

Attachment A2(g)(i)

**Urban Design Study – 6 Recommendations
– Part 1 – Botany Road Precinct**

A black and white photograph of a street intersection. In the foreground, a traffic light pole holds a 'RIGHT TURN' sign and a 'ONLY' sign with a right-turn arrow. A 'NO ENTRY' sign is also visible. The street is lined with parked cars and buildings. A dog is visible on the sidewalk on the left. The image is oriented horizontally on the page.

6.1 Indigenous place-making strategies

Regent Street Plaza

Existing Condition

Regent Street plaza forms an important green refuge and public space along the length of Regent Street and comprises a shabby brick mall-like footpath. It is connected north-south to bitumen footpaths, with sparse street furniture, and some mature tree planting.

The road condition directly adjacent imparts a noisy, busy condition on the plaza despite it being under-utilised and devoid of visitors at most parts of the day.

- 1 Scattered Indigenous interpretation or messaging, without a unified message but with strong ties to the existing community.
- 2 Under utilised public plaza with narrow, long north south orientation.
- 3 Closed shop fronts and poor street activation.
- 4 One-way pair and traffic speeds reduce amenity for plaza adjacent.
- 5 Narrow laneways connecting east-west.
- 6 Lack of tree canopy and street planting.

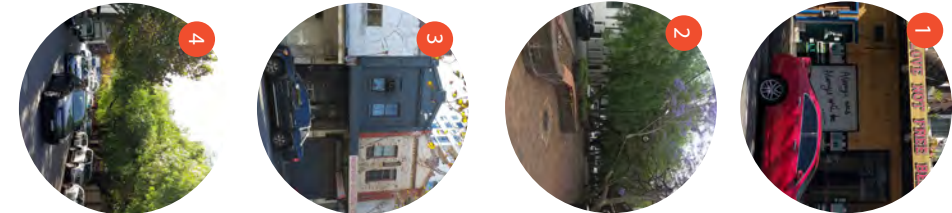


Figure 284: Existing Condition - Regent Street Plaza

Regent Street Plaza

Proposed Condition

Connecting a continuous Indigenous Promenade that responds to daily local traffic but also reflects the social and historical importance of this place in the city will be paramount to Regent Street plaza becoming a major destination within Redfern Waterloo.

Widening the plaza will give a generosity that means that is will be place in itself, not only a connector. With reduced traffic and traffic calming measures along Regent Street, the plaza will become the backbone for conversation, stories, visitors experience and locals identity.

- 1 Indigenous boulevard.
- 2 Indigenous planting.
- 3 Indigenous story trail.
- 4 Indigenous artwork/interpretation.
- 5 Active rear lane uses.
- 6 Shared zones.
- 7 Increased tree canopy.
- 8 Widened public plaza.
- 9 Closed street to give back to Daniel Dawson Reserve.

