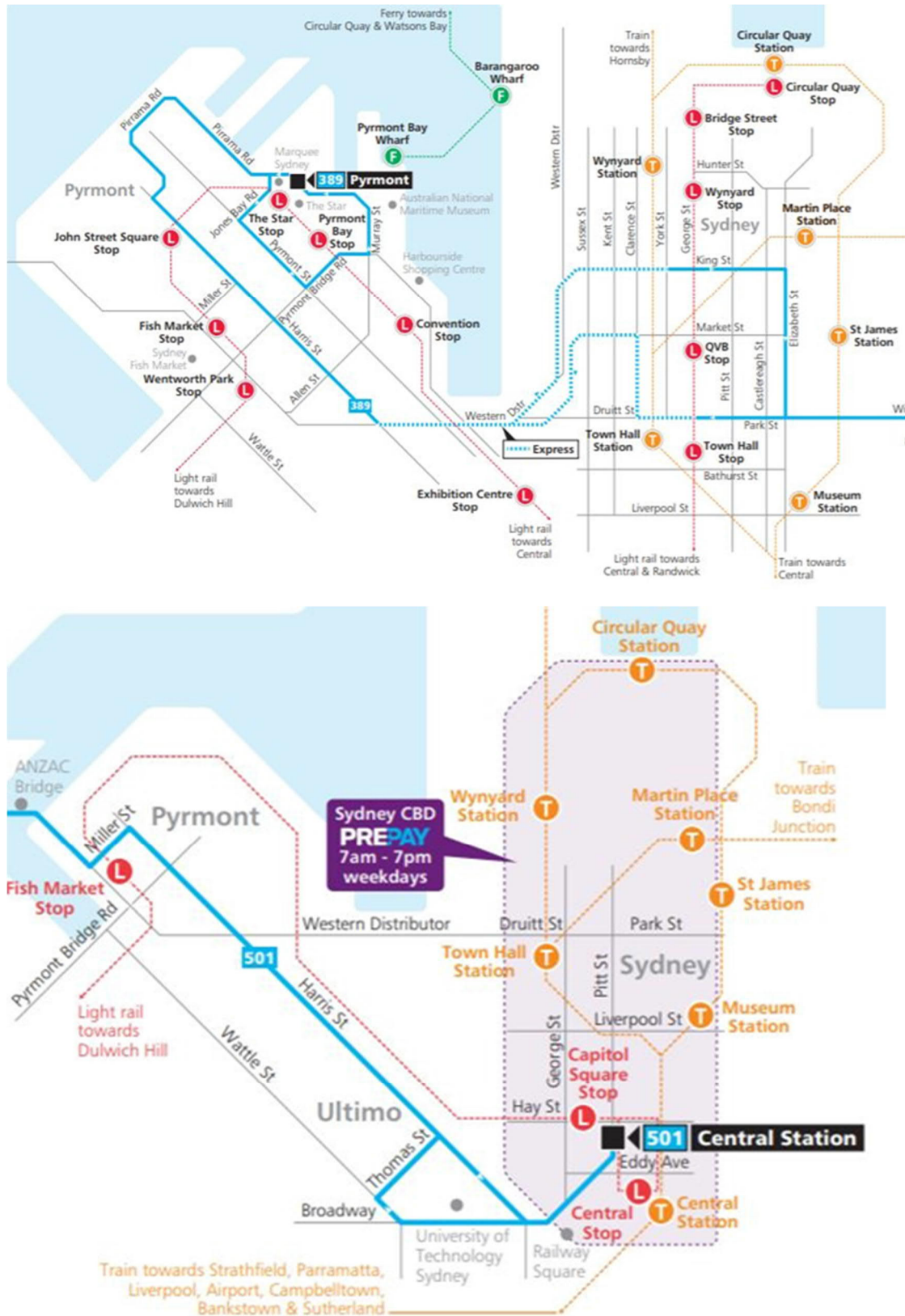


Figure 41 – Route maps for 389 and 501 services through the Pyrmont Peninsula.

Figure 42 illustrates bus stop demand based on OPAL tap-on and tap-off volumes from 2019 for each bus stop in the Pymont Peninsula during the morning peak, evening peak and across the average weekday. Figure 43 shows the typical peak direction loading for the 389 and 501 services during the morning and evening peaks, with Figure 44 and Figure 45 showing average section speeds and on-time running performance respectively

These OPAL data indicate the following:

- The busiest bus stops in the Pymont Peninsula are along Harris Street in Pymont between Union Square and Fig Street. This corresponds with the key employment centres in Pymont; with most passengers tapping off in the morning and tapping on in the evening, indicating that these stops and services are primarily used for passengers commuting to Pymont.
- For the peak directions, the 389 service reaches its loading peak at Pymont; this service operates at less than 50 per cent of capacity during peak periods, reflecting its high frequency (8 services per hour).
- For the peak directions, the 501 service also reaches its loading peak at Pymont; this service operates at less than 70% of capacity during peak periods, indicating that at 6 services per hour, this route may need additional services to meet the increasing demand in the future.
- The 389 service is generally a slower local service and maintains a consistently low speed along its route. Through Pymont, it runs close to the overall average route speed and generally runs on-time during the weekday peak. This indicates that the 389 is a generally reliable, high frequency but low-speed route suited to shorter trips along its length.
- The 501 service is a faster service to the west of Pymont, but slows down significantly through the Pymont Peninsula. This corresponds with higher delays between Rozelle and Pymont where the 501 service frequently experiences delays in exiting the Western Distributor and entering Pymont. This service has reliability issues between Rozelle and Pymont and on average runs between 6 and 8 minutes late in this section, which is very close to its average peak headway of 10 minutes.

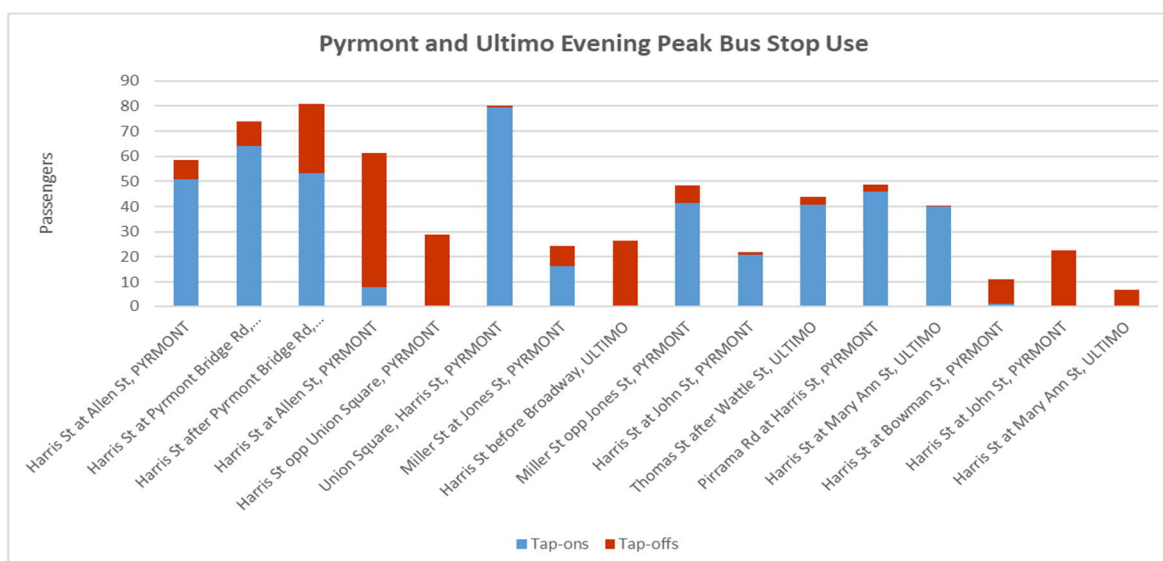
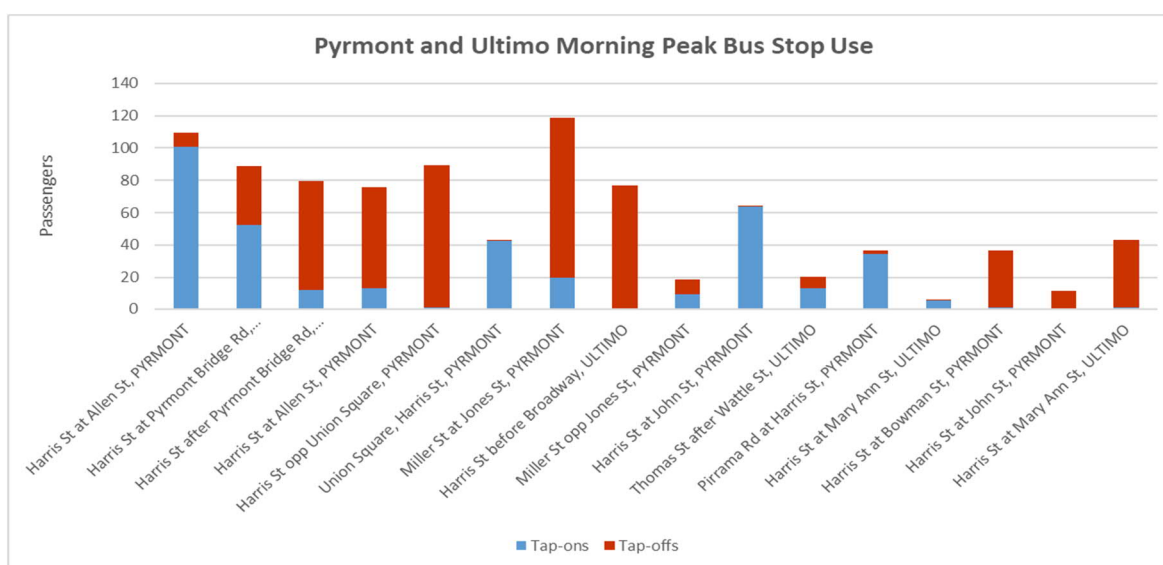
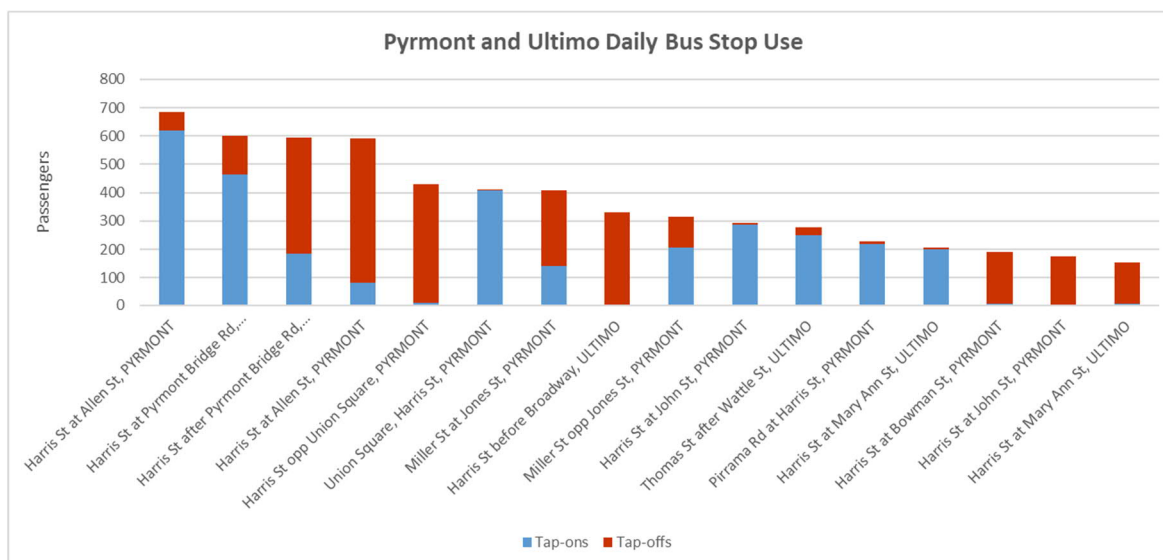


Figure 42 – Pymont Peninsula bus stop usage

Pyrmont Peninsula – Place-Based Transport Strategy



Figure 43 – 389 and 501 service peak period bus loading

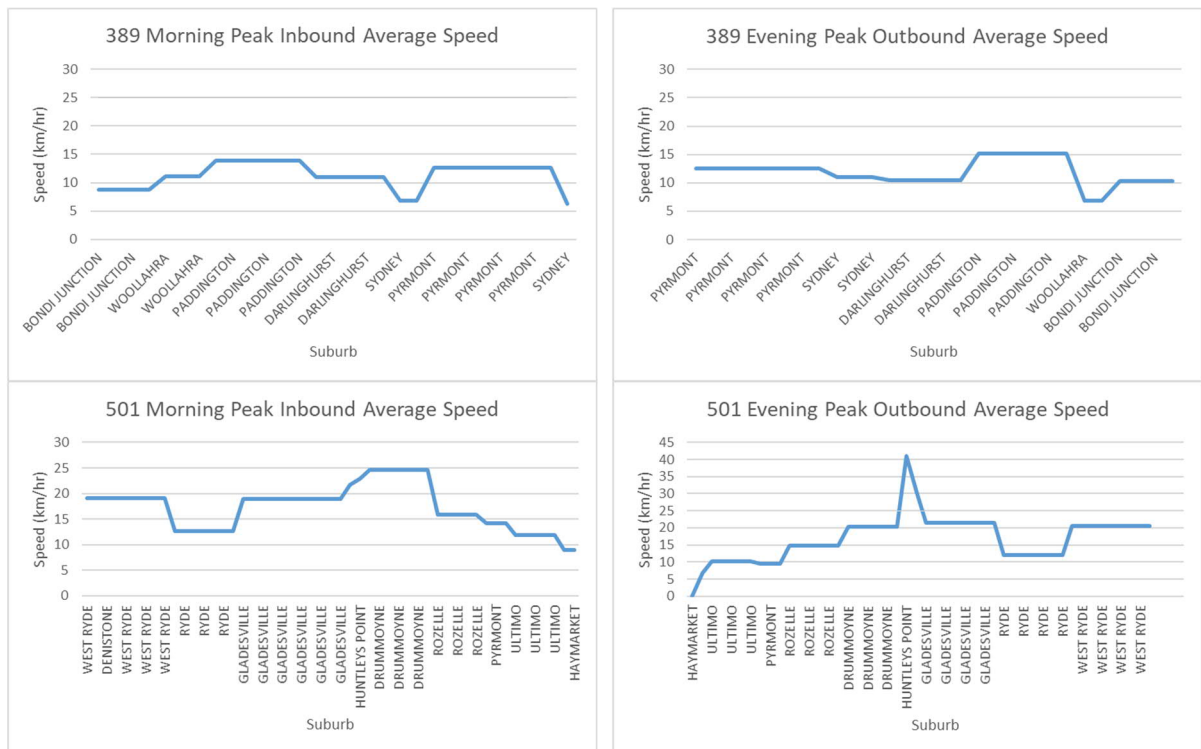


Figure 44 – 389 and 501 service peak period average section speeds

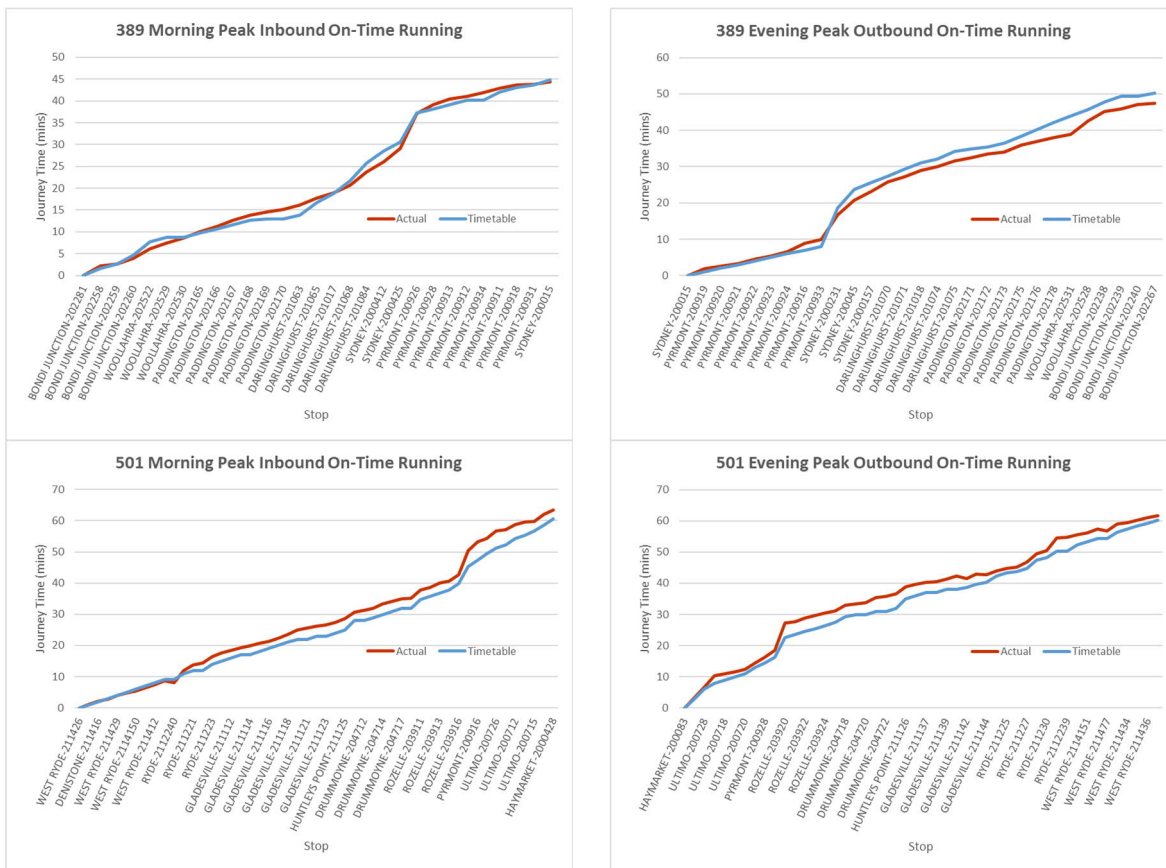


Figure 45 – 389 and 501 service peak period on-time running

5.3. Active transport network

Figure 46 shows the existing cycling network across the Pymont Peninsula. Key features of the existing cycling network include:

- **Pymont Bridge:** provides access to Sydney CBD from Pymont and is a high-quality high-traffic route for both pedestrians and cyclists. Pymont Bridge is the primary active transport connection to and from the Pymont Peninsula.
- **Union Street cycleway:** a separated cycleway that continues the cycle route from Pymont Bridge to Union Square.
- **Darling Drive cycleway:** a separated, but narrow cycleway along the western edge of Darling Drive, this cycleway has poor connectivity to the Goods Line at the southern end (via Hay Street) and becomes an on-road path north of Harbourside.
- **The Goods Line:** a high-quality off-road path with limited access at the northern and southern ends.
- **Anzac Bridge:** a low-quality route that is adjacent to a motorway and has challenging access at Quarry Master Drive.
- **Jones Street:** a shared path that connects to Broadway.

There are still a number of critical gaps in the cycle network through the Pymont Peninsula, including:

- **Union Street to Anzac Bridge:** The existing Union Street cycleway ends at Union Square and continues on-road to Bank Street.
- **Goods Line to Union Street:** The northern end of the existing Good Line link ends at the Museum of Applied Arts and Sciences where it connects to the Darling Drive cycleway.
- **Goods Line to Central:** The southern end of the existing Good Line link ends at Ultimo on approach to Railway Square.
- **Darling Drive north:** the existing separated cycleway ends north of the Harbourside access on Darling Drive.
- **Harbour foreshore:** the existing harbour foreshore recreational cycle link ends at the western edge of Waterfront Park, with no foreshore access from Waterfront Park to Wentworth Park.