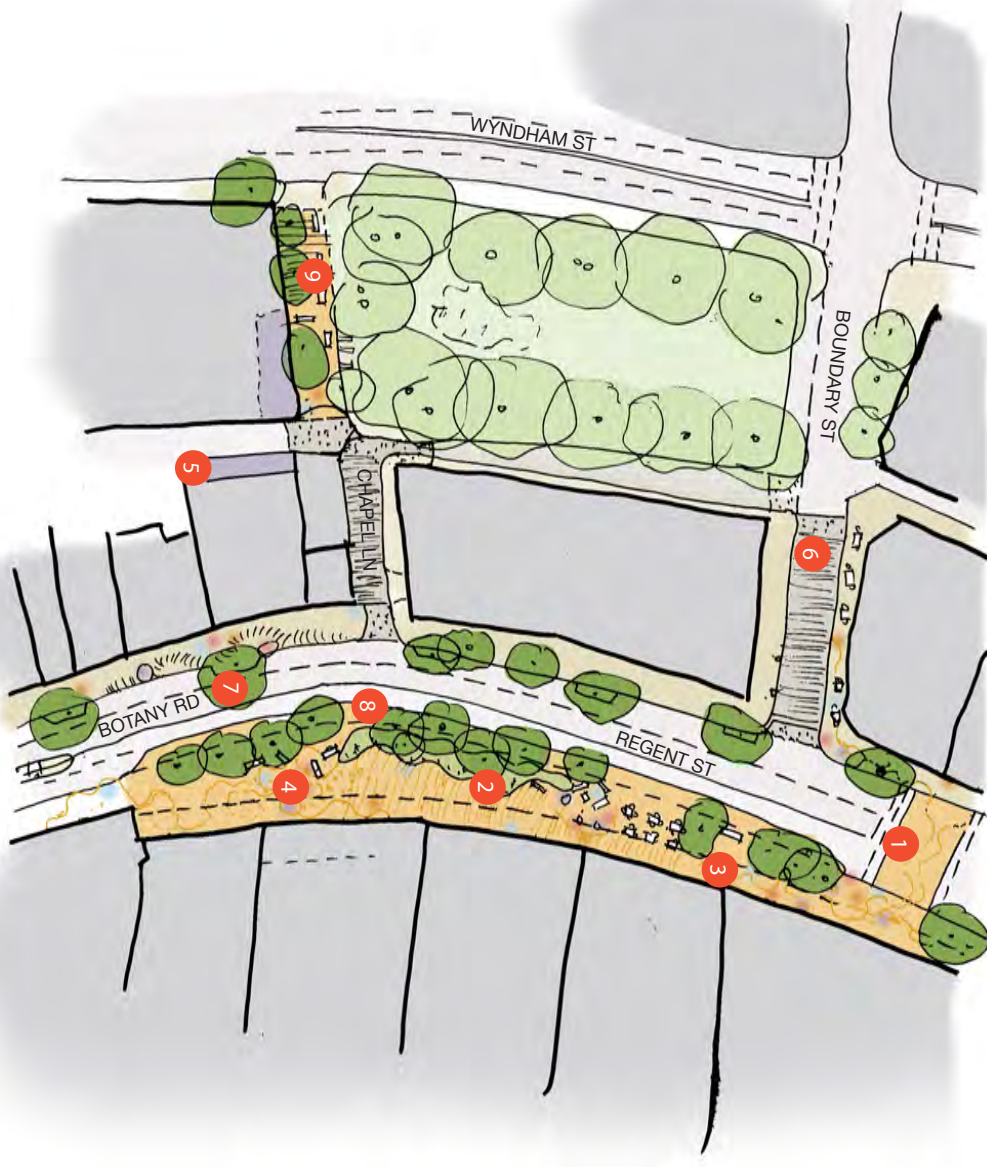


Figure 285: Proposed Condition - Regent Street Plaza

Jack Floyd Reserve

Existing Condition

Regent Street plaza forms an important green refuge and public space along the length of Regent Street and comprises a shabby brick mall-like footpath. It is connected north-south to bitumen footpaths, with sparse street furniture, and some mature tree planting.

The road condition directly adjacent imparts a noisy, busy condition on the plaza despite it being under-utilised and devoid of visitors at most parts of the day.

- 1 Under-activated shop fronts and retail.
- 2 Green space access blocked by high walls and busy thoroughfare to the west.
- 3 Indigenous artworks on the periphery of public space.
- 4 Public Transport interchange with narrow footpaths crating pedestrian conflict.
- 5 Bare service lane feel to east-west streets.
- 6 Vehicle access at the centre of public space.
- 7 Indigenous artwork not well received by the local Community.

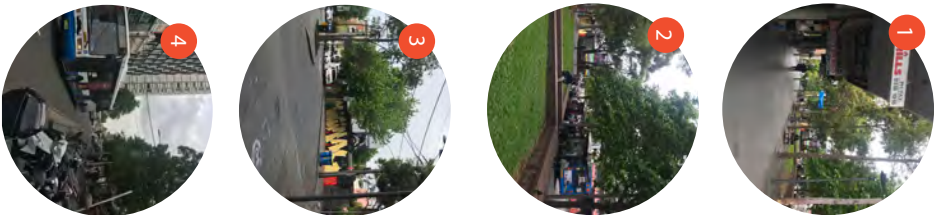


Figure 286: Existing Condition - Jack Floyd Reserve

6.2 Transport, movement and place-making

Henderson Road Intersection

Existing Condition

The 'dog-leg' intersection at Henderson Road presents car-dominated, harsh and unfriendly conditions for all users of the intersection. An abundance of hard, run-down pavement surfaces, lack of tree canopy and cluttered footpaths make the intersection unfriendly for visitors on foot. As a key future arrival point by Metro the area lacks a defining, gateway character.