The key pedestrian spines that link the City of Sydney's active streets is shown in Figure 47. The key pedestrian links in the Pymont Peninsula are:

- Pymont Bridge
- Union Street and Union Square
- Harris Street
- The Goods Line
- Pirrama Road

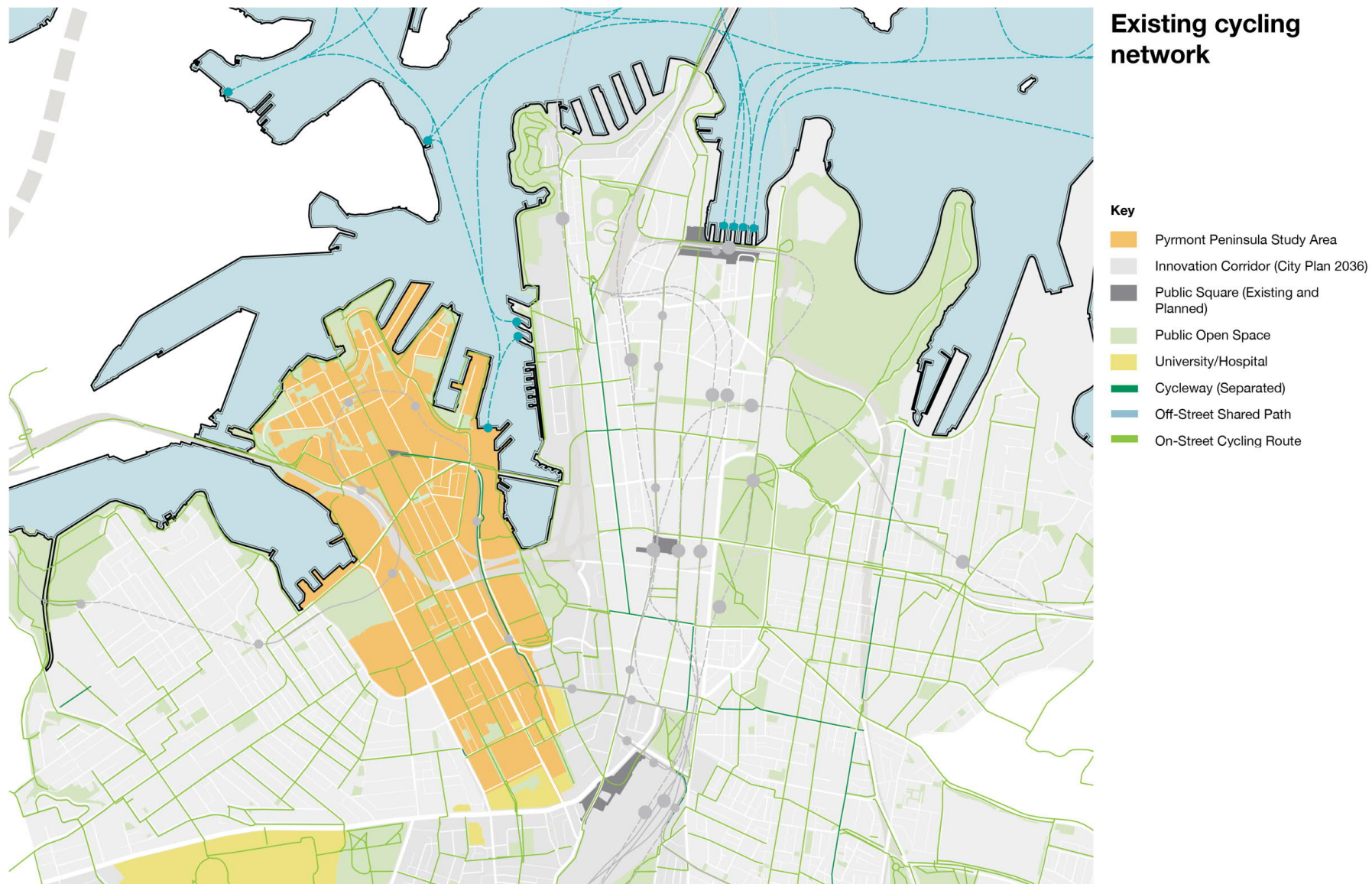


Figure 46 – Existing cycling network across Pymont Peninsula

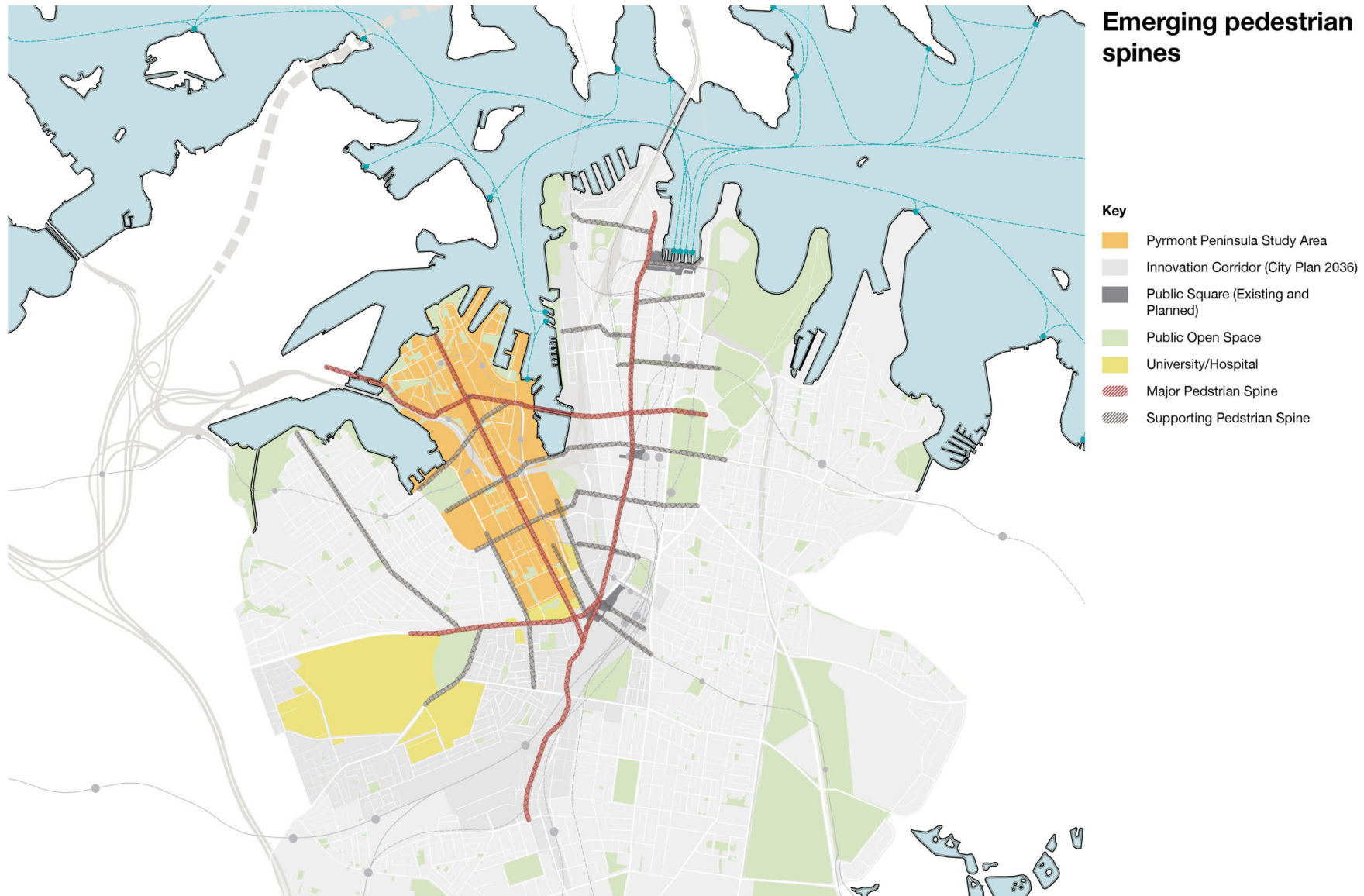


Figure 47 – Pedestrian spines connecting City of Sydney public squares

The walking environment in the Pyrmont Peninsula is limited by the topography, particularly for east-west trips that traverse steep gradients across the peninsula. For north-south trips, walking trips along Harris Street and Wattle Street are affected by long wait times and crossing distances at key intersections of Fig Street and Pyrmont Bridge Road as well as poor footpath conditions, particularly south of Western Distributor where footpaths are narrower and obstructed by trees and street furniture.

City of Sydney undertakes pedestrian and cycle counts twice per year across the local area, including the Pyrmont Peninsula, with the most recent cycle and pedestrian count data for the Pyrmont Peninsula from 2019 shown in Figure 48 and Figure 49 respectively.

Review of these cycle counts shows that cycle volumes at Pyrmont Bridge are among the highest in the City of Sydney, highlighting the importance of Pyrmont Bridge to the accessibility of the Pyrmont Peninsula for active transport. Although not as high as Pyrmont Bridge, Anzac Bridge also carries significant volumes of cycle traffic, likely driven by good cycle connections through Rozelle and Lilyfield that facilitate cycling from the inner west into the Pyrmont Peninsula. Cycle volumes on The Goods Line, Wattle Street and Jones Street are much lower, indicating that these routes are less attractive for cyclists, likely due to the barriers created by Fig Street, William Henry Street and Broadway.

Review of the pedestrian volumes shows similar patterns to the cycle data, with Pyrmont Bridge, Harris Street north of Pyrmont Bridge Road and Mitchell Street carrying relatively high volumes of pedestrians when compared with Harris Street south of Allen Street. This confirms that Harris Street is less desirable as a pedestrian route to the south of Pyrmont Bridge, due in part to the barriers created by Western Distributor and William Henry Street, but also likely due to the relatively poorer walking environment to the south of Pyrmont Bridge Road, where footpaths are narrower and vehicle speeds are higher.

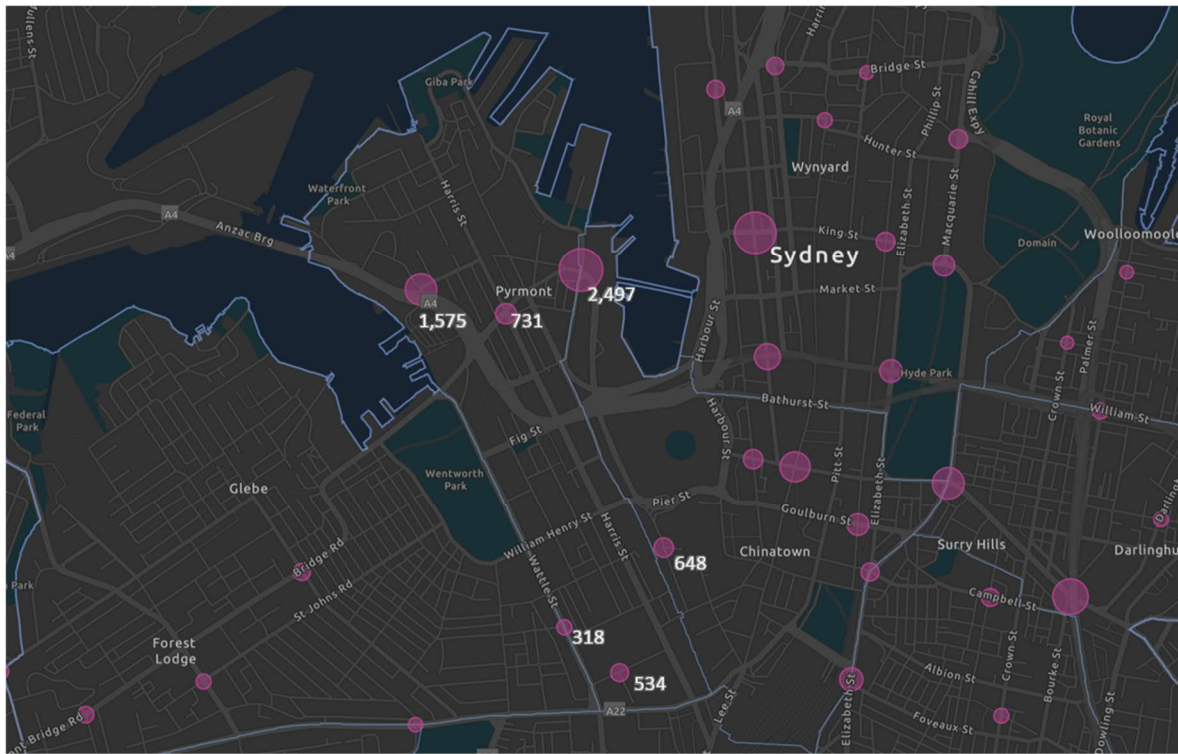


Figure 48 – City of Sydney daily cycle counts at key locations in the Pyrmont Peninsula

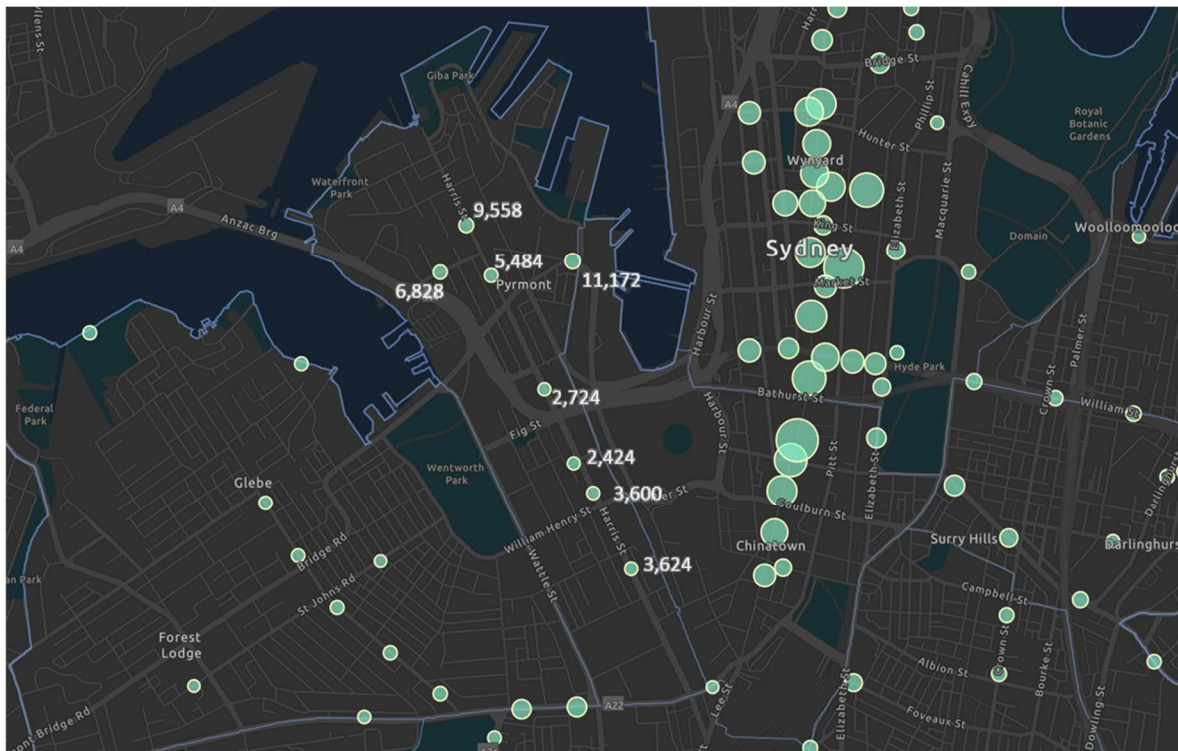


Figure 49 – City of Sydney daily pedestrian counts at key locations in the Pyrmont Peninsula

The locations of public bicycle parking across the Pyrmont Peninsula are shown in Figure 50. Existing public cycle parking is concentrated around Union Square, Pyrmont Bridge and University of Technology Sydney. Additional cycle parking is also located in close proximity to light rail stops.

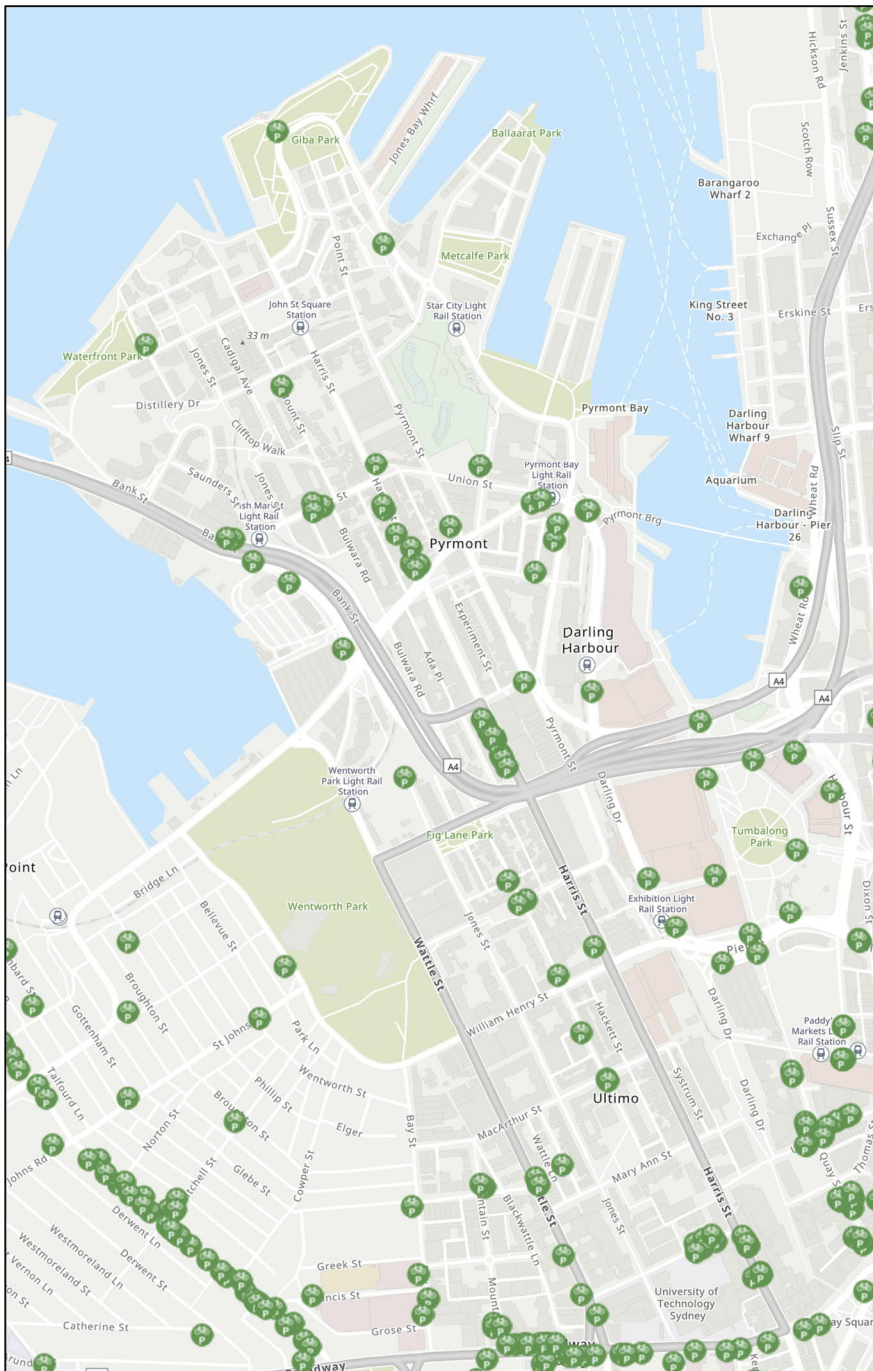


Figure 50 – Locations of public bicycle parking

5.4. Car parking

5.4.1. Off-Street parking

Parking within the Pymont Peninsula serves a variety of different customers, resulting in parking capacity across off-street, on-street and car-sharing.

Under the City of Sydney LEP 2012 the Pymont Peninsula is currently subject to varying off-street residential parking provisions depending on the level of land use and transport integration, as shown in Figure 51. Some areas along the foreshore to the north of the peninsula are categorised as C, the majority as B, and areas closer to Central Station as A. As the predominant parking provision category across the Pymont Peninsula, Category B allows for the following maximum residential parking rates per dwelling (based on residential flat buildings):

- Studios: 0.2 spaces
- 1 bedroom: 0.4 spaces
- 2 bedrooms: 0.8 spaces
- 3 or more bedrooms: 1.1 spaces
- for each dwelling up to 30 dwellings–0.167 spaces, and
- for each dwelling more than 30 and up to 70 dwellings–0.1 spaces, and
- for each dwelling more than 70 dwellings–0.05 spaces

Based on these rates, residential parking provision across the Pymont Peninsula allows for substantially less than 1 space per dwelling, indicating that car ownership is restricted by residential parking provision, contributing to high active and public transport mode shares.

Similarly, commercial development parking provision rates are based on public transport accessibility level categorisation as shown in Figure 52. In this case, category D represents the most restrictive rate, however for the businesses with floor space ratio greater than 3.5:1 (or total floor area more than 175m²), the maximum number of car parking spaces for a building used for the purposes of office premises or business is as follows:

$$(M=(G \times A) \div (50 \times T))$$

where:

M is the maximum number of parking spaces, and

G is the gross floor area of all office premises and business premises in the building in square metres, and

A is the site area in square metres, and

T is the total gross floor area of all buildings on the site in square metres.

This is a similarly restrictive maximum parking rate that limits the available parking space for businesses far below the number of employees for the same floor area. Availability of parking at workplaces is the primary driver for journey-to-work trips via private vehicle, hence these low parking rates are critical for keeping private vehicle mode share low for workers.

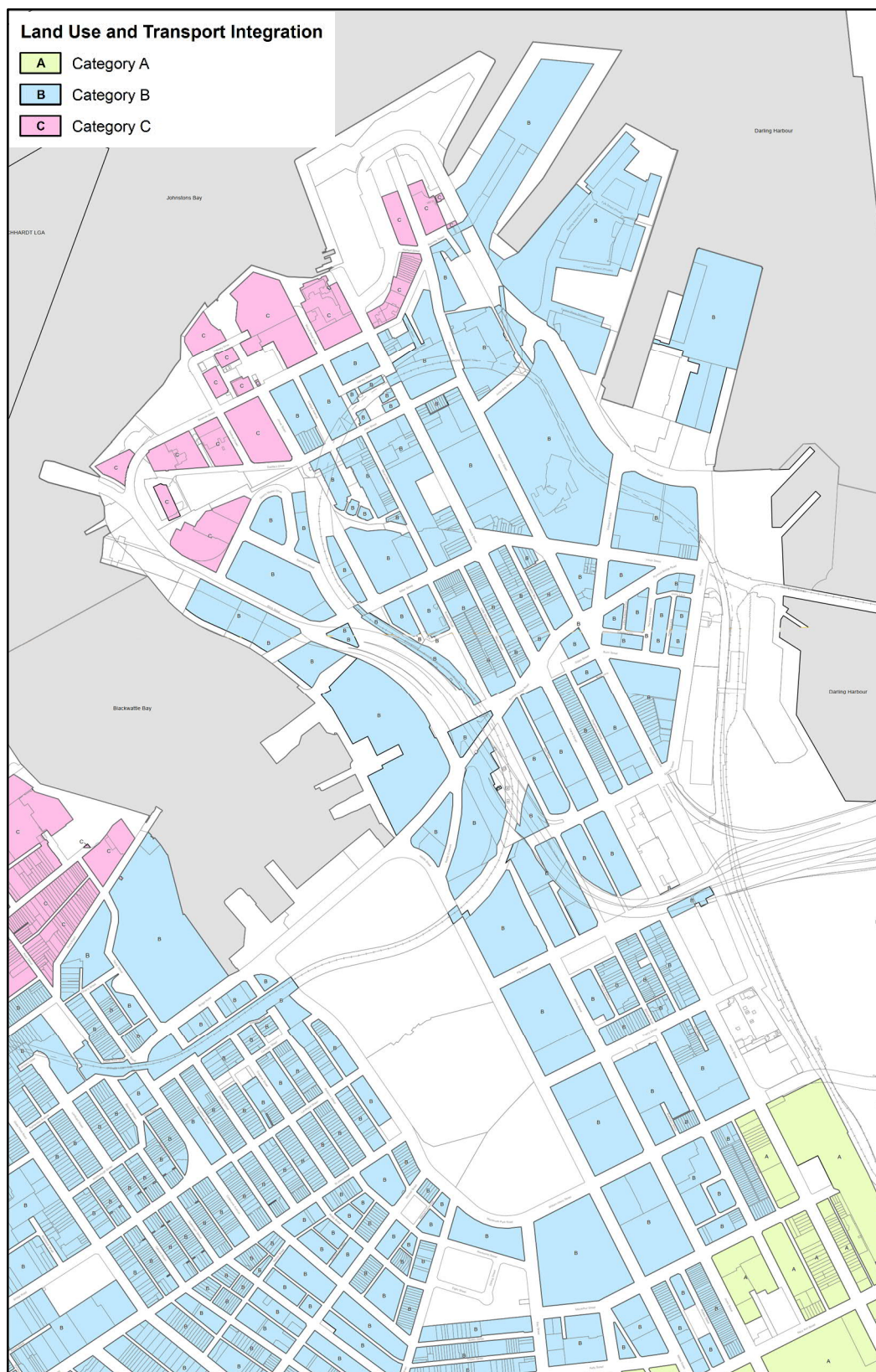


Figure 51 – City of Sydney LEP 2012 residential parking categories

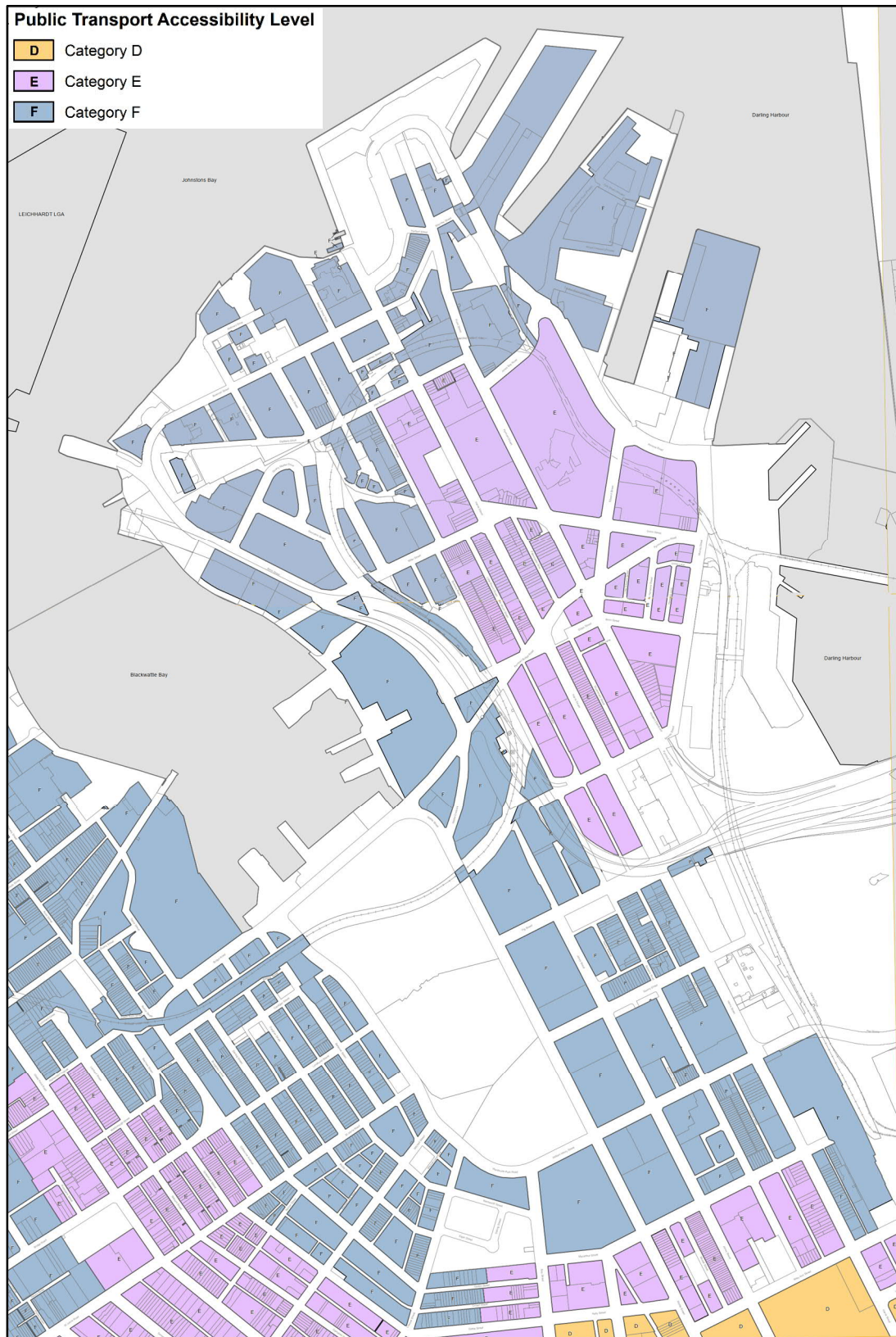


Figure 52 - City of Sydney LEP 2012 commercial parking categories

5.4.2. On-Street parking

City of Sydney's Neighbourhood Parking Policy manages on-street parking supply and demand using a range of parking controls and a parking permit scheme that applies throughout City of Sydney Local Government Area. Pyrmont Peninsula currently falls within parking area 20 and parking zone B. While this indicates that resident parking permits in the Pyrmont Peninsula currently do not exceed the number of spaces within this parking zone, the majority of residents in the Pyrmont Peninsula would be ineligible for a resident parking permit as their dwelling is too new or was approved on the condition that no parking permits are to be issued.

Almost all on-street parking in the Pyrmont Peninsula is controlled, with the majority subject to paid-parking limits between 6 hours and 1 hours; paid parking generally applies 24 hour a day, including Saturdays, Sundays and public holidays. Control of on-street parking in the Pyrmont Peninsula supports the restrictive off-street parking provisions by ensuring that on-street parking without a parking permit is not financially feasible for most residents and workers, further encouraging travel by public or active transport.

5.4.3. Car sharing

There are over 50 on-street car-sharing spaces throughout the Pyrmont Peninsula, shown in Figure 53, with the majority of these are distributed in the northern part of Pyrmont and southern part of Ultimo, representing some 2 per cent of on-street parking spaces and occupied by a variety of car-sharing providers. Current City of Sydney Council policy will increase the number of car-sharing spaces provided in new commercial and residential developments, with over 50,000 car share memberships held across the whole of the City of Sydney. These car sharing spaces provide access to communal (although privately operated) car-sharing for residents and workers and reduce the reliance on private-car ownership for trips unsuited to public or active transport.

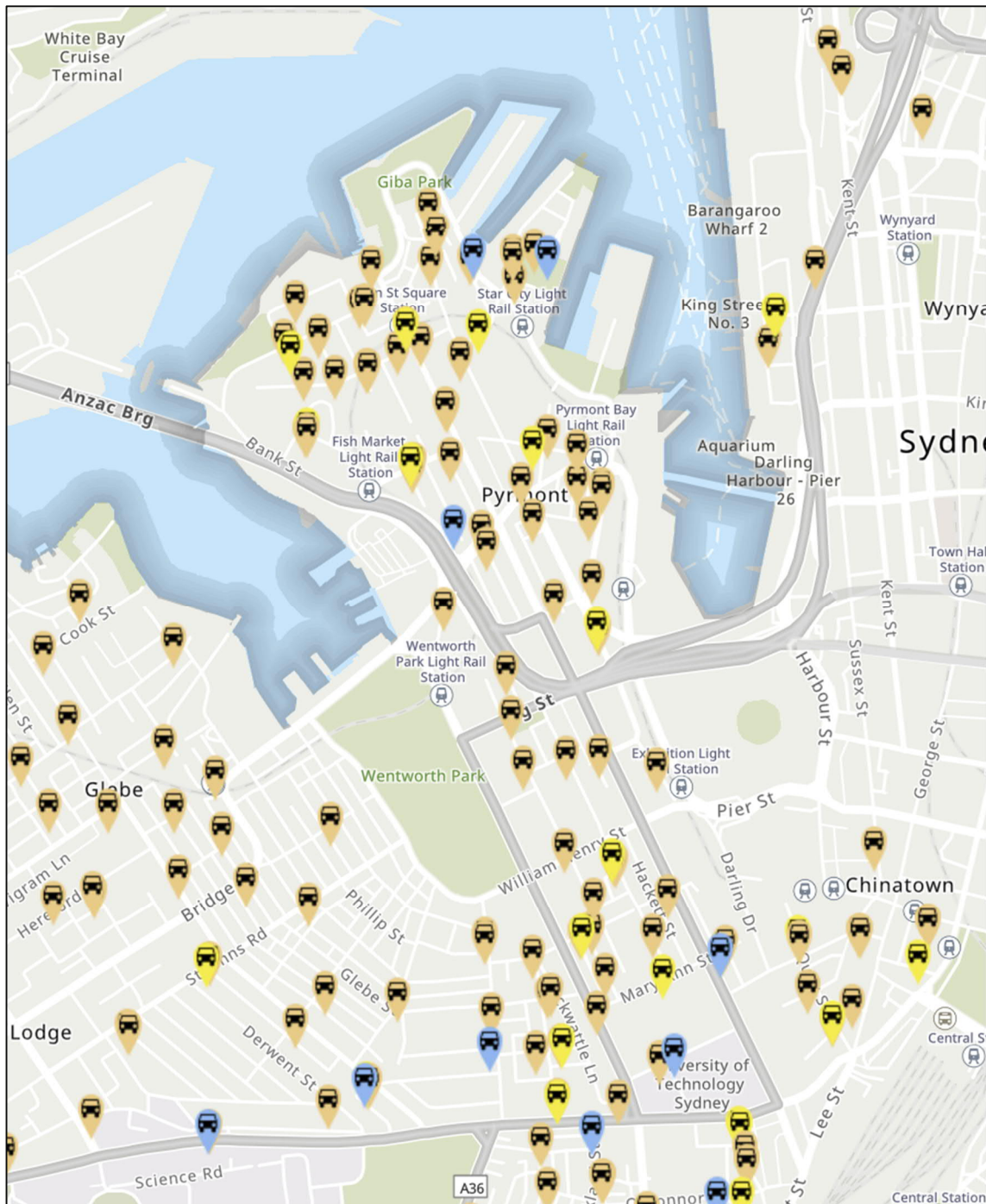


Figure 53 – Locations of on-street car-sharing spaces

6. Pyrmont Peninsula travel demand context

This chapter details the future travel demand that will be a consequence of increased employment and residential population within the Pyrmont Peninsula. Although detailed transport modelling has not been undertaken for this strategic review of the travel demand, benchmarking of the Pyrmont Peninsula against other centres within the City of Sydney LGA and the Eastern Harbour City more broadly has been used as the basis for developing these estimates of the future travel demand.

6.1. Existing travel behaviour and trends

Existing travel behaviour and trends in the Pyrmont Peninsula has been drawn from 2016 Journey to Work Census data for the Pyrmont SA2 region and Transport for NSW Household Travel Survey (HTS). These surveys provide a snapshot of travel behaviours including trip distribution, trip length, trip purposes and mode choice.

6.1.1. Journey to work travel mode

Figure 54 shows surveyed Journey to Work mode share for the Pyrmont Peninsula residents between 2011 and 2016. Analysis of resident Journey to Work mode share indicates the following:

- The dominant mode of travel for residents travelling to work from the Pyrmont Peninsula is by active transport. This reflects the proximity of the Pyrmont Peninsula residents to Sydney CBD, via Pyrmont Bridge, and has not changed significantly between 2011 and 2016.
- Public transport mode share is the next highest mode after active transport and has increased from **27 per cent to 31 per cent**. This likely reflects the extension of the Inner West Light Rail to Dulwich Hill and associated increase in service frequency on this line since 2014.
- Private vehicle mode share is the lowest of all modes for residents and has decreased from **28 per cent to 25 per cent**. This likely reflects increased congestion on the surrounding road network, particularly to and from the Western Distributor and Broadway.

Figure 55 shows surveyed Journey to Work mode share for the Pyrmont Peninsula workers between 2011 and 2016. Analysis of worker Journey to Work mode share shows the following:

- The dominant mode of travel to the Pyrmont Peninsula is via public transport, which has increased significantly from **48 per cent to 55 per cent**. This likely reflects the extension of the Inner West Light Rail line that substantially improved access to the Pyrmont Peninsula from the south and west.
- Private vehicle mode share has decreased from **40 per cent to 34 per cent**, likely reflecting increased congestion on the road network, particularly from the south-west, where access to public transport into the Pyrmont Peninsula has improved with the Inner West Light Rail extension.
- Active transport has the lowest mode share for workers, having decreased from **13 per cent to 12 per cent**. Lack of growth in active transport for workers commuting to the Pyrmont Peninsula is likely a reflection of local industries, which tend to draw workers from across the Sydney metropolitan area and for whom active transport is not a feasible mode of travel for longer commutes.

Overall, Journey to Work mode share trends show that there have been positive increases in public transport usage, likely related to the introduction of the Inner West Light Rail Extension in 2014 and broader trends observed in Sydney towards public transport during this period. Further increase in congestion on road corridors in and around the Pyrmont Peninsula may have contributed to a decrease in vehicle usage.

Pymont Peninsula – Place-Based Transport Strategy

Lack of growth in active transport mode share for Journey to Work reflect the large differences in the resident and workforce populations, with a large proportion of residents working in the CBD and able to easily use public transport to commute, while workers are generally travelling from a broader metropolitan catchment. These longer commute trips are less amenable to active transport, and thus demonstrate a need to invest more heavily in public transport for worker access to the Pymont Peninsula as a major employment hub.

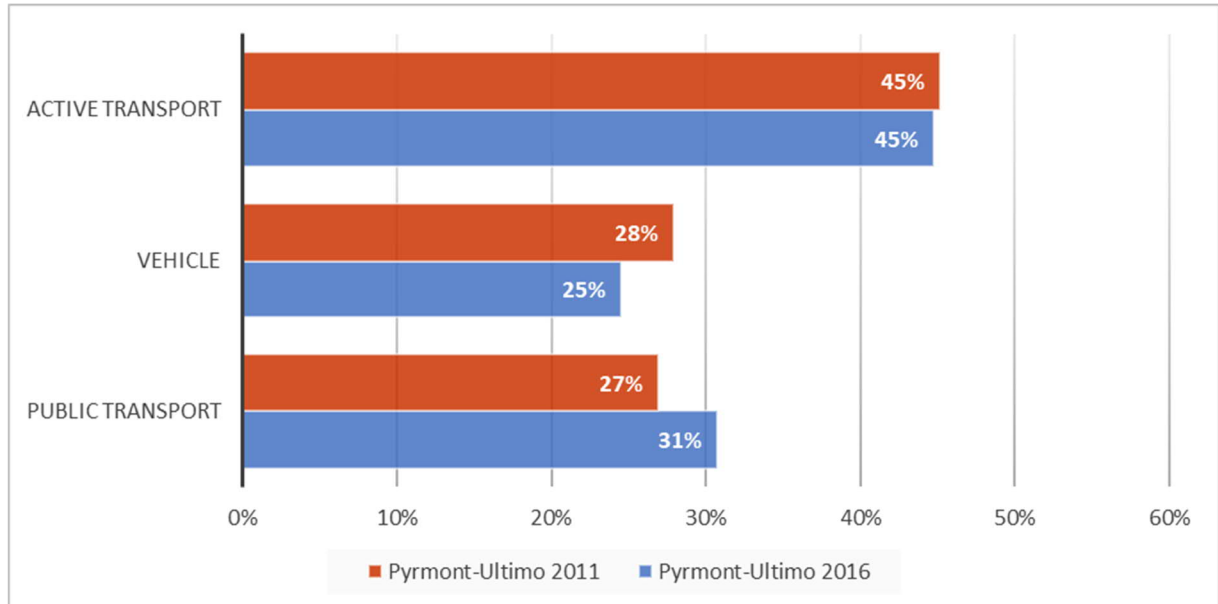


Figure 54 – Journey to work mode share for the Pymont Peninsula residents

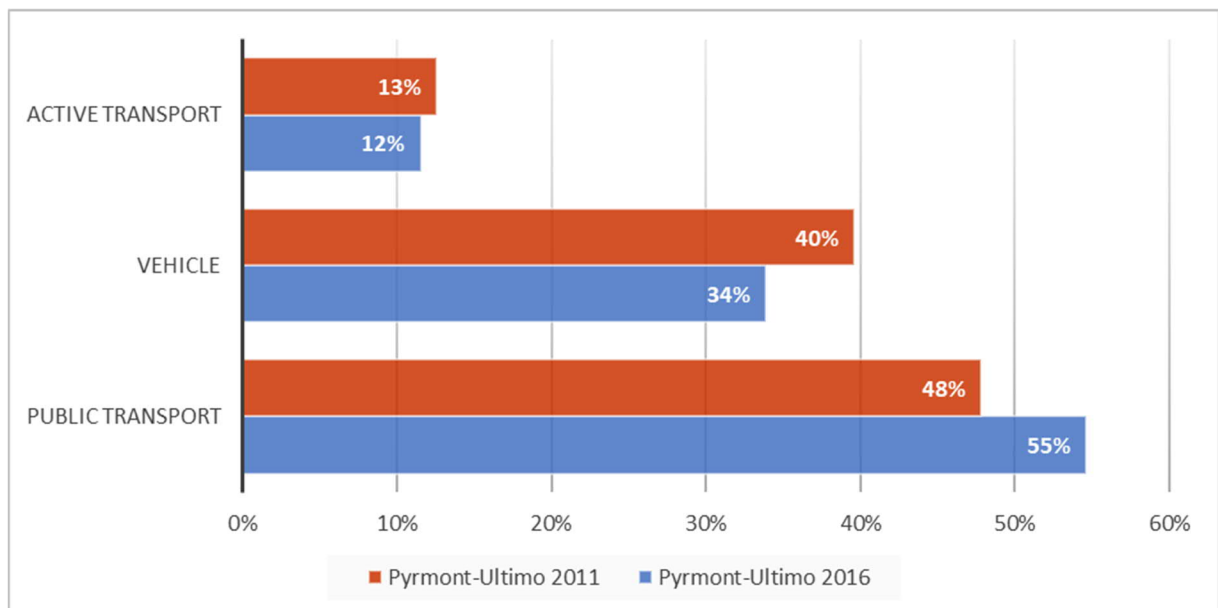


Figure 55 – Journey to work mode share for the Pymont Peninsula workers

6.1.2. Journey to work travel patterns and spatial distribution of trips

Figure 56 shows the distribution of Journey to Work trips for the Pymont Peninsula residents to the top destinations from the 2016 census. This figure shows an overwhelmingly large proportion of the Pymont Peninsula residents work within the Sydney CBD with 40 per cent travelling there for work. 18 per cent of residents work within the Pymont Peninsula, with North Sydney the next largest destination with 3 per cent. This large share proportion of residents working in the Sydney CBD is among the largest single destination shares of any SA2 region in Sydney and reflects a unique characteristic of the Pymont Peninsula, being within walking distance of Sydney CBD.

Figure 57 shows the distribution of Journey to Work trips for the Pymont Peninsula workers to the top destinations from the 2016 census. Less than 6 per cent of the Pymont Peninsula workers live within the Pymont Peninsula itself, with the other origins spread widely across Sydney. Newtown-Camperdown and Glebe are the only origins to exceed 2 per cent of origin workers. This demonstrates that the Pymont Peninsula as an employment centre serves a significant and widely dispersed workforce far in excess of its population, indicating that increased public transport access to the Pymont Peninsula via heavy rail would sustainably improve access for workers in the Pymont Peninsula and allow businesses to access a larger labour market.