- 1 Complex intersection conditions at one-way pair dog-leg intersection.
- 2 Lack of pedestrian amenity on narrow and under-utilised footpaths.
- 3 Cluttered footpaths and kerbs.
- 4 Frequent traffic queuing.
- 5 Dog-leg right-hand turn northbound creates vehicle / pedestrian / cyclist conflict and safety issues.
- 6 No active transport provision.
- 7 Limited street tree canopy.

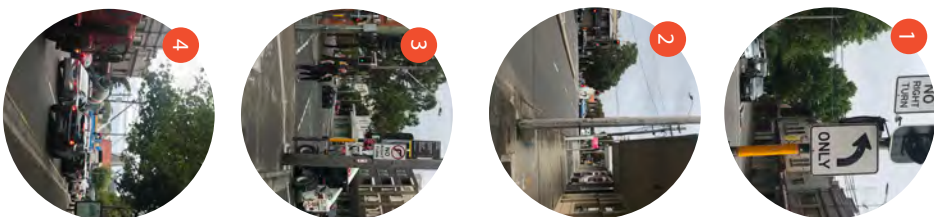


Figure 288: Existing Condition - Henderson Road Intersection



Henderson Road Intersection

Proposed Condition

At an early stage, implementing two-way traffic at Regent Street and Gibbons Street will vastly improve conditions at Henderson Road from kerb to kerb. Improved way-finding, choice of direction and simplified intersections will create a harmonious relationship between pedestrian, vehicle user and active or public transport. Traffic changes will be felt throughout the precinct with the Henderson Road intersection now set to be a destination and gateway to Redfern-Waterloo in its own right. Reduced traffic combined with two-directional traffic on Regent Street will support place-making outcomes such as improved pavement, mural and artworks. North-south and east-west movement becomes balanced.

- 1 Implement two-way traffic to Gibbons and Regent Street.
- 2 Separated cycleway.
- 3 Widened footpath.
- 4 Reduce Henderson Road carriageway to four lanes.
- 5 Simplify intersection movements.
- 6 Design a gateway to Regent Street, with the Indigenous Community's identity at its heart.
- 7 Shared zone laneways.
- 8 Clearly marked and accessible local bus route interchange.
- 9 Public domain artwork paving with implementation of City of Sydney smart-poles and underground services.
- 10 Increased tree canopy.