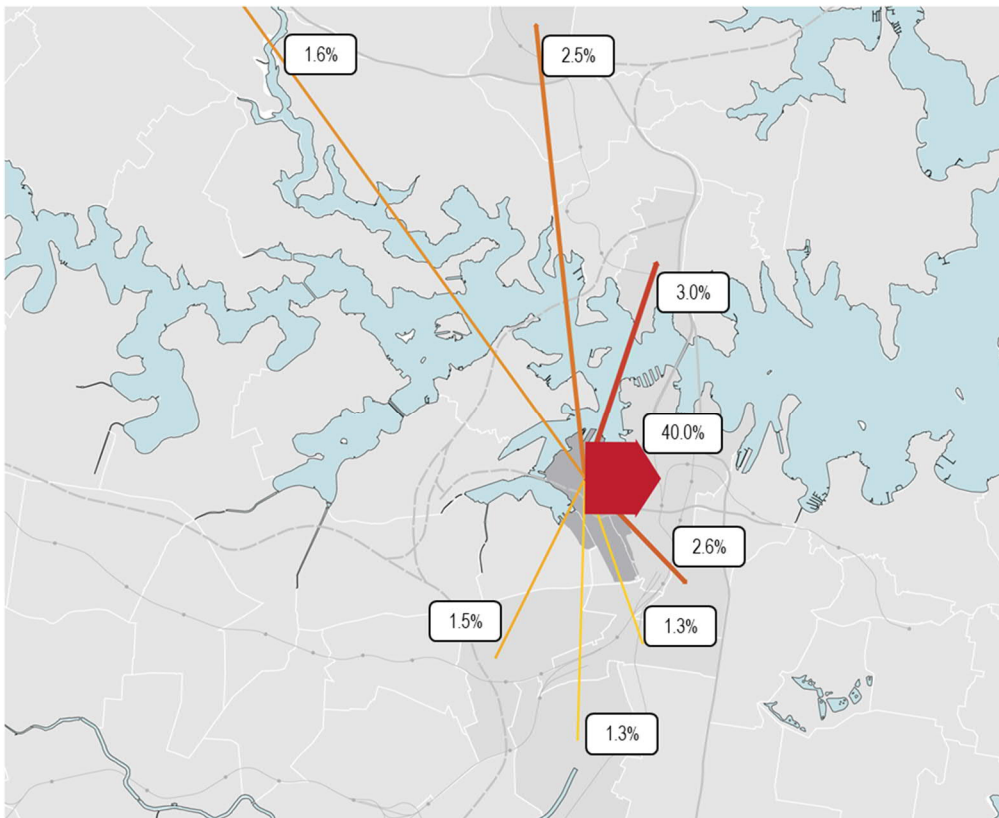


Figure 56 –Top work destinations for the Pyrmont Peninsula residents

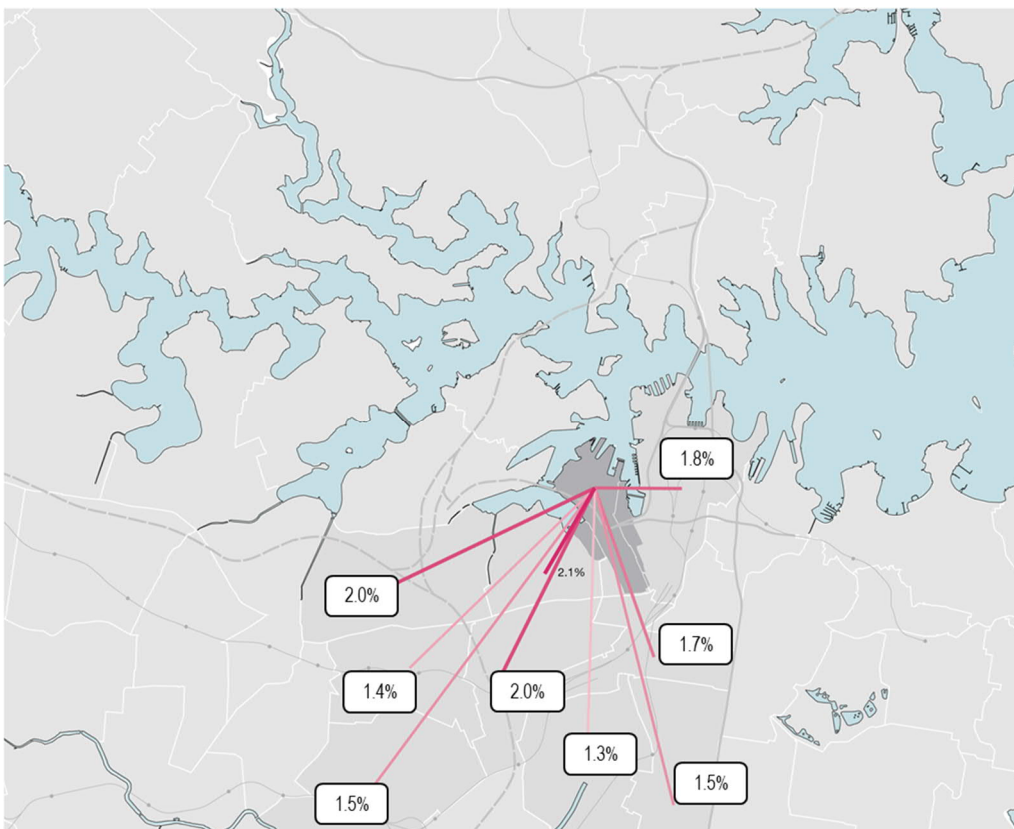


Figure 57 – Top home origins of the Pyrmont Peninsula workers

6.1.3. Household travel survey mode share and trip length distribution

NSW Household Travel Survey (HTS) is conducted by Transport for NSW and is the most comprehensive source of personal travel data for the Greater Sydney Metropolitan area. The HTS is conducted every day of the year, continuously collecting the travel data of approximately 4,000 randomly selected households across Sydney. This data covers the whole 24-hour day and includes all travel behaviour supplementing the census Journey to Work Data.

Due to small sample sizes at the SA2 level for Pyrmont, not all HTS data was suitable for analysis, however the following data have been analysed for the Pyrmont SA2 area:

- Trip purpose
- All-day mode share based on unlinked trips for 2008 and 2018
- Distribution of journeys by distance
- Distribution of journeys by time

Trip purpose

Table 10 shows a summary of the trip purpose distribution for HTS participants in the Pyrmont SA2 region in 2008 and 2018; this region includes the suburbs of Pyrmont and Ultimo. These data show that average total trips per household in the Pyrmont SA2 region has increased by 12 per cent, and this growth has primarily been for education and childcare, social/recreational travel. The growth in these trip purposes suggests along with the increase in average trip length suggests that residents of the Pyrmont Peninsula are travelling outside of the area to access services that they can't as easily access within the area. Commute trips have remained a consistent share of travel, while shopping trips have decreased, likely due to the increased availability of online shopping and delivery.

Table 10 – Household Travel Survey Pyrmont SA2 (Pyrmont and Ultimo) journeys by trip purpose

Purpose	2008 trips	2018 trips	2008 (%)	2018 (%)
Commute	14,668	16,946	35%	36%
Work related business	521	631	1%	1%
Education/childcare	1,673	3,318	4%	7%
Shopping	7,465	4,898	18%	10%
Personal business	2,146	1,963	5%	4%
Social/recreation	8,570	15,462	20%	33%
Serve passenger	2,691	2,994	6%	6%
Other	4,559	1,237	11%	3%
Total	42,293	47,449	100%	100%

Mode share

Figure 58 shows a summary of the mode share for HTS participants in the Pyrmont SA2 region for 2008 and 2018. These data show that walk has been the primary mode of travel for Pyrmont Peninsula residents, however there was a substantial decrease in the mode share of walk only trips with an accompanying increase in vehicle trips. This is in contrast to the Journey to Work data, which shows the opposite trend. This suggests that while accessibility for car during peak hours is constraining growth in journey to work trips, this may not be the case for all trips.

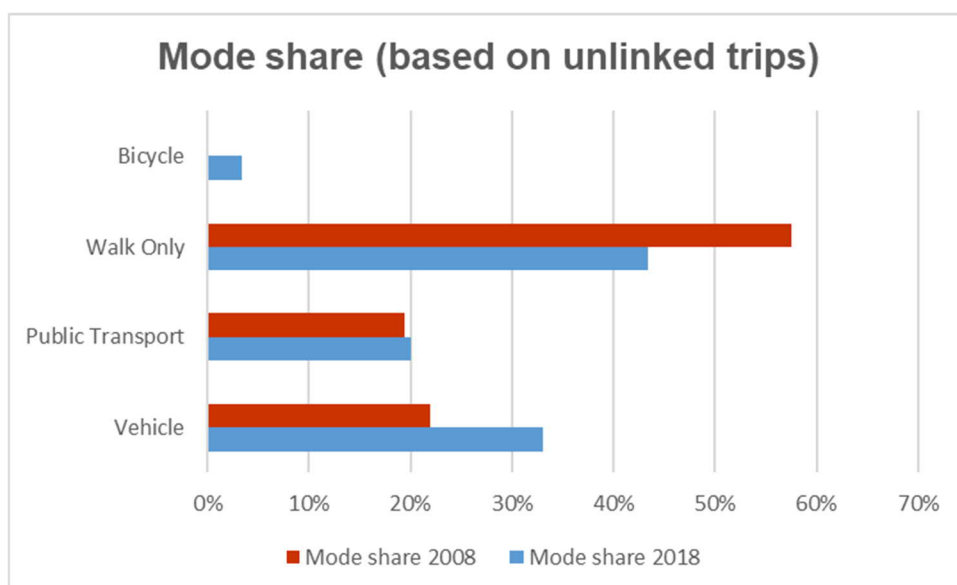


Figure 58 – Household Travel survey Pymont SA2 (Pymont and Ultimo) mode share

Trip length distribution

Figure 59 shows a summary of the trip length distribution for HTS participants in the Pymont SA2 region in 2008 and 2018. These data show that short trips of less than 2km and less than 15 minutes have historically made up the majority of trips taken by Pymont Peninsula residents, which is consistent with high walk mode share. This has been reducing over the last 10 years, however, with more longer trips taking place. This suggests that Pymont residents are now travelling further and for longer than they did 10 years ago and are likely doing so by car, which is in opposition to similar broader trends for trip length in the City of Sydney LGA as a whole. As car ownership has not significantly increased across Pymont Peninsula over the same time period, this suggests that current car owners are more likely to use their car to travel further for all purposes than they previously would have.

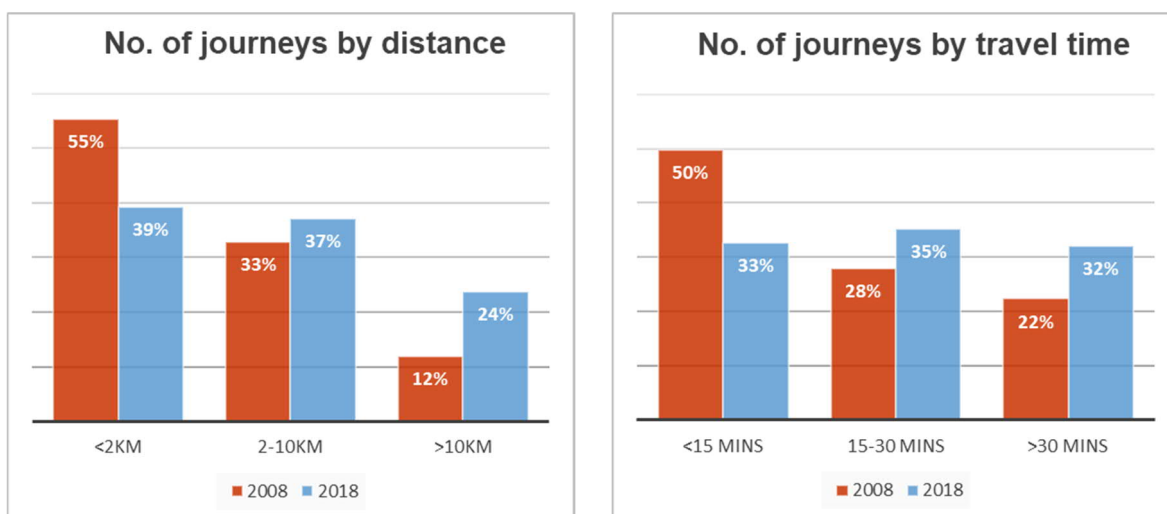


Figure 59 – Household Travel Survey Pymont SA2 (Pymont and Ultimo) trip length distribution

Overall, the HTS data suggests that there is an upward trend in longer distance car travel, and a downward trend in local active transport travel. This indicates that there is more potential for travel by active transport modes and that further investment to provide more walkable streets and better local access to recreation and community facilities could reverse this trend of increased longer distance car travel.

6.2. Benchmarking of transport indicators

In order to allow for a comparison of key travel characteristics of the Pyrmont Peninsula against other comparable centres across Sydney, benchmarking of transport indicators has been undertaken against the following data sets:

- Transport for NSW Household Travel Survey (HTS) at the LGA level:
 - Sydney metropolitan average
 - City of Sydney local area
 - North Sydney local area
 - Inner West local area
- ABS Journey-to-Work (JTW) 2016 census data
 - Surry Hills SA2 region
 - Redfern Chippendale SA2 region
 - North Sydney SA2 region.

These locations have been selected to allow a comparison of key travel characteristics of the Pyrmont Peninsula, and to inform the development of mode share targets (outlined further in Section 8.1). These locations have been selected for comparison against the Pyrmont Peninsula due to:

- Being similar as periphery areas of the Sydney CBD.
- Their role as major employment areas.
- Their substantial residential populations.
- Relevance for comparison as centres served by significant heavy rail investments.

Table 11 shows a comparison of the key characteristics of the benchmark areas. Unlike other major employment on the CBD periphery, the Pyrmont Peninsula does not currently have direct rail access.

Table 11 – Comparison of benchmark location characteristics

SA2	Population (2016)	Jobs (2016)	Jobs per resident	Car ownership (veh/dwelling)	Public Transport Provision	Major Rail Node	Rail Interventions
Pyrmont-Ultimo	219,79	40,518	1.8	0.8	Buses, light rail, ferries (and train)	Town Hall (15 min walk)	Potential SMW station
North Sydney	120,64	59,337	4.9	1.0	Train, buses	North Sydney	Victoria Cross station
Surry Hills	16,976	31,528	1.9	0.6	Train, buses, light rail	Central	Central upgrade
Redfern-Chippendale	20,506	15,395	0.8	0.7	Train, buses	Redfern	Redfern upgrade

6.2.1. Household travel survey

Figure 60 shows a comparison of household travel survey (HTS) mode share data for City of Sydney LGA to Inner West LGA, North Sydney LGA and the average for the Sydney Metropolitan Area. The HTS provides mode share data for all trip purposes over and above Journey-to-Work, which is critical to understanding travel patterns across the day. Although Journey-to-Work travel is important for morning and evening peak hours, commuter travel accounts for only 24 per cent of daily trips undertaken across Sydney.

Benchmarking of HTS against other LGAs shows that City of Sydney (encompassing the Pymont Peninsula) has the highest walk share of any LGA for all trip purposes (57 per cent) and is significantly higher than the Sydney metropolitan average of 17 per cent. City of Sydney LGA also has an exceptionally low vehicle mode share of 26 per cent, compared to the Sydney metropolitan average of 69 per cent.

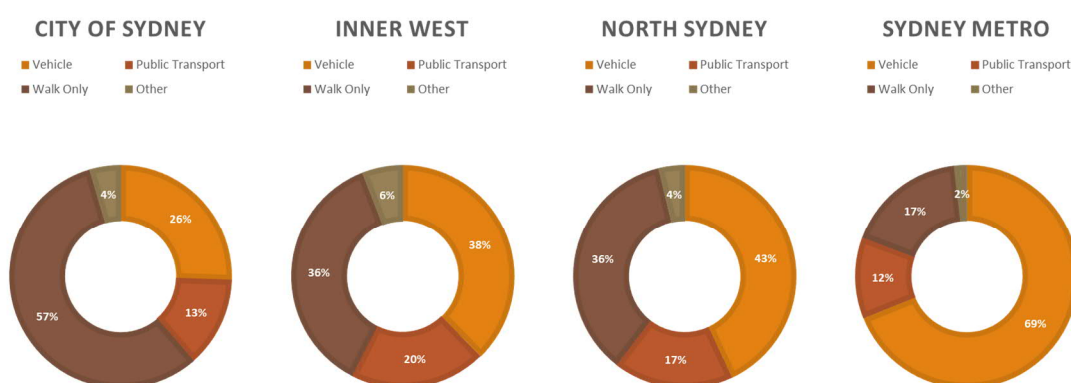


Figure 60 – Household travel survey mode share by local government area

6.2.2. Journey to work

Figure 61 shows a comparison of JTW resident mode share of the Pymont Peninsula against other centres within the Harbour City. The active transport share for the Pymont Peninsula is 45 per cent, notably higher than any of the benchmark locations. This likely relates to the high proportion of residents working in the Sydney CBD and the good pedestrian and cycle access provided by Pymont Bridge. Public transport share for the Pymont Peninsula is the lowest of the benchmark centres at 31 per cent, with vehicle mode share the second highest after North Sydney (24 per cent and 30 per cent respectively).

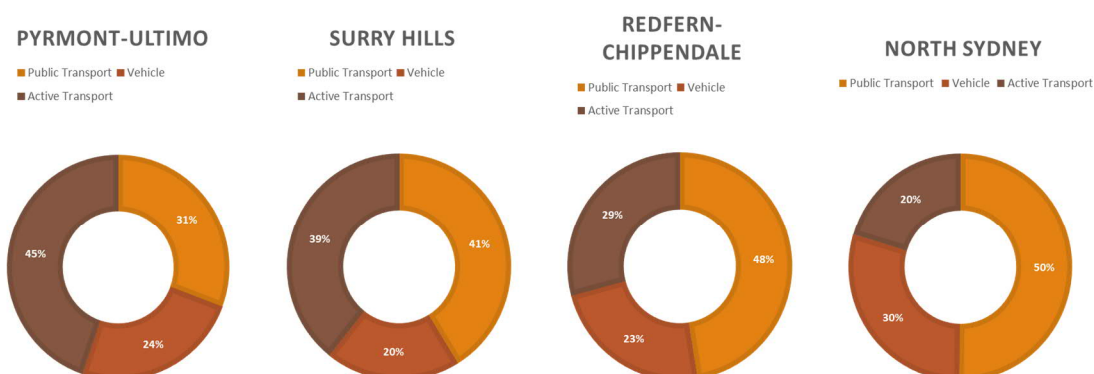


Figure 61 - Resident Journey to Work mode share by SA2 region

Figure 62 shows a comparison of JTW worker mode share of the Pyrmont Peninsula against other centres in the Harbour City. Vehicle mode share for the Pyrmont Peninsula is 34 per cent which is the second highest after Redfern–Chippendale at 37 per cent. Public transport share is higher than expected at 55 per cent which likely reflects good light rail and bus access, but largely the access from Town Hall Station via Pyrmont Bridge. This contrasts with similar employment centres such as North Sydney, which has direct heavy rail access and a much higher public transport mode share, along with substantially lower on–street parking and off–street parking for employment floor–space.

Active transport share is relatively low for all the benchmarks, indicating that active transport is not a feasible mode of travel for the majority of employees who are distributed across a large and dispersed labour market.

Benchmarking of the Pyrmont Peninsula against other comparable LGAs and CBD fringe locations shows the following:

- Very high active transport use, likely driven by proximity and connectivity to Sydney CBD.
- High public transport mode share for workers, but not as high as it could likely be when compared with other employment centres that have access to heavy rail.
- Comparable levels of private vehicle use consistent with other centres at the CBD fringe with lower parking and surrounded by congested roads.

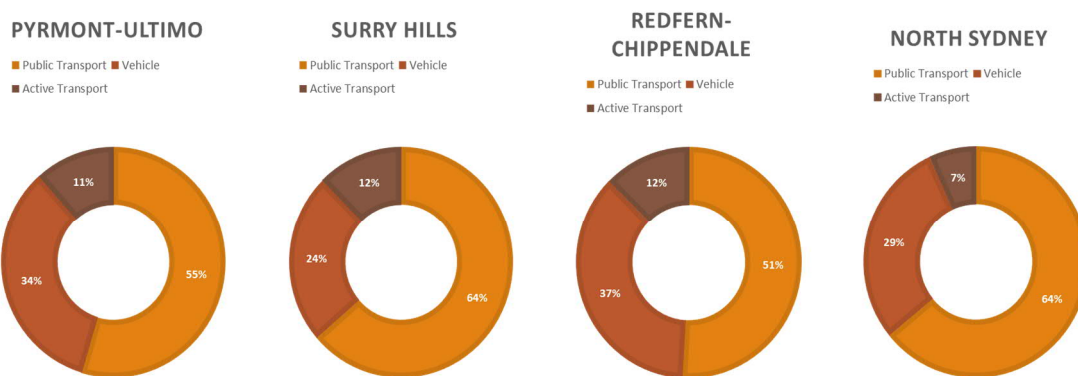


Figure 62 – Worker Journey to Work mode share by SA2 region

6.3. Draft Pymont Peninsula Place Strategy land use scenarios

The draft Pymont Peninsula Place Strategy has developed two land use scenarios for the Pymont Peninsula:

- **Low employment density:** developed through integrating existing master plan studies with additional sites for change identified through a development potential and constraints criteria set out within the Hassell Built Form Potential Report. This scenario has been developed based upon the high activation scenario provided by NSW Treasury and the Department of Planning, Industry and Environment Main Series population growth provided by CRED Consulting for growth to 2041, assuming a lower job density and higher floorspace yield.
- **High employment density:** as per the low employment density scenario, but assuming higher density and approximately 11% lower floor space yield.

In both scenarios the proposed yield for state identified projects has been assumed without modification and both scenarios achieve the same jobs target as identified by NSW Treasury. Table 12 shows the forecast population and employment growth (from existing) under both scenarios.

Table 12 – Scenario 1 population and employment growth forecasts by character area

Character area	GFA Growth (m ²)	Jobs growth	Population growth	Dwellings growth
With Metro – Low Employment Density				
Pirrama	22,500	358	188	88
Pymont Village	63,500	1,384	138	65
Darling Island	139,000	2,744	601	282
Blackwattle Bay	322,000	5,727	2,055	965
Tumalong Park	202,000	2,864	2,055	965
Wentworth Park	97,500	1,265	1,115	524
Ultimo	456,000	8,638	2,356	1,106
Total	1,302,500	22,980	8,507	3,994
With Metro – High Employment Density				
Pirrama	19,500	335	188	88
Pymont Village	55,000	1,380	138	65
Darling Island	122,000	2,732	601	282
Blackwattle Bay	289,000	5,771	2,055	965
Tumalong Park	185,000	2,871	2,055	965
Wentworth Park	87,500	1,199	1,115	524
Ultimo	406,000	8,698	2,356	1,106
Total	1,164,000	22,985	8,507	3,994

Table 13 provides a comparison of forecast population and employment growth in Pyrmont from Transport for NSW (TPZ/LU16) and the draft Pyrmont Peninsula Place Strategy forecasts. Analysis of these comparisons indicates the following:

- Both scenarios forecast 26 per cent lower growth in population than the Transport for NSW forecasts.
- Both scenarios forecasts 10 per cent higher jobs growth than the Transport for NSW forecasts, attributable to the additional demand for employment space that a metro station would generate

Table 13 – Comparison of scenario growth and Transport for NSW forecasts (TZP/LU16)

Location	EMP 2016	EMP 2041	ERP 2016	ERP 2041
Pyrmont-Ultimo	39,396	56,284	20,245	32,874
Scenario 1 (high growth)	-	62,376	-	24,239
Scenario 1 (low growth)	-	62,381	-	24,239

The transport opportunities and constraints outlined in this chapter have been identified to respond to the transport demand that will be generated by the development identified in these scenarios and determine initiatives that may be investigated to facilitate future growth.

6.4. Future transport demand

6.4.1. Transport customers

Due to its geography and demography, the travel characteristics and demand associated with the Pymont Peninsula are currently more consistent with Inner Sydney than middle and outer suburbs and this is likely to continue to be the case as resident and worker populations increase in the future. As noted in Section 4, there is a range of demographic drivers associated with the emerging population in and around Pymont Peninsula that will have an influence on the travel demand. These are outlined below:

- **Residential and employment densities** – residential densities are expected to increase from **145 to 237 residents per hectare** between 2016 and 2056. Similarly, employment density is expected to increase from 262 to 415 employees per hectare. These are consistent with existing densities in areas of the City of Sydney that have good access to the heavy rail network such as Chinatown and CBD south.
- **Age** – the Pymont Peninsula is characterised by a relatively younger age profile with a median age of 31 years (younger than the LGA median of 32 and greater Sydney at 36) with the most populous group being 18–49 years of age. This is generally skewed across the Pymont Peninsula, with Ultimo having a much lower median age than Pymont (26 years compared to 34 years).
- **Public transport usage** – Journey to Work data shows that public transport mode share has increased for both workers and residents from 2011 to 2016, indicating that demand for public transport has increased in response to the extension of Inner West Light Rail and that this demand is likely to increase as the resident and worker population increases in the future.
- **Car ownership** – average car ownership in the Pymont Peninsula in 2016 was **0.8 vehicles per dwelling**, which is less than half the Sydney average of 1.7 vehicles per dwelling. This has remained constant since 2011, indicating that private vehicle ownership will remain low for the area in the future.
- **Household type** – in 2016 99 per cent of households in Pymont Peninsula lived in apartments or semi-detached/terrace houses, more than double the Sydney average, indicating that access to off-street parking for the vast majority of Pymont Peninsula residents is low; consistent with low car ownership levels.

Demographic data are strong indicators of good potential for enhanced public transport and active transport networks and services. They are also strong indicators of major transport demand that could impact on efficiency and productivity if not suitably catered for with an adequate transport network aligned with the needs of its customers.

6.4.2. Land uses influencing the future transport task

There are numerous notable land-uses and activity hubs that will influence the future transport demand the Pyrmont Peninsula would need to serve. These include:

- **Urban centres** – The Sydney CBD and Redfern provide major trip generating “anchors” to the south and east of the Pyrmont Peninsula. Along with new employment in the planned Bays Precinct to the west, Pyrmont Peninsula sits in the middle of the Harbour City Innovation Corridor.
- **Education precincts** – UTS and TAFE Ultimo and numerous language colleges and their associated activities will result in a significant and diverse customer market for Pyrmont Peninsula residents, particularly at the southern end.
- **Emerging creative, technology and innovation economy sector** – The area encompassing parts of Eveleigh, Alexandria, Australian Technology Park and Surry Hills is the focus of the emerging creative, technology and innovation economy sector. This sector is bringing a range of opportunities that are yet to be fully understood. Based on precedents in other global cities, these opportunities will rely on excellent public transport access to facilitate connectivity to engage in collaboration in economic, social and cultural activities.
- **Major multimodal transport hubs** – Central Station, Railway Square, Town Hall Station (and their associated public transport interchanges) offer strong opportunities for customers to transfer onto transport services in order to access the catchments it would serve, however these major hubs are outside of easy walking distance of the Pyrmont Peninsula, highlighting the need for the area to develop as a transport hub in its own right.
- **Tourist attractions** – Pyrmont hosts tourist attractions of global significance including The Star Casino and International Convention Centre along with attractions of state significance including Darling Harbour, Australian National Maritime Museum, Museum of Applied Arts and Sciences and Sydney Fish Market. Public transport access to these attractions is critical to the growth of the tourism and entertainment sector in the Pyrmont Peninsula.

6.4.3. Key features of the travel demand

The features of the transport market within, along and around Pyrmont Peninsula will result in a travel demand that can be characterised as:

- **Rich and complex** – involving many trip types and purposes and different customers (including commuters, visitors, tourists) – much more diverse than the basic commuter task between outlying “dormitory suburbs” and employment centres.
- **All day, all week** – serving a stronger, more consistent demand over a longer day (and into the night), all week (including weekends), rather than serving a demand only focussed on the AM and PM commuter peaks on week days.
- **Strong potential for higher public transport and active transport mode share** – the intensity and diversity of a mix of land uses use, coupled with short trip distances and constrained parking supply all lead to strong potential for public transport use. It is the highly constrained parking supply along the proposed route that will result in elevated trip densities throughout the day and evening.

Overall, the travel demand associated with the Pyrmont Peninsula indicates a very strong potential for a well-used, highly-valued, and a high value public transport and active transport infrastructure with a low reliance on private vehicles. Gross residential densities of **150–200 persons per hectare** are considered sufficient to support viable high-order public transport services such as Sydney Metro West. Current residential densities in the Pyrmont Peninsula are around 110 persons per hectare, and forecast to increase to 180–210 persons per hectare in the future; when combined with even higher employment population, this puts Pyrmont Peninsula at the higher end of the envelope of densities that would justify investment in high-quality public transport.

6.5. Future trip growth – travel zone projections

Benchmarking of Journey-to-Work travel statistics for Pyrmont Peninsula, along with mode share targets (described in more detail in Section 8.1) have been used to provide a high-level estimate of the scale of growth in the travel demand task that would be associated with the land use projects for future employment and residential populations in the Pyrmont Peninsula by 2036 under the TPZ/LU16 forecasts.

A summary for the forecast daily total trip growth for the Pyrmont Peninsula is provided in Table 14. This forecast indicates the following:

- The Pyrmont Peninsula as a whole would see a substantial increase in daily travel demand, with the majority of this additional travel demand being for Ultimo south.
- The majority of the increased travel demand would be from the forecast increase in employment across the Pyrmont Peninsula, much of which is concentrated in Ultimo under the TPZ/LU16 land use forecasts.
- If land use intensity increases according to the spatial distributions expected under the TPZ/LU16 forecasts, increases travel demand at the northern and southern ends of the Pyrmont Peninsula underpin the need to provide better connections via public and active transport between these centres along Harris Street.

Table 14 – TPZ/LU16 land use daily trip forecast

Locality	Travel Zones	2016 daily trips	2036 daily trips	Trip growth (2016–2036)	Trip growth % (2016–2036)
Pyrmont (north)	151,152,153	15,312	19,225	3,914	25.6%
Pyrmont (south)	154,155,156	130,89	16,153	3,064	23.4%
Ultimo (north)	157	7,307	8,871	1,564	21.4%
Ultimo (south)	158,159,160	8,545	18,766	10,222	119.6%
Total		44,253	63,016	18,763	42.4%

A breakdown of morning peak hour forecast trips by commute and non-commute purposes into and out of Pyrmont Peninsula under the TPZ/LU16 land use is shown in Table 15. This forecast breakdown indicates:

- Under the existing public transport network, based on the mode share targets, the Pyrmont Peninsula would require additional public transport capacity for 1,500 new trips by public transport.
- With a metro station, a higher public transport mode share has been assumed to be possible, this demand would increase to an additional 1,900 trips new trips by public transport, although some of these trips would be able to travel via metro.

As further detailed in Section 7, there are a number of existing constraints in the public transport network that would render provision of these additional services to serve the projected demand difficult. Bus corridors into Pyrmont are slow and unreliable and providing peak frequency to service this significant additional demand with buses alone is likely to be challenging; while buses will play an important role, the additional public transport demand cannot be serviced by buses alone. Similarly, Inner West Light Rail has physical constraints that limit its capacity and there will be other areas of demand along the light rail line that will limit the capacity available for growth in Pyrmont alone. With both Town Hall and Central stations in excess of 15 minutes' walk from most of the Pyrmont Peninsula, the provision of a Sydney Metro West Station at Pyrmont is critical to providing additional direct public transport capacity to service the projected growth in demand for public transport and also enables the opportunity to shift growth from cars to public transport.

Table 15 – 2036 forecast additional morning peak public transport demand

Locality	Travel Zones	1-hr additional PT demand (existing PT scenario)	1-hr additional PT demand (with metro scenario)
Commute Trips			
Pyrmont (north)	151,152,153	541	650
Pyrmont (south)	154,155,156	102	123
Ultimo (north)	157	101	122
Ultimo (south)	158,159,160	466	560
Total		1211	1454
Non-commute trips			
Pyrmont (north)	151,152,153	65	98
Pyrmont (south)	154,155,156	51	77
Ultimo (north)	157	26	39
Ultimo (south)	158,159,160	170	256
Total		313	469

7. Opportunities and constraints for Pymont Peninsula

Accommodating growth in the Pymont Peninsula for both jobs and residents while retaining the unique character of the area and supporting sustainable travel behaviour requires overcoming substantial challenges in the existing and future transport network surrounding the Pymont Peninsula. This chapter outlines the key opportunities and constraints that have been identified for each travel mode and how these may change over time as the context and function of the Pymont Peninsula changes over time. These opportunities and constraints have been identified based on a comprehensive review of the transport network to provide an exhaustive summary with the intention of consolidating these down through a process of analysis and stakeholder consultation before being refined into a list of transport initiatives. This analysis is a key step in informing both the refinement of the Pymont Peninsula vision and in determining appropriate structural planning and transport strategic responses for the Pymont Peninsula.

These opportunities and constraints have been identified in the context of supporting the existing and forecast travel behaviour trends; identifying the element of the existing and planned transport network that support or challenge the following key features of the future travel task:

- High commuter mode share to active transport.
- Increasing non-commuter mode share to private vehicle and increasing trip duration and distance for non-commuter trips.
- High proportion of residents working Sydney CBD.
- High proportion of workers originating from the west and south west of Pymont Peninsula.
- Limited access to high-capacity public transport and increasing residential density approaching levels that would support a heavy rail station.

7.1. Road network

The opportunities and constraints for the road network in the Pymont Peninsula are shown in Figure 63.

Road network opportunities

0.1 – WestConnex M4-M5 Link will significantly change the way that private vehicle travel to and around Sydney CBD from the west. The key changes in the motorway network that will affect the Pymont Peninsula will be the opening of Rozelle Interchange and part of the M4-M5 Link project which will provide an alternative to travelling to the west via Parramatta Road. This will allow traffic that currently travel to the M4 Motorway via Parramatta Road or City West Link to enter the motorway network directly from Rozelle Interchange.

0.2 – Western Harbour Tunnel would reduce traffic volumes along Western Distributor between Anzac Bridge and Sydney Harbour Bridge. This would offset increased traffic volumes that would be brought to the area by the opening of M4-M5 Link and allow Western Distributor to perform more of an access function.

0.3 – Increases in surrounding motorway capacity as a result of M4-M5 Link and Western Harbour Tunnel allow for roads within the Pymont Peninsula to shift from their current movement function towards a more place-focussed function that prioritises local access over through-traffic.

0.4 – Reconfiguration of road capacity to reduce traffic capacity and provide more capacity for other travel modes along the following corridors:

- Wattle Street: widening of footpaths between Broadway and Fig Street.

- Harris Street: reduction in traffic lanes and conversion to allow for a contra-flow bus lane between Thomas Street and Regent Street.
- Pyrmont Bridge Road: reduction in travel lanes between Wattle Street and Darling Drive.
- Pyrmont Street: reduction in travel lanes between William Henry Street and Murray Street.

0.5 – Reduction of access to Western Distributor could be undertaken in response to reduced traffic volumes between Anzac Bridge and Sydney Harbour Bridge, with closures or changes to access arrangements considered at the following location:

- Pyrmont Street on-ramp to Western Distributor closed.
- Allen Street off-ramp from Western Distributor closed.
- Harris Street off-ramp from Western Distributor at Fig Street closed.
- Right turn from Pier Street to Harris Street reinstated.
- Right turn from Western Distributor (west) to Pyrmont Bridge Road (south) banned.

0.6 – Shared traffic zones for local streets surrounding UTS and TAFE Ultimo to improve accessibility between campus buildings and surrounding accommodation. Speeds within these shared zones would be limited to 10km/hr and marked with signage, threshold and surface treatments.

0.7 – Conversion of Jones Street to open space between Thomas Street and Broadway to provide more open space surrounding the UTS campus and facilitate east-west pedestrian movements through the campus. Service access to buildings along Jones Street could be maintained through managed access arrangements for service vehicles.

0.8 – Signalised pedestrian crossing on Harris Street north of Broadway to provide an at-grade pedestrian crossing between UTS buildings on either side of Harris Street. This crossing would be coordinated with adjacent intersections on Harris Street and would be linked to the redevelopment of these UTS buildings.

0.9 – Close Bank Street to local traffic between Pyrmont Bridge Road and Pyrmont Street to reallocate land under the Western Distributor viaduct that currently provides access to Sydney Fish Market. If access to Sydney Fish Market is moved to Wattle Street, this space could be used for coach parking or an integrated community, infrastructure and transport interchange hub allowing for decoupled parking, localised logistics other community-based sustainability functions.

0.10 – Close or realign Darling Drive between Union Street and Harbourside access to create extended public domain and improve pedestrian and cycle access to Pyrmont Bridge from a potential cycleway on Murray Street.

Road network constraints

C.1 – Reduction of traffic lanes through the Pyrmont Peninsula will discourage through traffic, however it may also result in more difficult access to the Pyrmont Peninsula for local residents and workers. Similarly, while removal of accesses from the Western Distributor into the Pyrmont Peninsula will discourage through traffic, it will also make access to the Pyrmont Peninsula more difficult by car. Reduction in access and capacity for cars will need to be targeted to reduce through traffic without adversely affecting local access, especially to the south and south west of the Pyrmont Peninsula where traffic access most affected by congestion.

C.2 – Direct access to local roads from the Western Distributor means that congestion and delays on local streets such as Pyrmont Bridge Road, Allen Street and Harris Street can result in substantial queues on the motorway network, compromising its function as a high-mobility corridor. Downgrading of local roads that can be accessed directly from the Western Distributor will need to be coordinated with an access strategy to the motorway to avoid local delays affecting high-productivity regional trips.

C.3 – Access to the regional road network for trucks, coaches and service vehicles is limited, with load limits on most local streets and some motorway ramps constrained by geometry for truck and coach access. Downgrading of streets or changes in motorway access will need to ensure that trucks and coaches can still service some of the key commercial sites in the Peninsula such as Harbourside, Sydney Fish Markets and The Star.

C.4 – Traffic congestion is currently an issue for other modes that use the road network, in particular buses. While downgrading roads through the Pymont Peninsula may discourage through trips due to increased travel times, increased delays may also further affect the reliability of buses and constrain the use of other intermediate public transport modes in the future.

C.5 – Expansion and redevelopment of the Sydney Fish Market is likely to generate substantial additional traffic demand during peak periods and weekends, putting more pressure on the intersection of Pymont Bridge Road and Western Distributor.

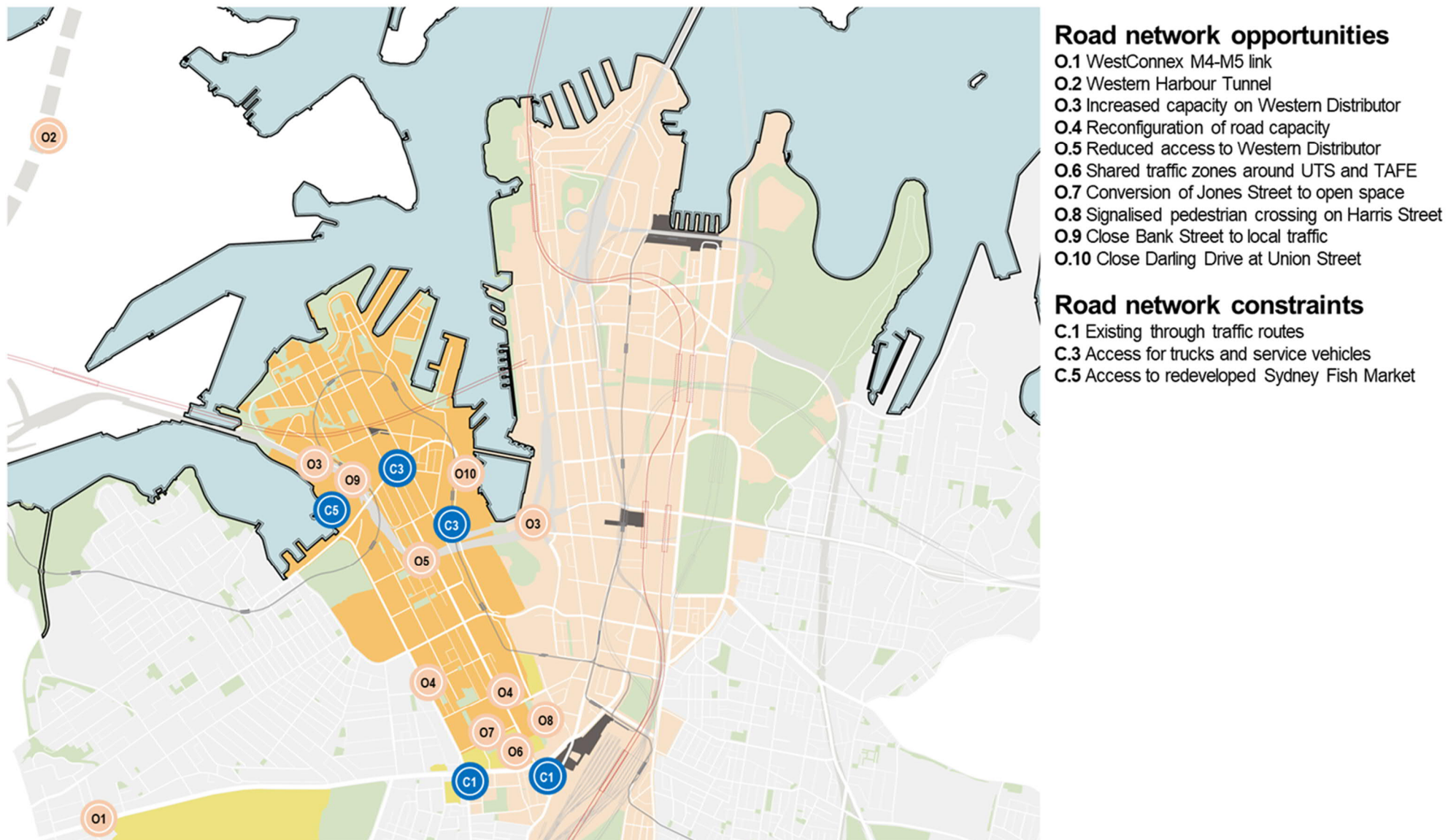


Figure 63 – Key Road network opportunities and constraints

7.2. Public transport

The opportunities and constraints for the public transport network in the Pymont Peninsula are shown in Figure 64.

Public transport network opportunities

O.11 – A metro station in Pymont on the Sydney Metro West line will substantially improve the access to heavy rail for a substantial proportion of the residential and employment land use in the Pymont Peninsula, particularly to the north of Western Distributor. Based on the proposed travel speeds and frequency of trains on the Sydney Metro West line, Parramatta CBD, Sydney Olympic Park and Martin Place would all fall within a 30 minute travel time catchment of the Pymont Peninsula, providing increased access by public transport for residents to work, live and play in the harbour city and beyond.

O.12 – A new bus route from the Parramatta Road corridor to the Pymont Peninsula via Pymont Bridge Road through Forest Lodge would connect a significant demand of existing workers from the inner west to Pymont, improving public transport access to the west and south west.

O.13 – A new bus route from the Pymont Peninsula to Australian Technology Park along Harris Street, across Broadway and down the Regent Street corridor. This route would support travel through the Innovation Corridor for both workers and residents and has the potential to be further upgraded to a higher-capacity intermediate mode such as trackless-tram. Reconfiguration of Regent Street and Harris Street would be required to provide two-way flow or a contra-flow bus lane between Ultimo Road and Lee Street.

O.14 – Bus priority measures to reduce delays and increase reliability for buses including opportunities for bus priority at key intersections and a potential public transport link at Glebe Island Bridge.

O.15 – Increase frequency of existing 501 bus service to at least 8 services per hour to provide stronger connection to Railway Square and Central Station, particularly during weekends.

O.16 – Rationalisation and relocation of existing bus stops along Harris Street would increase reliability and reduce travel times, particularly on approach to Pymont Bridge Road where buses have difficulty pulling out of the existing southbound bus stop to turn right from Harris Street to Pymont Bridge Road.

O.17 – Increased frequency for Inner West Light Rail to 10 services per hour to provide more frequent services during peak and off-peak periods and reduce existing crowding on this line between Central and Taverners Hill.

O.18 – Increased ferry wharves and services to Blackwattle Bay to increase the coverage of the existing ferry services that stops at Pymont Bay Wharf. The recent on-demand ferry trial would be extended to a permanent service stopping at Sydney Fish Markets, Pirrama Park and Barangaroo wharves.

Public transport network constraints

C.6 – Limited access to heavy rail, particularly north of the Western Distributor. Only the southern half of the Pymont Peninsula is within walking distance of Central Station, while the northern half is over one kilometre from either Central Station or Town Hall Station, limiting the capacity for travel to and from the Pymont Peninsula by public transport.

C.7 – Infrastructure constrains the existing Inner West Light Rail services to the current peak service frequency due to limitations in the existing Inner West Light Rail, including available rolling stock, power supply and the single track terminus at Dulwich Hill.

C.8 – Grade and horizontal curves limit realignment of Inner West Light Rail to provide an express service to Central. A new light rail connection directly between Wentworth Park and Convention centre

stops would be required to pass under the Pymont Peninsula and connect to the existing light rail line to the east of Darling Drive. Due to capacity constraints along the rest of the line, this would also require reducing services through the Pymont Peninsula for every express service to Central.

C.9 – Existing bus services experience high delays at a number of key locations in the Pymont Peninsula including the intersection of Pymont Bridge Road and Western Distributor and Harris Street at Fig Street. Similarly, constraints exist further afield of the Pymont Peninsula, along Pymont Bridge Road and within the Sydney CBD on Druitt Street that affect the travel time reliability of existing or potential bus services.