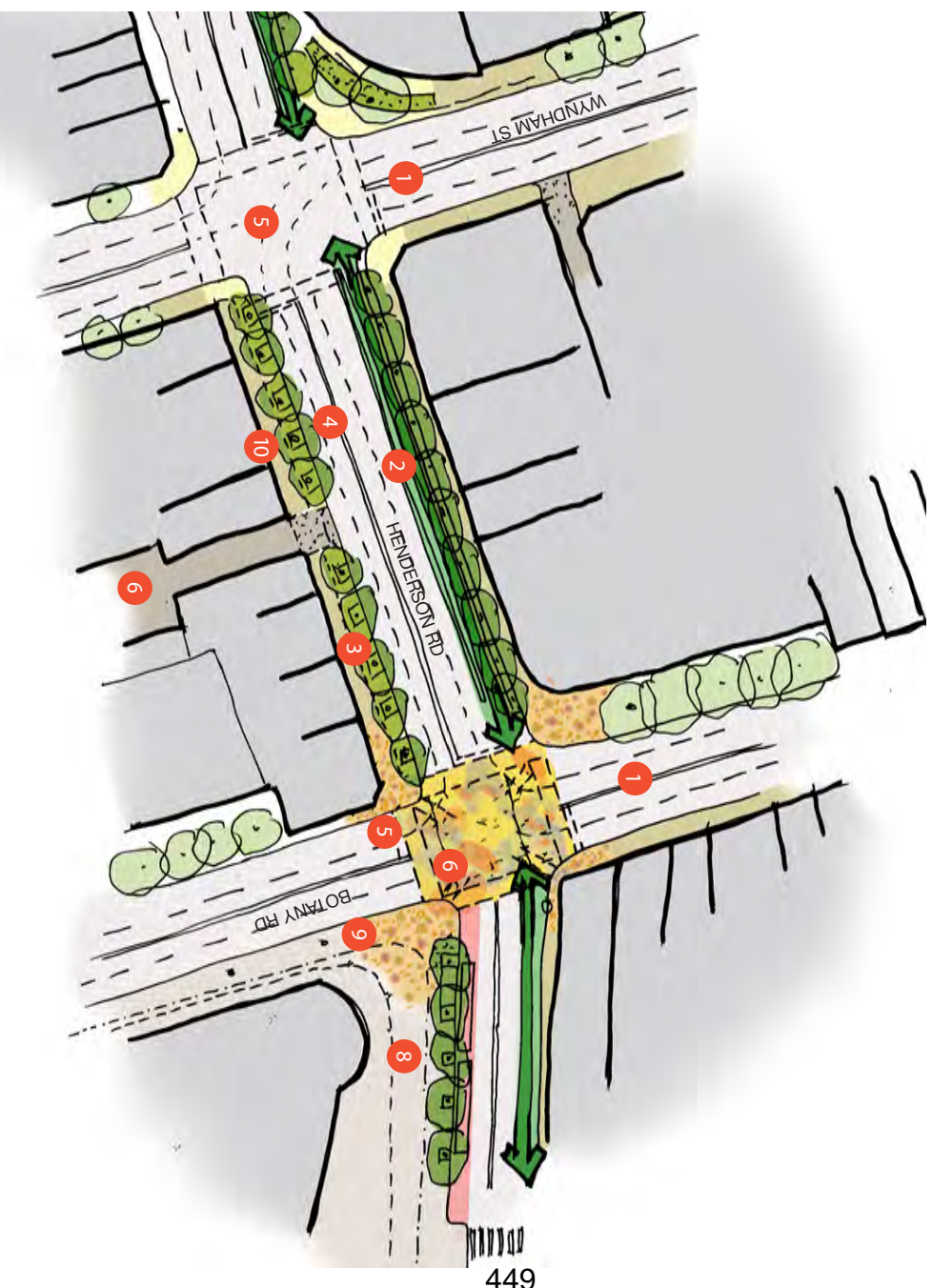


Figure 289: Proposed Henderson Road Intersection Urban Condition

Lawson Square / Regent and Gibbons Intersection

Existing Condition

This critical node currently services incoming vehicle traffic with a complex set-up that favours road traffic and reduces amenity for pedestrians, residents, businesses and commuters in the area.

Redfern Station is disconnected from north Redfern, particularly Redfern Street, by a car dominated east-west connection of Lawson Square. The one-way pair and high vehicle speeds create an unsafe environment for cyclists forced to use the road to travel northbound.

- 1 Isolated green space without clear use, safe public access or amenity.
- 2 Lack of pedestrian amenity north-south.
- 3 One-way traffic pairs create busy, vehicle thoroughfare and reduce pedestrian use of east-west connections at Regent / Gibbons Street.
- 4 Complex Intersection at Lawson Square / Regent Street necessitating right-hand turn where vehicle safety issues and bottleneck conditions are often experienced.
- 5 Discontinuous separated cycle path.



Figure 291: Historical image showing landscaped open space present adjacent to Regent Street before Gibbons Street was continued as a one-way road.
Source: Regent Street Redfern, SFC Photograph ID: A_00034751, City of Sydney Archives, circa 1st Jan 1991 - 1st Dec 1991.

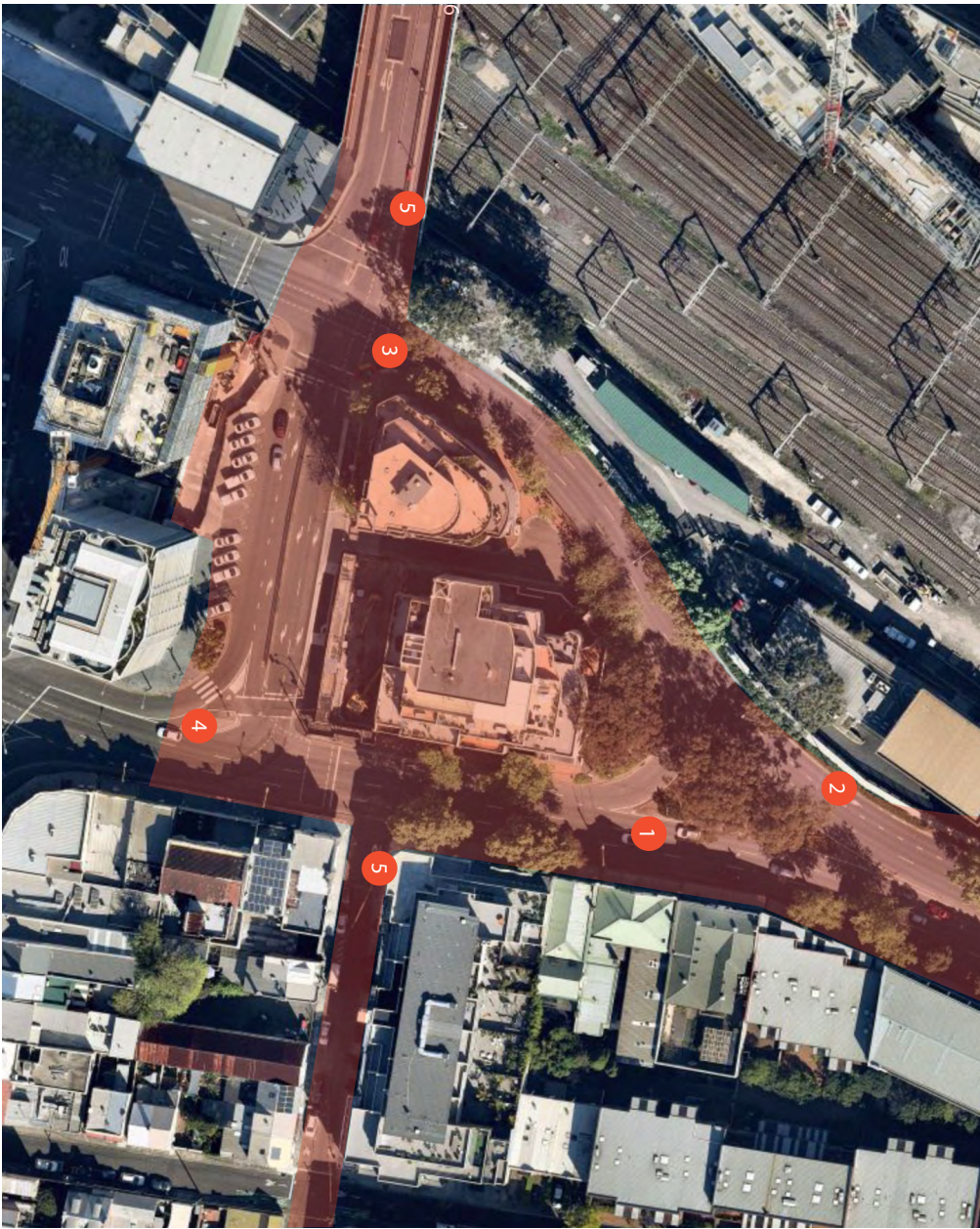
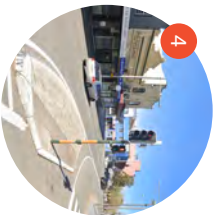
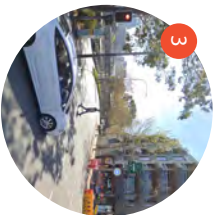
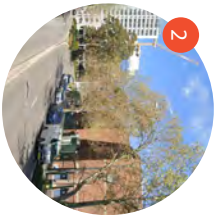
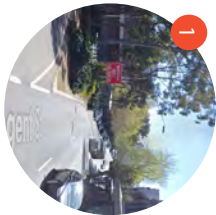


Figure 290: Existing Condition - Lawson Square / Regent Street and Gibbons Street Intersection



Lawson Square / Regent and Gibbons Intersection

Proposed Condition

In order to practically implement a continuation of two-way pairs from south Gibbons / Regent Street, a new intersection will be introduced to transfer local traffic to renewed Regent Street / Redfern Street 'high streets'. A new public plaza will occupy previous Regent Street one-directional roadway and will provide a new gateway plaza for those arriving to the Botany Road Corridor from the north.

With these changes, the east-west cycleway connection can be continued safely to an upgraded and simplified intersection at Lawson Square / Wells Street. Increased tree canopy at the public plaza will signal the beginning of the Indigenous boulevard to Regent Street, with Australian species.

- 1 New signalised intersection.
- 2 New Public Plaza enhances amenity for existing retail shop frontages, creates a new 'gateway' activated by public art.
- 3 Separated cycleway enhances multi-modal transport and east west connections.
- 4 Reduce pedestrian / cycle / vehicle conflict by clearly reallocating multi-modal space.
- 5 Shared use pedestrian / cycle pathway.
- 6 Enhance pedestrian crossing safety and legibility by indicating crossing opportunities in the public domain.
- 7 Two-way traffic to Regent Street / Gibbons Street.
- 8 Possible slip lanes to enable traffic flow if required.