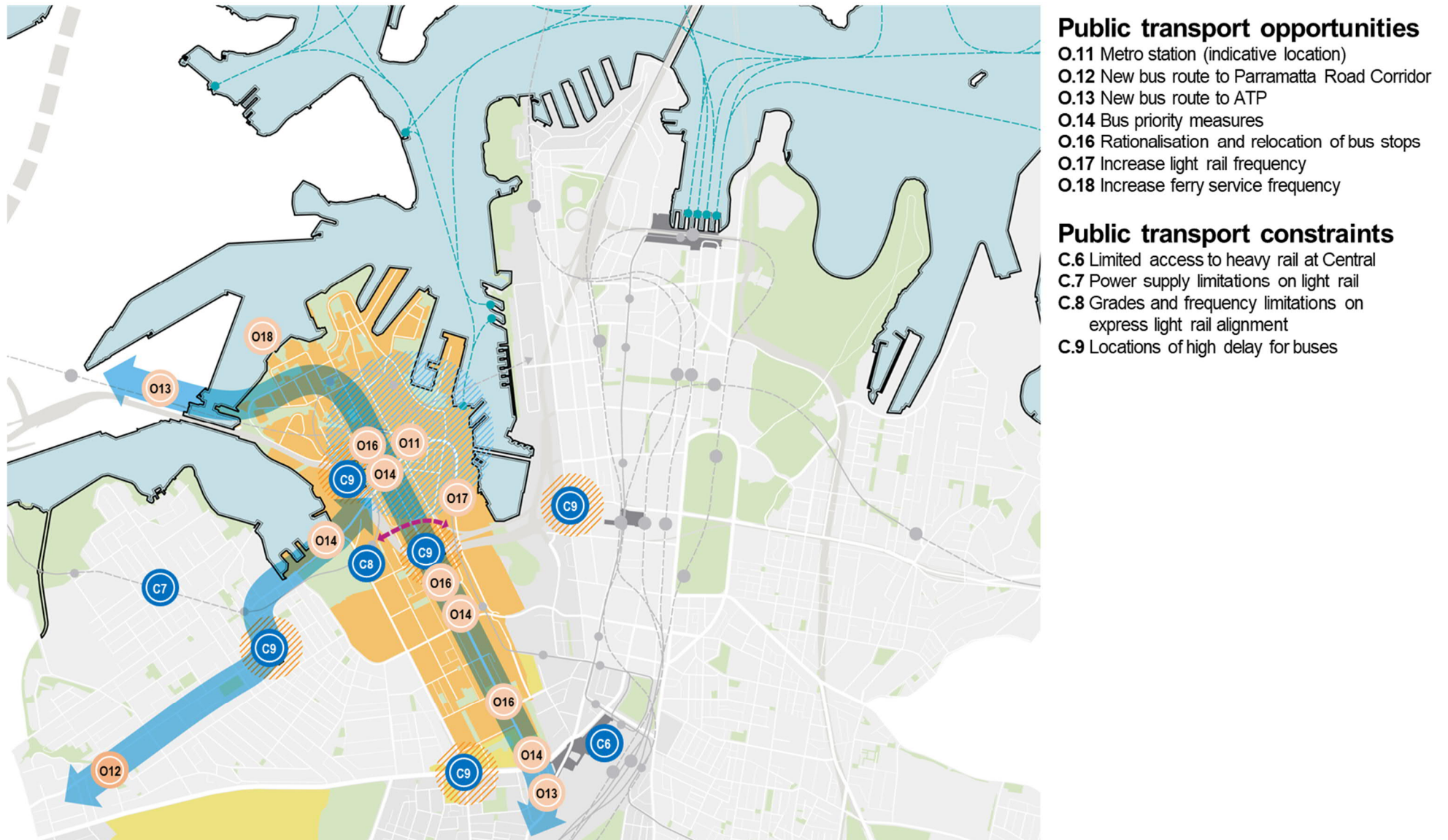


Figure 64 – Public transport network opportunities and constraints

7.3. Active transport

The opportunities and constraints for the active transport network in the Pyrmont Peninsula are shown in Figure 65.

Active transport network opportunities

0.19 – Extension of the Goods Line south to Central Station via the Goods Line Tunnel to Central would provide a high-quality pedestrian and cycle connection through to Central station with the option to continue further south to Mortuary station and Redfern.

0.20 – Extension of the Good line north integrated with the Powerhouse site, under Pier Street and north along Pyrmont Street and Murray Street to Union Street would connect the existing Unions Street cycleway to Central Station.

0.21 – Extension of Jones Street cycleway north to Pyrmont Bridge Road and Blackwattle Bay redevelopment to form an active transport loop along with Goods Line extension to provide “joining up” opportunities.

0.22 – Active transport crossing of Pyrmont Bridge Road to connect Blackwattle Bay development with active transport corridor along Jones Street. This crossing could be provided at-grade or through a pedestrian bridge across Pyrmont Bridge Road and the Inner West Light Rail line and integrated into the redevelopment of the City of Sydney site at the corner of Fig Street and Jones Street.

0.23 – Extension of the Union Street cycleway west along Mitchell Street and Bank Street to allow for fully separated cycle lanes to the Glebe Island Bridge.

0.24 – A separated cycleway along Pyrmont Bridge Road connecting Union Street cycleway with Wentworth Park to accommodate growing commuter cycle demand along this route from Glebe and the inner west.

0.25 – Completion of the foreshore recreational cycle path to extend recreational cycle and walking paths at Waterfront Park around Blackwattle Bay through Sydney Fish Market to Wentworth Park would connect the foreshore open spaces and attractions along a continuous route.

0.26 – Pedestrian tunnel link from light rail to Sydney Fish Market to provide underground access from Fish Market light rail station. This could be integrated with a potential metro station access to Sydney Fish Market.

0.27 – More pedestrian links from Harbourside to be integrated with any redevelopment of Harbourside and the Novotel site, potentially bridging Darling Drive and the Inner West Light Rail in multiple locations or integrating the existing Convention Centre stop into any new development between Murray Street and Darling Drive.

0.28 – Localised widening of footpaths along active streets including Wattle Street and Harris Street to improve pedestrian amenity and safety.

0.29 – Integrating public pedestrian access into new developments to improve pedestrian permeability between long north-south blocks.

0.30 – Glebe Island Bridge active transport link to Bays Precinct to supplement the existing cycle and pedestrian path along Anzac Bridge providing separate access to The Bays Precinct.

Active transport network constraints

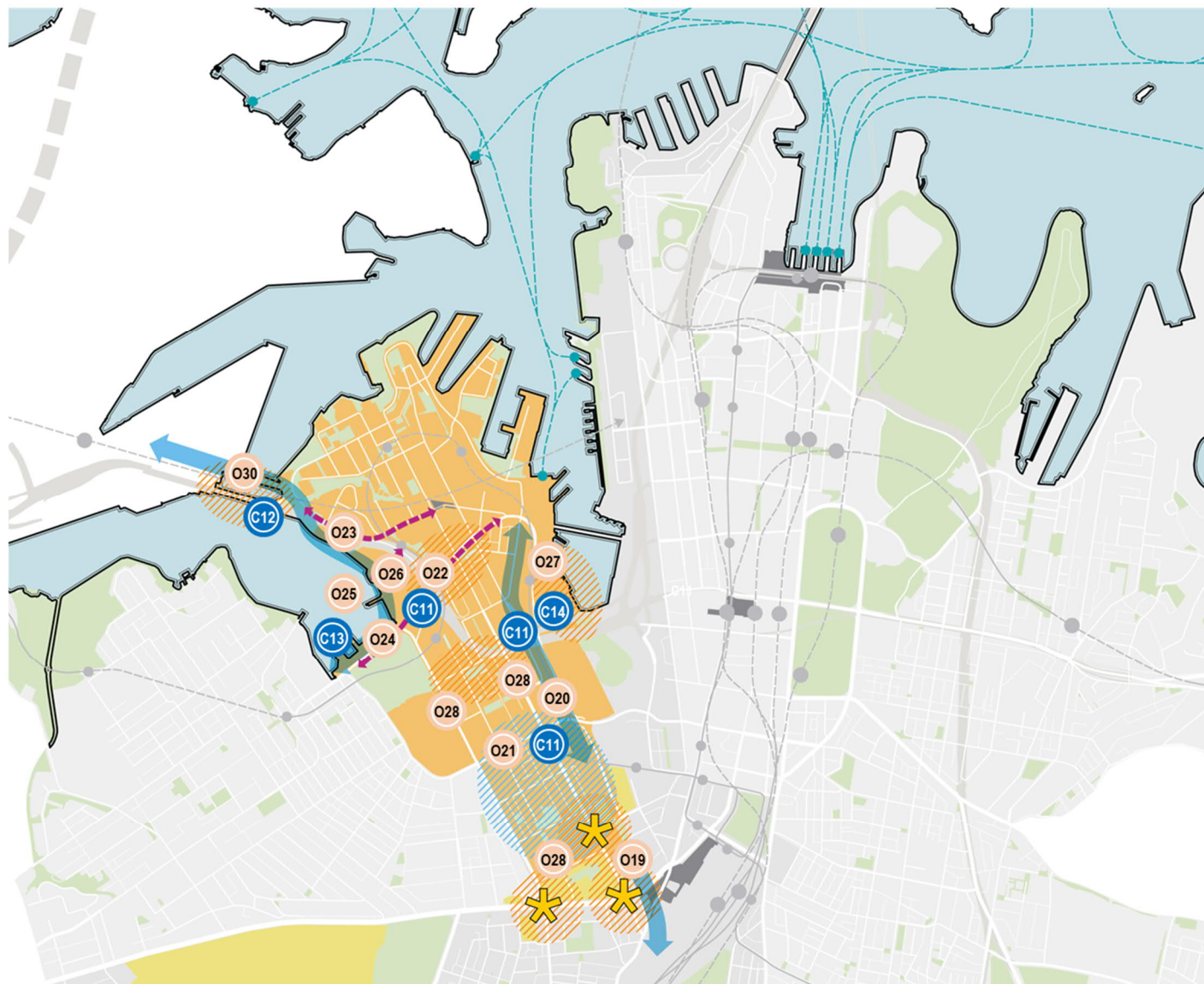
C.10 – Challenging local topography with a steep ridge-line running north-south along the peninsula that creates barriers for walking east-west across Harris Street.

C.11 – Busy high-traffic intersections on Harris Street at Fig Street, Ultimo Road and Broadway that create barriers for walking north-south along the peninsula to key light rail and heavy rail stops. Long wait times and high traffic volumes significantly increase walk times along this corridor.

C.12 – Circuitous access to the Bays Precinct via Anzac Bridge directs pedestrians and cyclists across primarily vehicular corridor that is not well-suited to active transport due to poor amenity and proximity to traffic.

C.13 – Lack of access to Blackwattle Bay foreshore due to Sydney Fish Market and other industrial foreshore development limits access to the rest of the Pymont foreshore from Wentworth Park and the inner west.

C.14 – Limited access from Harbourside due to level differences and light rail alignment along Darling Drive.



Active transport opportunities

- O.19 Southern extension of Goods Line link
- O.20 Northern extension of Goods Line link
- O.21 Northern extension of Jones Street cycleway
- O.22 Active transport crossing of Pymont Bridge Road
- O.23 Extension of Union Street cycleway
- O.24 Pymont Bridge Road cycleway
- O.25 Foreshore recreational cycling link
- O.26 Pedestrian tunnel to Sydney Fish Market
- O.27 Pedestrian links to Harbourside
- O.28 Localised footpath widening
- O.30 Glebe Island Bridge active transport link

Active transport constraints

- C.11 High-traffic intersections
- C.12 Poor access to Bays Precinct
- C.13 No access to Blackwattle Bay foreshore
- C.14 Poor access to Harbourside

Figure 65 – Active transport network opportunities and constraints

7.4. Freight and servicing

Freight and servicing within the Pymont Peninsula are critical to supporting existing industries and key attractions including Sydney Fish Markets, The Star Casino and International Convention Centre. In addition to the freight and servicing needs of tourism and entertainment industries, there is also an increasing demand on short-distance freight to households due to the increase in e-commerce and online shopping. A significant portion of freight movements in urban areas are now comprised of e-commerce deliveries, with Australian shoppers receiving an average of 1.9 parcels per year in 2017 growing to 2.3 parcels per year in 2018, with year on year growth in online purchases of 19 per cent per annum for NSW.

Freight and servicing opportunities

O.31 – Alternative service access to Harbourside should be explored as part of any redevelopment proposal. This alternative access could help mitigate existing restrictions for heavy vehicles that currently exist and free up road space in other parts of the Pymont Peninsula.

O.32 – Direct access to Sydney Fish Market at Wattle Street and Pymont Bridge Road would reduce the impacts of heavy vehicle traffic on surrounding roads including Bank Street and Western Distributor.

O.33 – A local logistics hub within the Pymont Peninsula could assist in consolidating “last mile” delivery for couriers. A similar hub has been trialled in Sydney CBD using the Goulburn Street parking station to provide a staging facility that allows parcels to be transferred from vans to couriers on-foot and bicycles, reducing the volumes of delivery vehicles in the Pymont Peninsula. This hub could be co-located with a decoupled community parking hub or integrated with coach parking if located in an area with high demand for coaches and tour groups.

Freight and servicing constraints

C.15 – Limited heavy vehicle routes within the Pymont Peninsula restrict the access for heavy vehicles including coaches. Any changes to access to and from Western Distributor or downgrading and closing of roads will need to consider the impacts of these network changes on heavy vehicle routes.

7.5. Parking management

Due to the strong link between parking provision and travel behaviour, management of parking provision within the Pyrmont Peninsula is critical in supporting other transport opportunities. Current parking policy for the Pyrmont Peninsula is already strongly focused on minimising car reliance and limits the availability of both on-street and off-street parking for residents and workers. This, along with accessibility to public and active transport reduces the risks that are normally associated with low parking provision when other alternatives are not available.

Parking opportunities

O.34 – Reduce parking provision for new developments by extending City of Sydney LEP Category A classification to cover new residential development and Category D to cover new commercial development, reflecting its inner-city location, network upgrade opportunities and potential future access with Sydney Metro.

O.35 – Redevelop public off-street parking to further reduce the availability of off-street public parking and support travel to the Pyrmont Peninsula via active and public transport. Some of the existing public car parks are in close proximity to future metro stations and have potential for alternative land use more suited to meeting employment targets.

O.36 – Increase on-street car sharing spaces to further reduce reliance on private vehicle ownership and support lower off-street parking provision. As demand for car-sharing increases, on-street car sharing spaces can be increased to fill existing gaps or to increase the availability of car-sharing across the study area.

O.37 – Integrate cycling end-of-trip facilities into new development to support journey-to-work trips to the Pyrmont Peninsula via active transport. City of Sydney DCP already includes provisions for active transport end-of-trip facilities for new developments, new developments provide the opportunity to create a public cycle-hub to provide these facilities for commuters who work in existing buildings that do not have these facilities and can't be easily retrofitted.

O.38 – Unbundled and decoupled parking can be explored to maximise the efficiency of parking spaces across the day and reduce the overall footprint of public off-street parking. With land uses that have different parking demands over the day, such as employment, residential and entertainment, unbundled or decoupled parking would allow parking to be physically separated from other land uses allowing flexible use by different users over the day and retain the ability to convert these spaces permanently to other uses as parking demand changes.

Parking constraints

C.16 – Access to existing heavy rail is currently poor, limiting the proportion of work trips that can travel to the Pyrmont Peninsula from other regional centres. Access to heavy rail is critical component in supporting a low-parking environment by providing a good alternative to private vehicle use for longer distance trips.

C.17 – Minimal capacity for additional parking within the Pyrmont Peninsula on-street and off-street means that as development and travel demand increases in the Pyrmont Peninsula, even at the existing low rates of private vehicle travel, parking demand will continue to increase. This increase in overall travel means that a step-change in public transport provision, such as a metro station will be required to further reduce parking demand and keep in scale with existing parking policy and supply.

7.6. Travel demand management and technology

Travel Demand Management (TDM) is described in *Future Transport 2056* as capturing a wide range of actions to redistribute travel demand for various reasons including congestion, safety, environment, social and health which generates wider community benefits.

In the case of the Pyrmont Peninsula, TDM initiatives will help support the management of private vehicle demand, particularly during peak periods, which contributes to congestion and impacts on place outcomes. Emerging technologies will also play a key role in facilitating travel demand management by providing increased flexibility in working and improving the efficiency and operation of transport networks.

Travel demand management and technological opportunities

O.39 – Flexible working allowing workers to work from home, flexible start times, compressed work weeks, staggered work hours.

O.40 – Shared parking that serves multiple users or destinations, including sharing rather than assigning reserved spaces to users, and sharing facilities among multiple destinations.

O.41 – Parking pricing to charge motorists directly for using parking facilities, with efficient prices that include lower rates during off-peak periods and higher rates during peak times and locations. This includes the potential for variable pricing during congested times.

O.42 – Movement and place design to create high value places with low speed, walking and cycling prioritised environments that discourage vehicle through traffic and allocate parking to the edges.

O.43 – Transportation management associations to establish member-controlled organisations that provide transport and parking management services in a particular area.

O.44 – Freight transport management within Pyrmont Peninsula could assist in “last mile” delivery into consolidated delivery centres (such as a logistics hub) or delivering from a central location via alternative modes such as autonomous drones.

O.45 – Financial incentives to shift mode, such as parking cash-out (allowing workers to give-up their car space for a one-off cash payment) and transit benefits (e.g. Opal subsidies), often as an alternative to parking subsidies.

O.46 – Travel plans put in place by employers before occupying a development that encourages staff to choose alternatives to driving to work. Travel plans need to be tailored to the specific needs of each organisation.

O.47 – Car-sharing and ride-sharing services such as GoGet and Uber can have a significant effect on reducing car-ownership in areas where dependence on private vehicle travel is low and access to good public and active transport is high. Shifting existing on-street parking over to car-sharing services can reduce the need for residents to own their own car to make trips that are not practical to make via active or public transport, supporting lower parking rates.

O.48 – Autonomous vehicles provide the opportunity to challenge the traditional models of car ownership and use in urban areas by merging ride-sharing with car-sharing by providing private vehicle mobility as an on-demand service. The benefits of autonomous vehicles would be more fully realised when the vehicle fleet reaches the point of majority autonomous use; at this point autonomous vehicles can increase road capacity and the need for permanent vehicles parking is reduced as individual vehicles are in constant use. Autonomous vehicles can also improve accessibility to public transport by filling the “last-mile” gap between public transport and destination. This may be of particular importance in the Pyrmont Peninsula where existing heavy rail is currently out of easy walking distance.

8. Strategic transport initiatives

The initiatives outlined for investigation in this chapter have been informed by the transport principles established for the study that are in alignment with the outcomes identified in Future Transport 2056:

- Improve walking networks within the Peninsula.
- Improve cycling connectivity to the Peninsula.
- Protect place outcomes within the Peninsula.
- Expand public transport capacity to support growth.
- Constrain non-essential car travel.
- Refocus the local transport network around a potential Sydney Metro West station.

8.1. Enhancing public and active transport mode share

Table 16 below provides a comparison of relevant mode share data and targets that have been used to determine a mode share target for the Pyrmont Peninsula. The range of data, sourced from comparable benchmarks in the City of Sydney LGA demonstrates that a high public and active transport mode share target for the Pyrmont Peninsula is realistic and achievable. Based on this analysis, a base case mode share target for public and active transport share of 80 per cent for all trip purposes is proposed. Should a new metro station at Pyrmont be committed by the NSW Government, then a target of 90 per cent is considered achievable and warranted.

These mode share targets provide a breakdown of how future transport demand could be accommodated on the surrounding transport network and should guide decisions on the provision of additional transport capacity, indicating clearly that this capacity should be allocated to public and active transport.

Table 16 – Proposed Pyrmont Peninsula mode share targets

Precinct	Public and active transport mode share
Barangaroo – target	93%
Bays Precinct – target	80%
City of Sydney (all trips) – HTS	70–75%
Sydney CBD (residents) – JTW	87%
Sydney CBD (workers) – JTW	85%
Benchmark average (residents) – JTW	77%
Benchmark average (workers) – JTW	71%
Pyrmont (residents) – JTW	76%
Pyrmont (workers) – JTW	66%
<i>Pyrmont Peninsula target (all trips) – existing public transport network</i>	80%
<i>Pyrmont Peninsula target (all trips) – with SMW</i>	90%

8.2. Integration of transport and urban structure

Successful implementation of the mode share targets and accompanying place-based transport principles will rely on the augmentation of the Pymont Peninsula's existing transit-oriented urban structure. An integrated movement network and urban structure concept for the Pymont Peninsula is described below and has been used to assist in the identification and prioritisation of appropriate place-based transport initiatives. While reflecting the revised vision described in the draft Pymont Peninsula Place Strategy, these principles also build upon the Pymont Peninsula's existing transit-oriented urban structure as well as current planning for activity centres and movement networks. Key elements of this transit-oriented urban structure concept are:

- Roads and street grid initiatives.
- Existing and emerging activity centres.
- Existing and emerging transport spines (north-south and east-west).
- Active transport network and connections to open space.

Roads and street grid

Access to Pymont Peninsula by private vehicle will remain an important component of the transport network, however the current road network arrangements through the Pymont Peninsula prioritises through-traffic over local access with the study area dominated by the severance effect created by the Western Distributor. The roads in the Pymont Peninsula that currently serve primarily through traffic functions form significant barriers to active transport through the area restricting travel via public and active transport, as shown in Figure 66. Future initiatives should seek to reduce the severance effects of these roads by reducing traffic volumes and allowing for more permeability along and across these streets for active transport.

Existing and emerging activity centres

Locating centres along transport corridors along with using transport corridors to connect existing centres is key to facilitating connections along the Innovation Corridor, as shown in Figure 67. At a localised level, the Pymont Peninsula will benefit from locating new centres and expanding existing centres around transport nodes. At a regional level, this would be around a potential metro station, with a secondary neighbourhood centre in northern Ultimo.

Existing and emerging transport spines

The existing transport spine formed by Inner West Light Rail, Pymont Bridge and Union Street cycleway is currently focused around connecting centres along the foreshore and periphery of Pymont Peninsula. The strengthening of Harris Street as transit corridor that runs along the length of Pymont Peninsula along Harris Street will provide new connections between centres within Pymont and connect to other neighbourhood centres in adjacent localities of The Bays Precinct and Redfern, as shown in Figure 68.

Active transport network and connections to open space

Development within the Pymont Peninsula will need to capitalise on the existing high-rates of active transport use for both commute and non-commute trips. A critical component of supporting active transport within the Pymont Peninsula will be increasing connectivity of existing open space to make them more accessible and functional. This will require strengthening existing cycle routes through the Pymont Peninsula completing the regional connections across and along the peninsula, while also improving local connections through footpath improvements and creation and integration of new pedestrian links through development sites to improve permeability as shown in Figure 69.

Key components of this emerging structure include:

- Reinforce the existing centre in northern Pymont around the location of a Sydney Metro West station
- Complete connections to the primary centre around Union Square via active transport connections across the Pymont Peninsula between Pymont Bridge and Glebe Island Bridge and by extending the Goods Line link north to Union Street and south to Central.
- Strengthen and extend the existing transit corridor along Harris Street by connecting to The Bays precinct to the north west and to Redfern in the south east by creating an intermediate public transport route along this alignment.
- Reconfigure existing streets to reduce the barriers created by the existing through-traffic function and improve local access reducing lane capacity, widening footpaths and converting one-way streets to two-way operation.