Figure 292: Proposed Condition - Lawson Square / Regent Street and Gibbons Street Intersection

Botany Road / Waterloo Metro Station Transport Interchange

Existing Condition

Botany Road is well connected to both the City CBD and the neighbouring areas of Redfern-Waterloo by existing bus networks and the future Metro Station, however a clear transport interchange is not present.

Vehicle occupation of the SP2 zoned road reserve setbacks hinders pedestrian movement and reduces opportunity for commuters to wait. The kerb edge is littered with vehicle crossovers, limiting street tree canopy cover opportunities and creating unsafe vehicle reverse re-entry traffic conditions.

There is no crossing opportunity mid block which forms a physical barrier for east-west connectivity.

Existing built form facing Botany Road contains retail or commercial opportunities but doesn't present active frontages to the street, minimising the 'destination' feel of the area.

- 1 SP2 zoned road reserve setback occupied by vehicles.
- 2 Lack of safe crossing opportunity.
- 3 Sparse tree canopy.
- 4 Lack of Street planting.
- 5 Under activated and underutilised street frontage.
- 6 Lack of existing east-west through links.
- 7 No clear transport interchange.

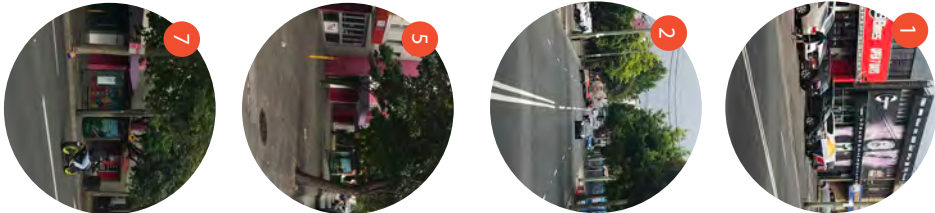


Figure 293: Existing Botany Road / Waterloo Metro Station Transport Interchange Urban Condition



Botany Road / Waterloo Metro Station Transport Interchange

Proposed Condition

Both sides of the street will be integrated as part of the future Waterloo Metro Quarter, a new gateway destination that fully connects new built form and existing neighbourhoods. Essential to this vision is the delivery of the following key elements:

- 1 Explore with the local indigenous community way that their history, stories and Country can be represented and experienced within the public domain and landscaping of the area.
- 2 Implement through-site links to ensure Alexandria Park and future Waterloo Housing redevelopment are connected to the area.
- 3 Provide a signalised crossing to ensure safe and legible mode transfer along with traffic slowing and improved vehicle / pedestrian safety.
- 4 Implement active frontages with new development where street seating, cafe / retail street use and awnings will increase street amenity and ensure a day-to-day use to the precinct.
- 5 Activate rear laneways with new development, thus encouraging rear-lane vehicle access points only. This will necessitate removal of vehicle crossovers at Botany Road which currently present safety risks due to rear re-entry of vehicles.
- 6 Provide continuous street tree canopy, opportunities for street planting and street furniture. Utilise indigenous planting wherever possible.

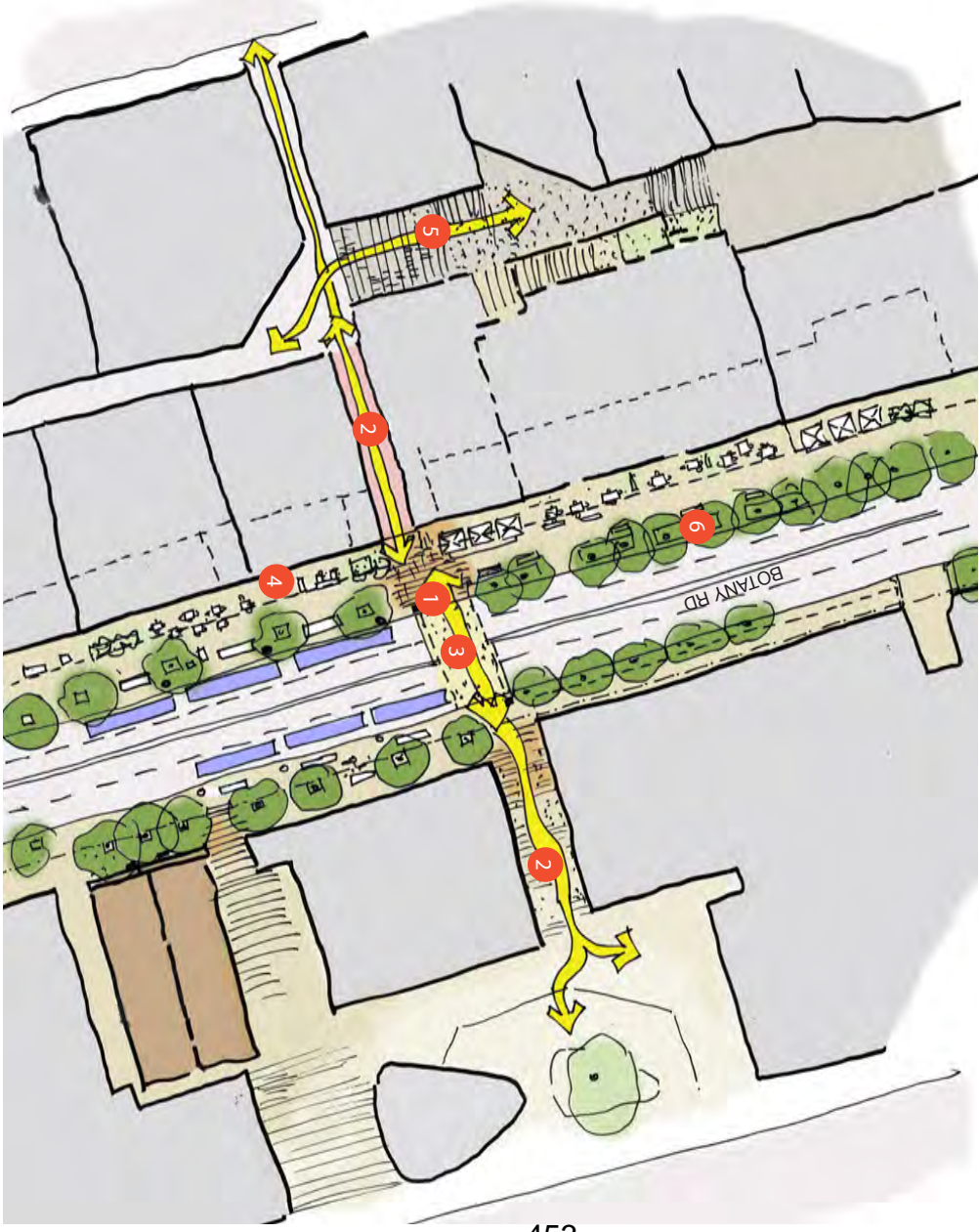


Figure 294: Existing Botany Road / Waterloo Metro Station Transport Interchange Urban Condition

Proposed Street Typologies

By developing key street types across the area, a consistent and legible street network can be established as the foundation of the Botany Road Corridor's public domain identity.

Regent Street is prioritised as a vibrant High Street to cater to new and existing residents or workers within the area.