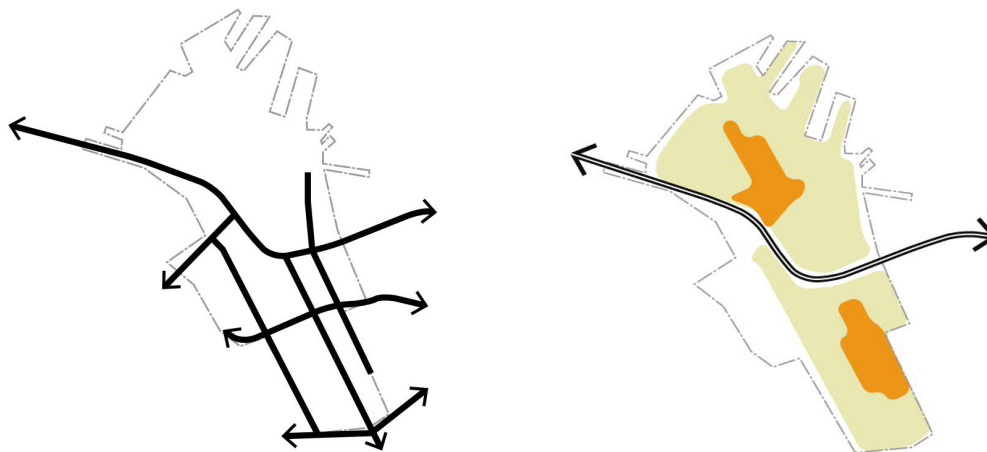


Figure 66 – Key road network barriers through the Pymont Peninsula

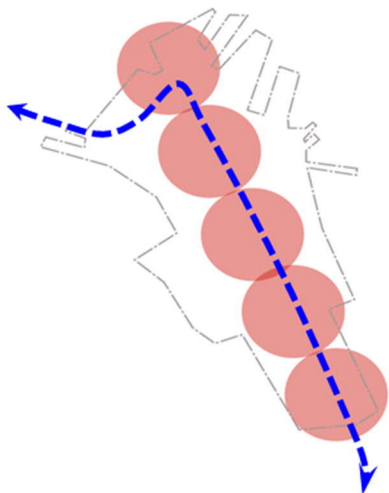


Figure 67 – Transport spine connecting centres along Harris St

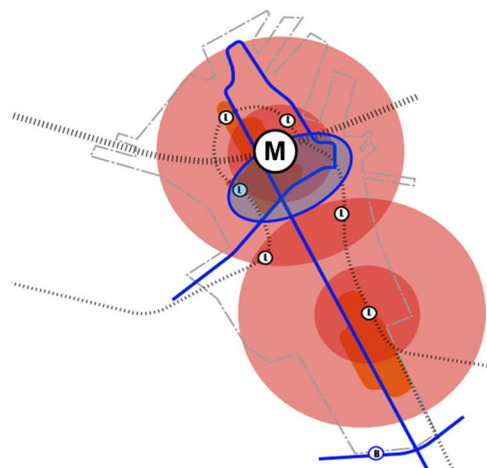


Figure 68 – Locations of strategic and local centres around transport nodes

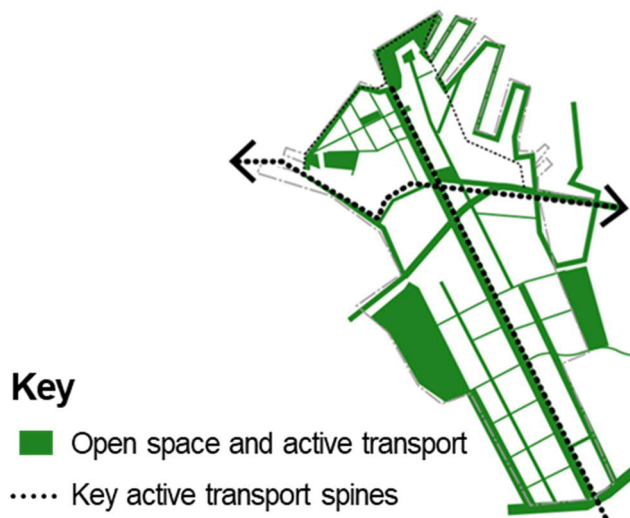


Figure 69 – Connecting open spaces with active transport link

Pymont Peninsula Place-based transport organisational concept

Combining these components of the urban structure and transport network defines the interrelation of centres, transport node and transport links to form the place-based transport concept as shown in Figure 70. The spatial arrangement of Pymont Peninsula's centres at Union Square and Ultimo South will play a critical role in determining the successful realisation of a transit-oriented structure. This will require the integrated consideration of multiple factors, including:

- The positioning of key land uses and transport connections to complement the established urban structure with a focus on better linking Pymont and Ultimo.
- Strengthening the mixed-use centres of Pymont (near Union Square) and Ultimo South through an intermediate transit network along Harris Street (north-south spine) with high quality connections to Railway Square and Australian Technology Park.
- Focus of population and employment densities adjoining key transport nodes to align with and support principles of transit-oriented development.
- A connected fine-grained street grid to facilitate a variety of trip purposes and transport modes, while enabling the efficient dispersal of through-traffic around the Pymont Peninsula and not on the local road network.
- Together with the connected street grid, the open space and active transport network will form the building blocks for highly accessible, attractive and inclusive public realm.
- Ensuring a sufficient amount of open space is interconnected by active transport links to support high-density development and balance the different needs of residents, workers, tourists and visitors.
- Limit through-traffic infiltration by defining a well-structured local street network taking advantage of metropolitan enabling initiatives such as WestConnex (M4-M5 link), Western Harbour Tunnel and Sydney Metro West.
- If a metro station is provided within Pymont Peninsula then it needs to:
 - occupy an accessible and prominent position enabling effective integration of city-shaping, city-serving and local transit services.
 - be supported by a permeable and socially-inclusive urban form incorporating a variety of built-form typologies and facilitating a diverse range of fine-grained accessible networks for pedestrians and cyclists.

- have land-use within a 200m radius of the station prioritised for employment-generating uses in order to support long term viability of a heavy rail service and maximise the potential for transit-based journeys to and from the area..

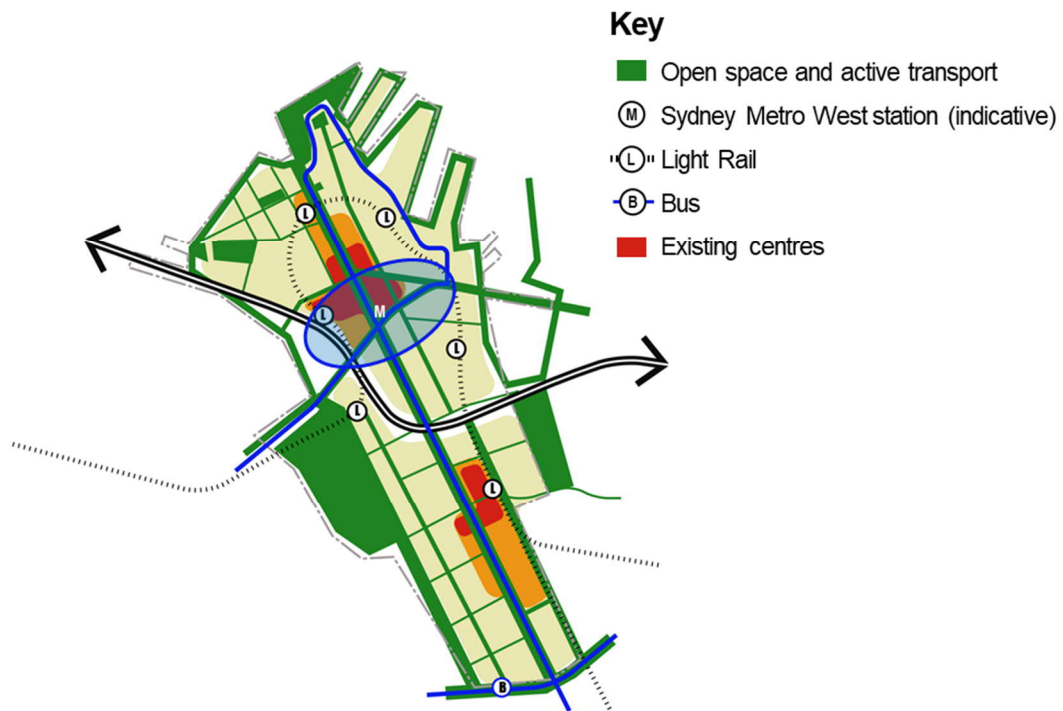


Figure 70 – Pyrmont Peninsula Place-based transport organisational concept

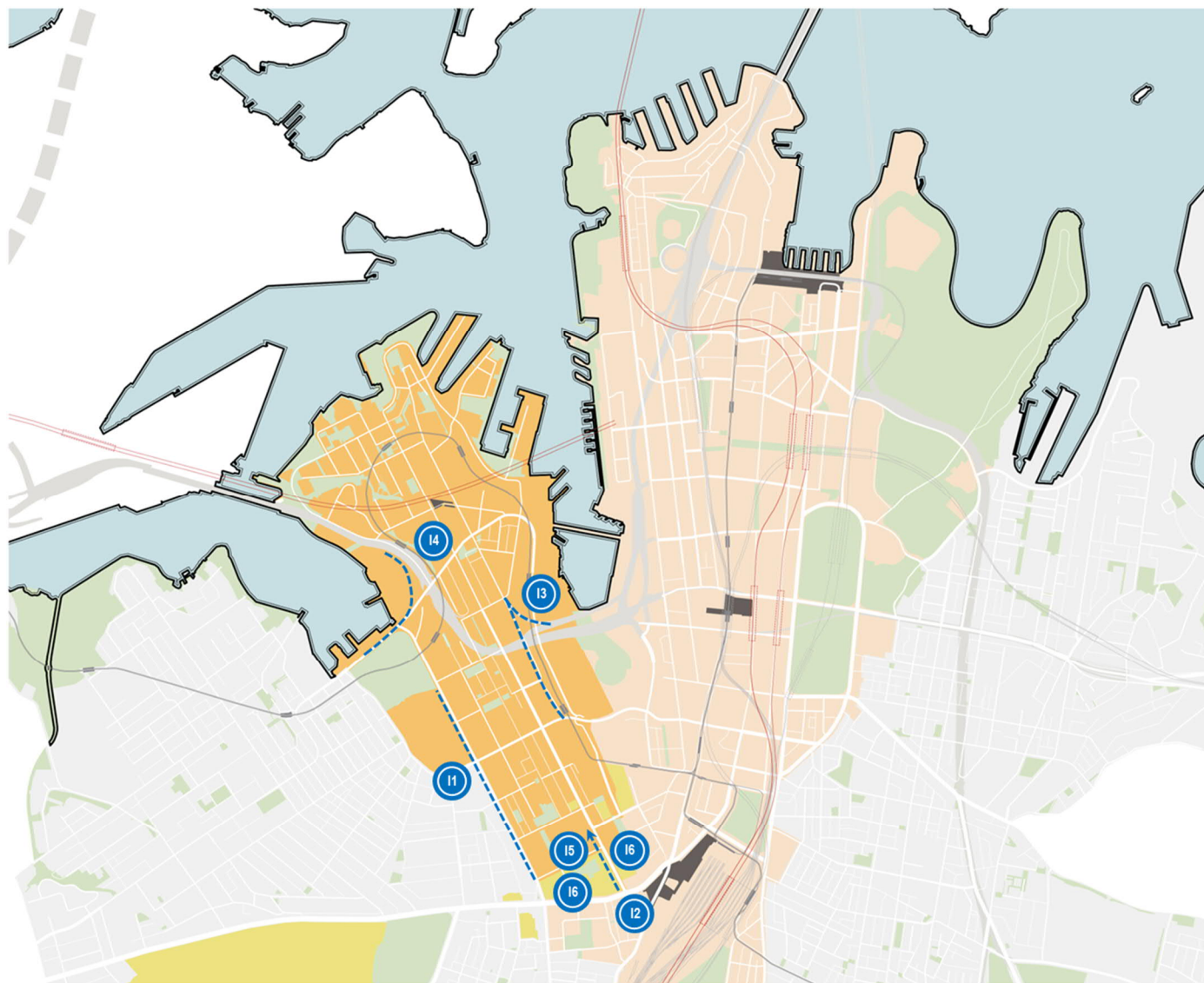
8.3. Road network – minimise through-traffic on local roads

An overview of the key road network strategic initiatives that are proposed for further investigation to support the draft Pymont Peninsula Place Strategy is shown in Figure 71. These include:

- I.1 – Reallocate road space on Wattle Street** between Broadway and Fig Street to provide wider footpaths and other streetscape improvements.
- I.2 – Introduce a contra-flow bus lane northbound on Harris Street and Regent Street** between Ultimo Road and Lee Street to facilitate an intermediate transit corridor between The Bays Precinct and Australian Technology Park.
- I.3 – Investigate reallocation of road space on Pymont Street** including potential for closing Pymont Street ramp to Western Distributor to facilitate extension of the Goods Line active transport corridor
- I.4 – Investigate reconfiguration of Pymont Bridge Road** between Wattle Street and Darling Drive and options for reallocating road space.
- I.5 – Investigate converting local streets around UTS and TAFE Ultimo to shared zones** between Wattle and Harris Street and Broadway and Mary Ann Street.
- I.6 – Investigate closure of Jones Street** between Thomas Street and Broadway to create open space.
- I.7 – New signalised pedestrian crossing on Harris Street** between Thomas Street and Broadway.

In addition to these specific road network interventions, the movement and place classifications of roads within the Pymont Peninsula should also be modified as shown in Figure 72 based on the following:

- **Harris Street:** change from Local Street 3C to Local Street 3D to reflect increased place significance and proposed intermediate public transit corridor.
- **Pymont Bridge Road (east of Bank Street):** change from Local Street 3B to Local Street 2C to reduce movement function and recognise important local place character.
- **Allen Street:** change from Local Street 3B to Local Street 2C to reduce movement function and recognise important local place character.
- **Pymont Street (south of Pymont Bridge Road):** change from Local Street 3B to Civic Space 2C to reduce movement function and recognise important local place character.
- **Pier Street and William Henry Street:** change from Local Street 3C to Local Street 2C to reduce movement function.



Road network initiatives

- I.1 Reallocate road space on Wattle Street
- I.2 Contra-flow NB bus lane on Harris Street/Regent Street
- I.3 Reallocate road space on Pymont Street
- I.4 Integrate Pymont Bridge Rd cycleway into Blackwattle Bay
- I.5 Shared zones for local streets
- I.6 Closure of Jones Street
- I.7 Harris Street signalised pedestrian crossing

Figure 71 – Proposed road network initiatives

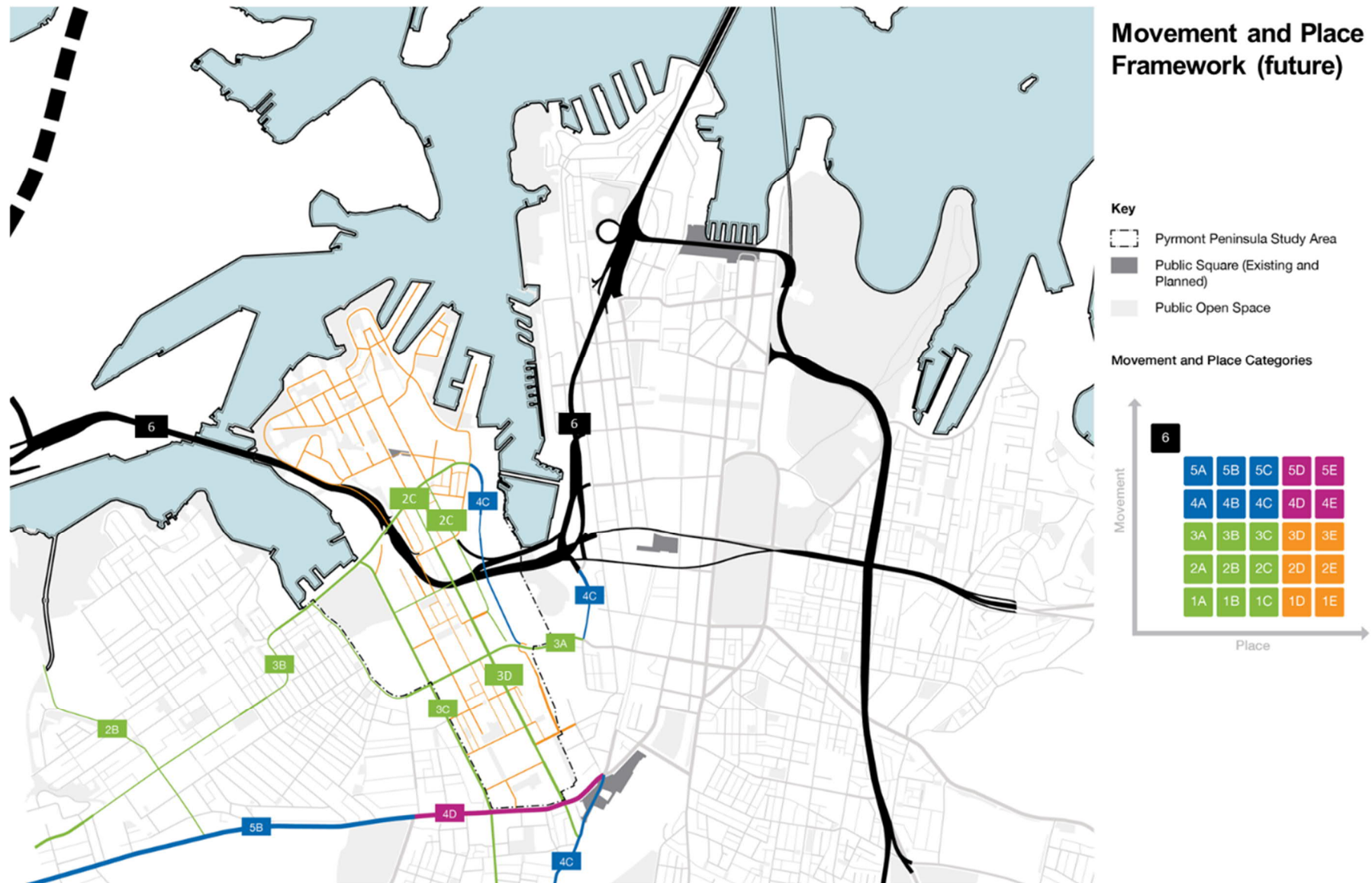


Figure 72 – Proposed movement and place classification

8.4. Public transport – connecting people and places

The proposed public transport strategic initiatives have been based around a public transport concept that centres a potential Sydney Metro West station in Pyrmont. Shown in Figure 73, this public transport network is centred around the location of the proposed metro station and provides for a future connection to The Bays precinct, Redfern and Parramatta Road.

Initiatives to support this public transport network surrounding the Pyrmont Peninsula are shown in Figure 74 and include:

I.8 – A new metro station at Pyrmont as part of the Sydney Metro West project.

I.9 – A new bus route to the Parramatta Road corridor through Glebe and Forest Lodge along Bridge Road and Pyrmont Bridge Road.

I.10 – A new intermediate transit corridor connecting The Bays precinct to Redfern and Australian Technology Park through Pyrmont via Harris Street.

I.11 – Rationalisation and relocation of bus stops along Harris Street to improve bus travel time reliability.

I.12 – Increase light rail frequency along Inner West Light Rail during peak period to increase peak capacity during weekdays and frequencies during weekends and public holidays.

I.13 – Investigate new ferry wharf at Cadi Bay Wharf to provide all-weather shelter for ferry passengers.

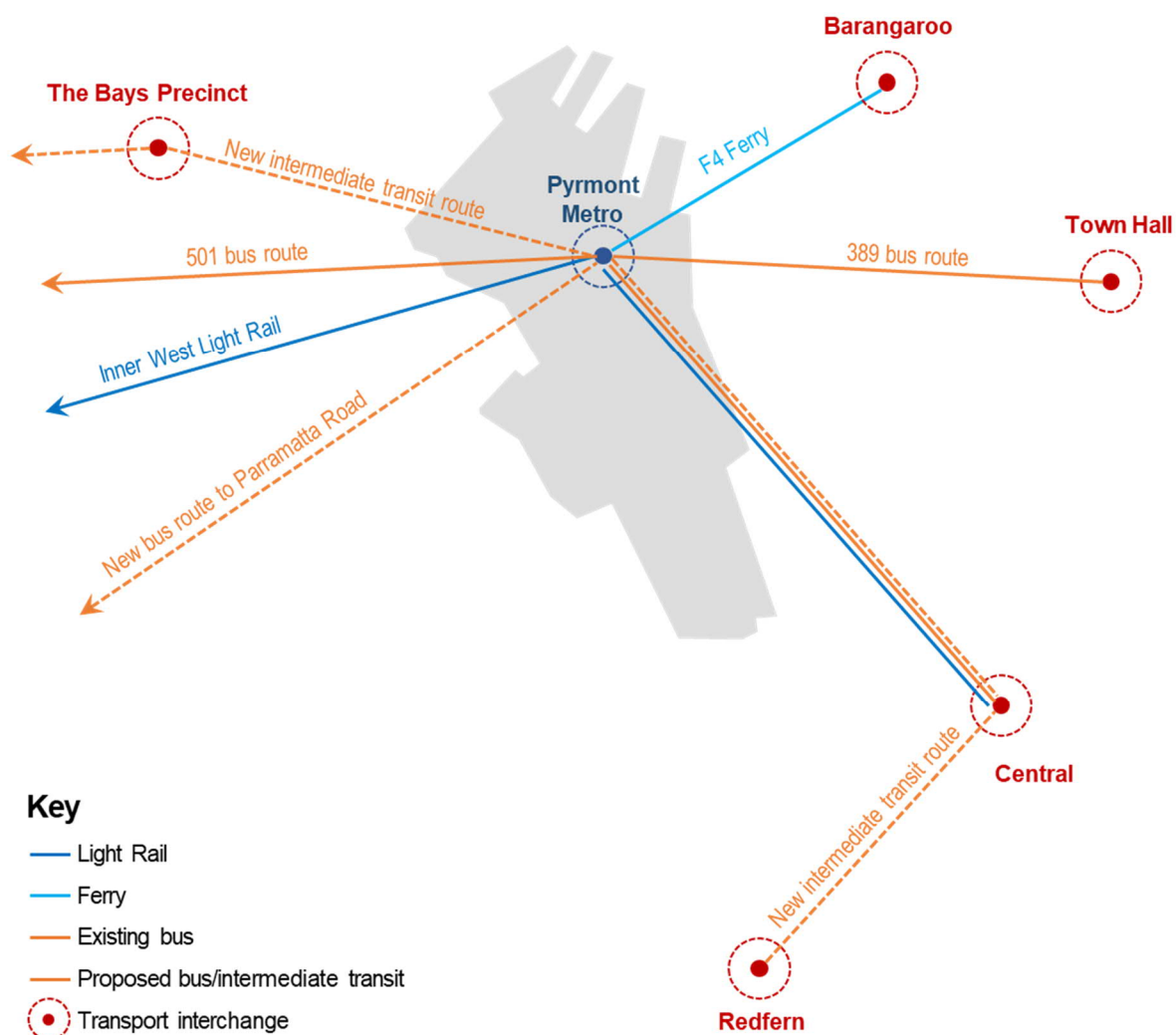


Figure 73 – Future public transport network concept

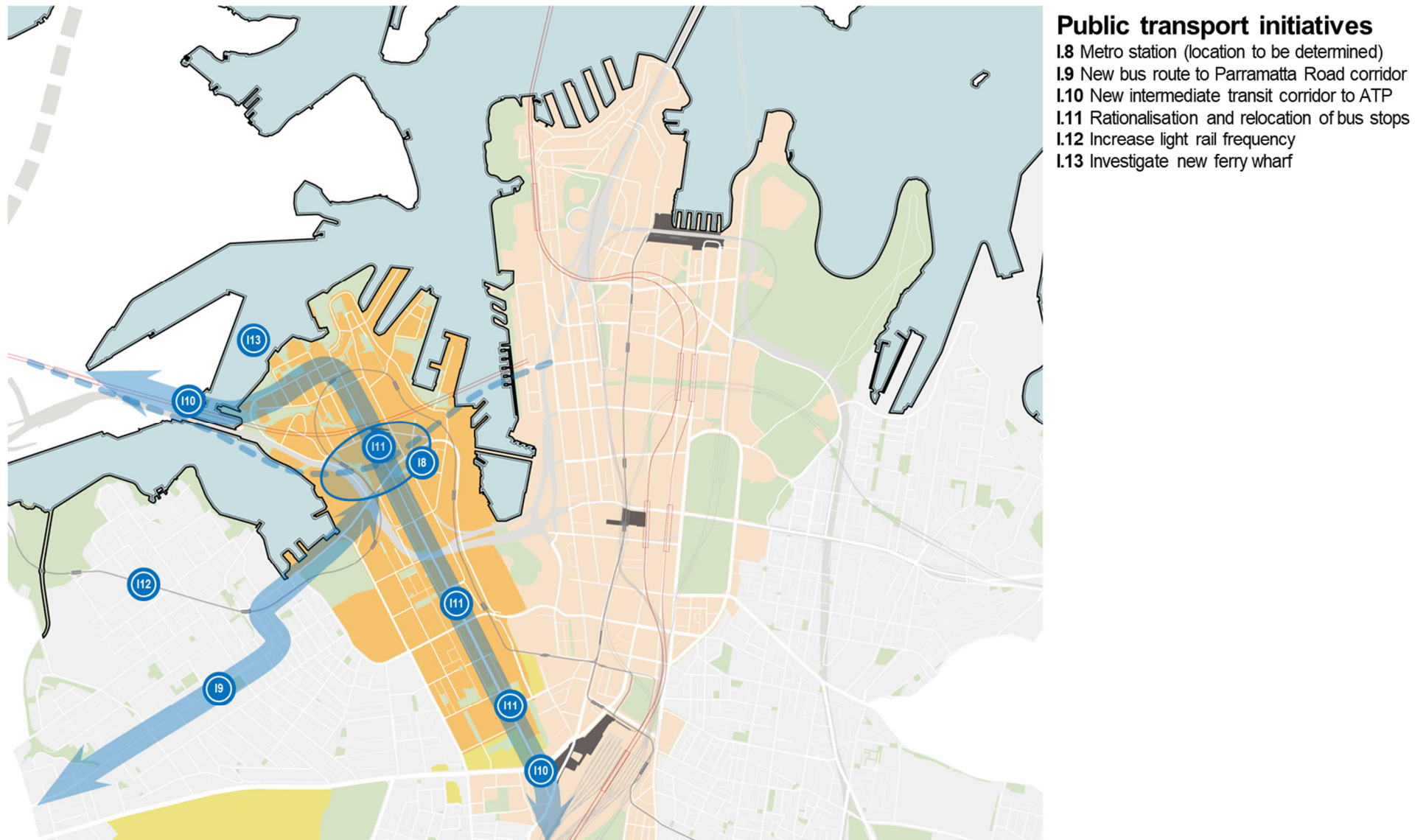


Figure 74 – Proposed public transport network interventions

8.5. Active transport – enhance walking and cycling

Initiatives to improve the active transport network within the Pyrmont Peninsula are primarily focused on closing existing gaps in the network and would be beneficial to connecting open spaces. In the event that a metro station is planned in Pyrmont, closing these gaps in the active transport network will improve access to the station and may present further opportunities to strengthen the active transport network, particularly around Union Square and Pyrmont Bridge.

The key initiatives proposed to support this public transport network surrounding the Pyrmont Peninsula are shown in Figure 75 and include:

I.14 – Extend the Goods line south through existing tunnel to Central Station and investigate further extension to Redfern Station.

I.15 – Extend the Goods line north to Pyrmont Street and Murray Street to connect with existing Union Street cycleway. This would require integration into key sites including Powerhouse and Novotel sites.

I.16 – Extend Jones Street cycleway north to Pyrmont Bridge Road.

I.17 – Investigate active transport crossing of Pyrmont Bridge Road to provide connection to Jones Street.

I.18 – Extend Union Street cycleway along Mitchell Street, Bank Street and connecting with Glebe Island Bridge as a separated off-road path.

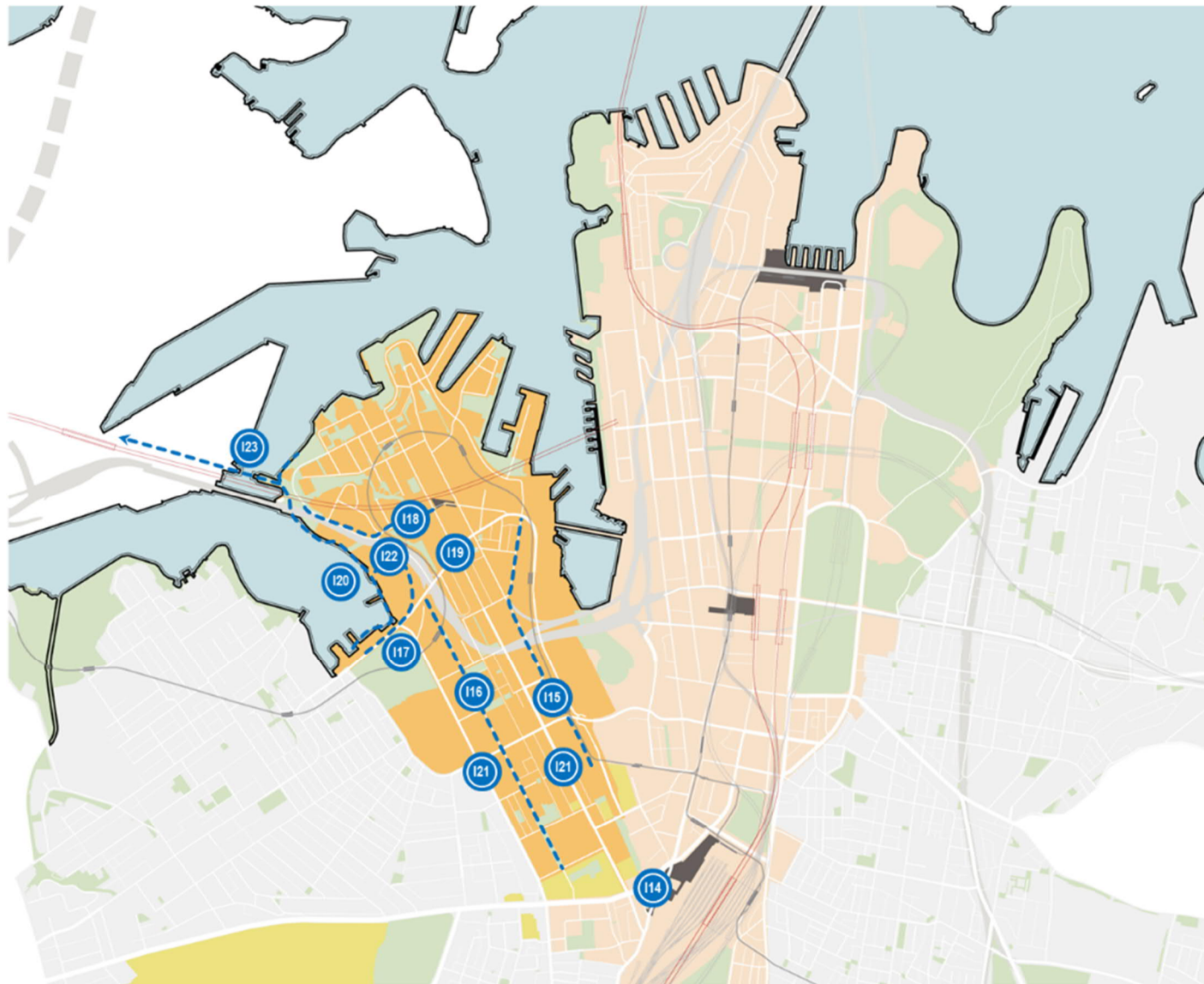
I.19 – New cycleway from Bridge Road to Miller Street connecting with existing Union Street cycleway through the proposed Blackwattle Bay development.

I.20 – Extend foreshore active transport link through Blackwattle Bay and Sydney Fish Market redevelopment to complete recreational foreshore link to Wentworth Park.

I.21 – Localised widening of footpaths along key streets in the Pyrmont Peninsula including Harris Street, Wattle Street and Pyrmont Street.

I.22 – Investigate underground active transport link to Sydney Fish Market from existing Fish Market light rail stop.

I.23 – Investigate Glebe Island Bridge link to provide active transport and public transport connection from Pyrmont to The Bays precinct.



Active transport initiatives

- I.14 Southern extension of Goods Line link
- I.15 Northern extension of Goods Line link
- I.16 Northern extension of Jones Street cycleway
- I.17 Active transport crossing of Pymont Bridge Road
- I.18 Extension of Union Street cycleway
- I.19 Bridge Road/Blackwattle Bay cycleway
- I.20 Foreshore recreational cycling link
- I.21 Localised footpath widening
- I.22 Investigate tunnel to Sydney Fish Market
- I.23 Investigate Glebe Island Bridge link

Figure 75 – Proposed active transport network interventions

8.6. Policy interventions – better manage parking and travel demand

Changes in policy regarding parking, land use and travel demand management will be required to support further growth in population and employment in the Pymont Peninsula and ensure that development occurs in line with the transport principles outlines in Section 2.2. Key policy initiatives that should be pursued include the following:

I.24 – Pursue shared parking across different land uses with a view to repurposing this space over time as parking demand decreases.

I.25 – Investigate parking pricing with efficient prices that include lower rates during off-peak periods and higher rates during peak times and locations. This includes the potential for variable pricing during congested times.

I.26 – Encourage transportation management associations for new developments to establish member-controlled organisations that provide transport and parking management services.

I.27 – Investigate alternative freight arrangements within the Pymont Peninsula for consolidating “last mile” delivery into delivery centres such as a logistics hub.

I.28 – Encourage more car-sharing and ride-sharing by shifting existing on-street parking over to car-sharing services can reduce the need for residents to own their own car to make trips that are not practical to make via active or public transport, supporting lower parking rates.

I.29 – Prepare for autonomous vehicles through flexible planning controls that can accommodate reduced or modified parking better suited to serving private vehicle travel demand through mobility as a service instead of personal ownership. This may include investing in dedicated facilities for charging and maintenance of autonomous vehicles as they become the dominant mode of road travel.

9. Place-Based Transport Strategy conclusions

The development of a Place-Based Transport Strategy for the Pymont Peninsula has identified a significant potential for transformative interventions in the urban structure and transport network that can support the growth of the area as a distinct centre with strong connections to Sydney CBD and the Harbour City Innovation Corridor. By understanding how movement can better support the desired place outcomes in the Pymont Peninsula, this strategy aims to transition the Pymont Peninsula towards a place-based transport vision that puts the movement of people at its core.

This strategy represents the first stage in a continuing process that will develop the interventions identified at this strategic level into more detailed proposals or projects in the future. Further investigation will be required to provide more detail on design, feasibility and costs for many of the elements identified in this strategy. This refinement and additional detail will be the subject of further planning and consultation with key stakeholders.

9.1. Strategic drivers for the Pymont Peninsula

The following strategic transport drivers are relevant to the consideration of transport options for the Pymont Peninsula:

- Composition of land uses and density distribution.
- Transport infrastructure investment to support connections to the Innovation Corridor.
- Investment in high quality heavy rail (metro station).
- Integration of active transport connections within the urban fabric to better connect and use open spaces.
- High quality active transport connections through both existing public domain and integrated with future development.
- Highly interconnected and transit-oriented urban form along key new transit spines and nodes
- Mitigation measures to protect the Pymont Peninsula local street network, including consideration of local road network access to/from Western Distributor etc.

Each of these strategic transport drivers have been considered when formulating a transport network that connects within and around the Pymont Peninsula to meet the challenges of increased population and employment in the area, as illustrated in Figure 76.

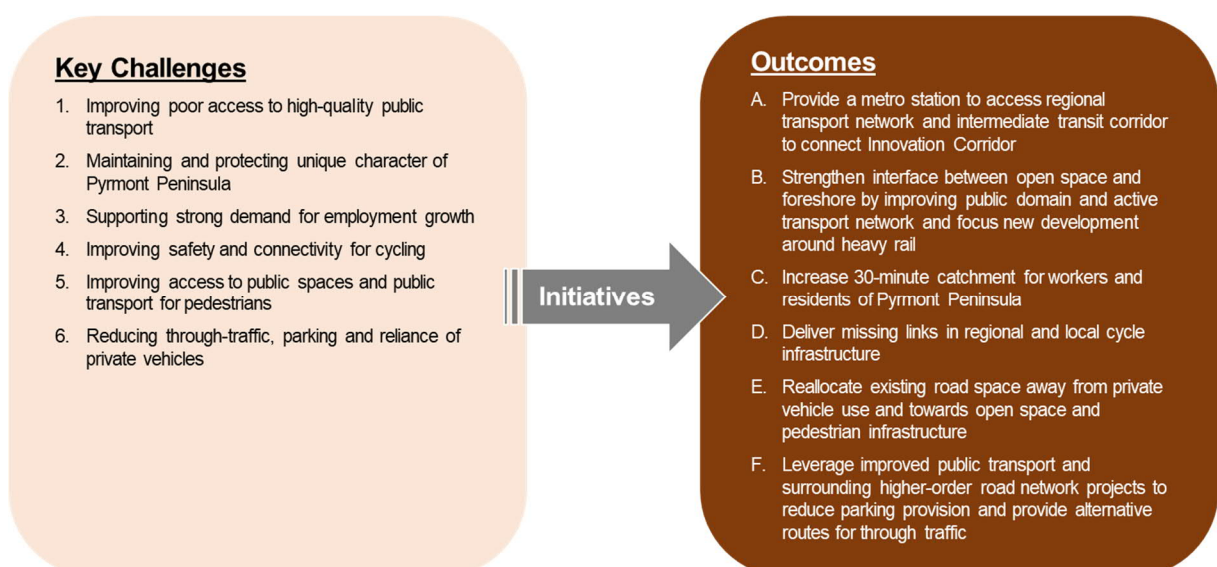


Figure 76 – Key challenges for Pymont Peninsula

9.2. Strategic transport initiatives for the Pyrmont Peninsula

Unlocking the potential of the Pyrmont Peninsula as an urban centre is fundamentally tied to the transport network and the options for travel that are afforded to people who live, work and visit in the Pyrmont Peninsula. The greatest opportunity to facilitate this change will be the inclusion of a new heavy rail station as part of Sydney Metro West. A heavy rail station at Pyrmont would substantially improve accessibility of the peninsula to a much wider market of workers, which is of critical importance to industries such as media, information and technology and would open the Pyrmont Peninsula up to more intense employment development. This station would also further increase mode shares for travel via public and active transport, greatly increasing the 30-minute catchment for the area and providing the missing connection to the Sydney strategic public transport network.

As the decision of whether to build a metro station at Pyrmont is still the subject of investigation, this strategy has focused on identifying interventions that can integrate with a metro station, but also deliver significant improvements to the public and active transport network. These interventions can also help bridge the gap until such time as a metro station is committed and can support the intermediate transport task of connecting centres within the Innovation Corridor.

A summary of the key transport intervention examined and proposed as part of this strategy and the relation to the key challenges and outcomes of the Pyrmont Peninsula Place-Based Transport Strategy are provided in Table 17. The initiatives identified in this strategy will require considerable collaboration across Government at the state and local level; the responsibilities across government for achieving the outcomes listed below will be the subject of further planning as the Pyrmont Peninsula Place Strategy is further refined at the granular sub-precinct level. While these initiatives have been based on an initial consideration of the opportunities and constraints identified in this study, this does not preclude opportunities from being revisited as planning for the Pyrmont Peninsula progresses at a more granular sub-precinct level.

While most of the initiatives identified in this Place-Based Transport Strategy will be the responsibility of individual government agencies (such as public transport and road network initiatives) some initiatives will require support across the broad spectrum of government stakeholders, particularly those relating to:

- Changing parking policy to reduce private vehicle dependence in a manner that is fair and equitable for workers, residents and visitors
- Preparing for autonomous vehicles and emerging transport technologies
- Integration of active transport corridors into existing and future development.

These elements require broader support within the Pyrmont Peninsula Place Strategy to integrate sustainable transport outcomes into planning policy.

Table 17 – Summary of proposed transport initiatives

Key Challenges	Initiatives			Outcomes
	Short term (0-5 years)	Medium term (5-10 years)	Long term (10 years +)	
2, 4, 5, 6	Investigate removal of the Pymont Street ramp	Reallocate road space on Wattle Street south of Fig Street		B, D, E
2, 4, 5, 6	Investigate converting local streets around UTS and TAFE Ultimo to shared zones	Contra-flow bus lane northbound on Harris Street and Regent Street (Thomas Street to Lee Street)		B, D, E
2, 4, 5, 6	Investigate closure of Jones Street between Thomas Street and Broadway			B, D, E
2, 4, 5, 6	New signalised crossing on Harris Street			
1, 3, 5, 6	New bus route from Parramatta Road corridor	New intermediate transit corridor from the Bays to Australian Technology Park via Harris Street	New metro station at Pymont	A, B C, F
1, 3, 5, 6	Rationalisation and relocation of bus stops			A, B C, F
1, 3, 5, 6	Investigate new ferry wharf at Cadi Bay Wharf			A, B C, F
1, 2, 4, 5	Investigate active transport crossing of Pymont Bridge Road	Extend Good Line south through existing tunnel to Central station	Extend Good Line north to Pymont Street and Murray Street	B, D, E, F
1, 2, 4, 5	Extend Union Street cycleway to Bank Street	Extend Jones Street cycleway north to Pymont Bridge Road		B, D, E, F
1, 2, 4, 5	Investigate underground active transport link to Sydney Fish Market	New commuter cycleway through Blackwattle Bay development		B, D, E, F
1, 2, 4, 5	Investigate Glebe Island Bridge link for public and active transport	Extend Foreshore active transport link through Blackwattle Bay development		B, D, E, F
1, 2, 4, 5		Localised widening of footpaths along key pedestrian routes		B, D, E, F
2, 6	Investigate parking pricing	Pursue shared-parking across land uses		E, F
2, 6	Investigate alternative freight arrangements	Encourage transport management associations		E, F
2, 6		Encourage more car-sharing and ride-sharing	Prepare for autonomous vehicles	E, F

9.3. Next steps

This Place-Based Transport Strategy identifies a number of significant opportunities to increase the capacity of the existing transport network to accommodate the additional peak period trips that would be generated by the forecast development, particularly on the public transport network. A number of transport interventions have been identified that would increase the capacity of the public transport network, encourage lower use of private vehicles and improve the active transport network to incentivise higher use of walking and cycling to reduce demand for other modes of travel.

Further investigation of the interventions proposed in this strategy will need to be undertaken to determine feasibility and to confirm the additional capacity that can be added to the transport network to accommodate travel demand as population and employment increases in the Pyrmont Peninsula. Key steps that will need to be undertaken following this strategy will include:

- Continuing consultation with Sydney Metro West to understand the implications of a potential Sydney Metro West station at Pyrmont.
- Analysis of strategic transport modelling undertaken by Transport for NSW to understand in greater detail the impacts of increased public transport provision within the Pyrmont Peninsula including heavy rail, new bus routes and intermediate transit corridors to understand more clearly how these interventions will address the transport task associated with the Pyrmont Peninsula Place Strategy forecast land use.
- More detailed traffic modelling of the proposed road network interventions identified in this strategy to understand more clearly the impacts of changes to the road network including access to the redeveloped Sydney Fish Market and Blackwattle Bay Precinct.
- A feasibility study of the Glebe Island Bridge to understand more clearly the feasibility of providing a public transport and active transport connection at the site of the existing Glebe Island Bridge.
- More detailed analysis and consultation of water-based commerce and recreation to examine the impacts of the Pyrmont Peninsula Place Strategy on the users of Sydney Harbour, Cockle Bay, Jones Bay and Blackwattle Bay.
- Ongoing community and stakeholder consultation via the exhibition process of the draft Pyrmont Peninsula Place Strategy.