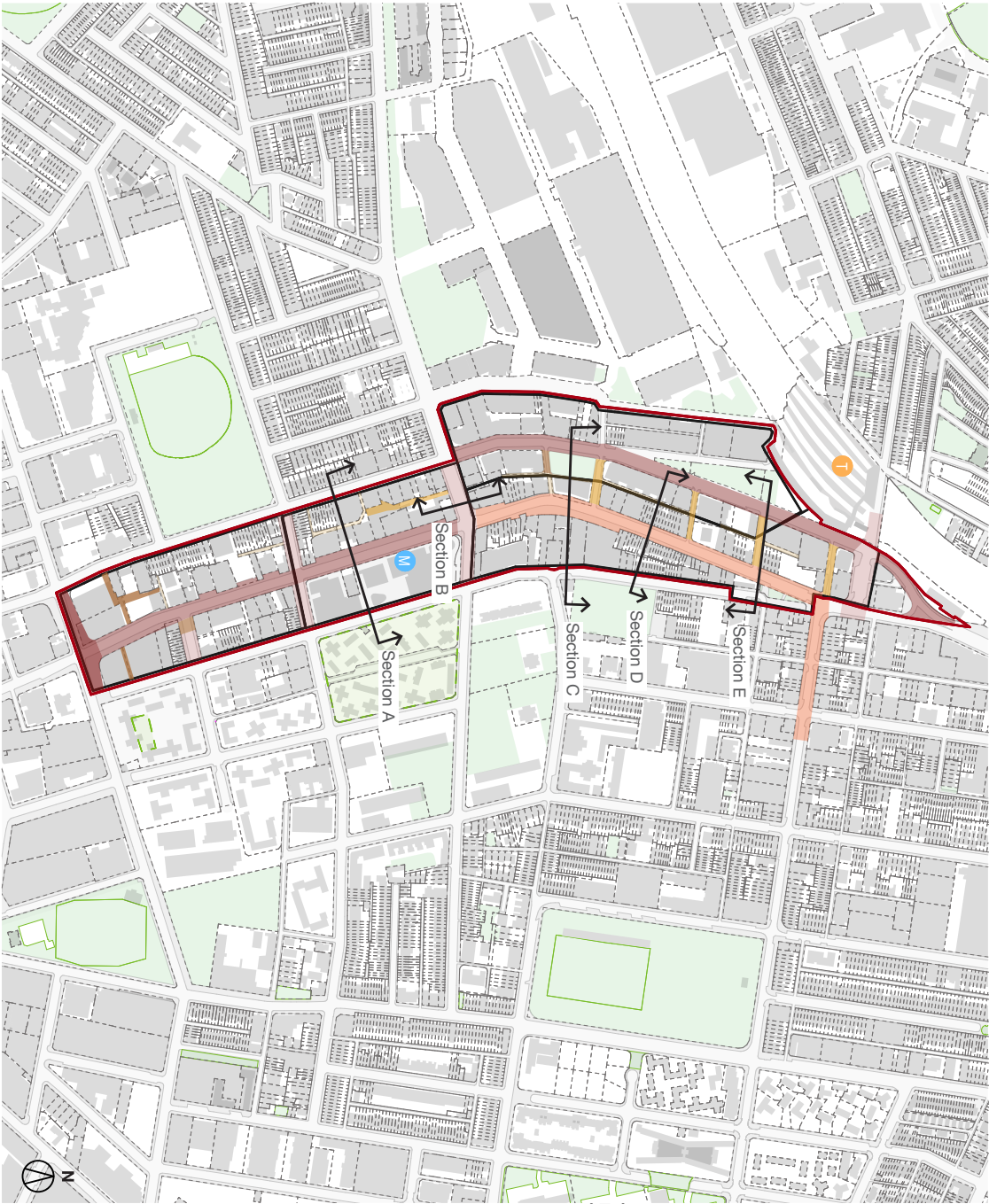
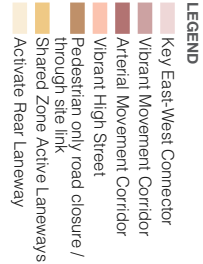
Botany Road and Gibbons Street continue the existing role as a key connecting corridor within Sydney, with improvements intended to aligning this movement functions with destination places. The transport networks and public spaces will better work together through slight adjustments to kerb-to-kerb structures.

Henderson Road will become a key east-west connector, linking active transport from George Street / CBD to the north, public open space and renewed housing to the east and vibrant communities and workplaces to the west.

Key improvements to streets are:

- 1 Reduce noise and air pollution.
- 2 Contribute to the attractiveness of place through street furniture, planting and street activation zones.
- 3 Provide key pedestrian thorough-fares clearly marked and legible.
- 4 Combine transport with walk-ability to reduce dependence on vehicle use.
- 5 Consider mobility as key for all road and public domain users.

Figure 295: Proposed Street Typologies



Movement Corridor Street Typology - Botany Road

Key improvements are:

- 1 Occupy the street setbacks for place-making.
- 2 Break up setback verge into programmed street activation / pedestrian / landscaping zones.
- 3 Provide opportunities for cross-road connectivity through clear way-finding and safe crossing opportunities.
- 4 Ensure transport interchange uses are well furnished, to encourage public transport use.

East-West Connector Street Typology - Henderson Road

Key improvements are:

- 1 Reclaim street kerbs for planting and pedestrian use.
- 2 Buffer pedestrians from busy traffic through planted kerbs.
- 3 Locate cycling infrastructure within designated and separated zones to encourage usage and safety.

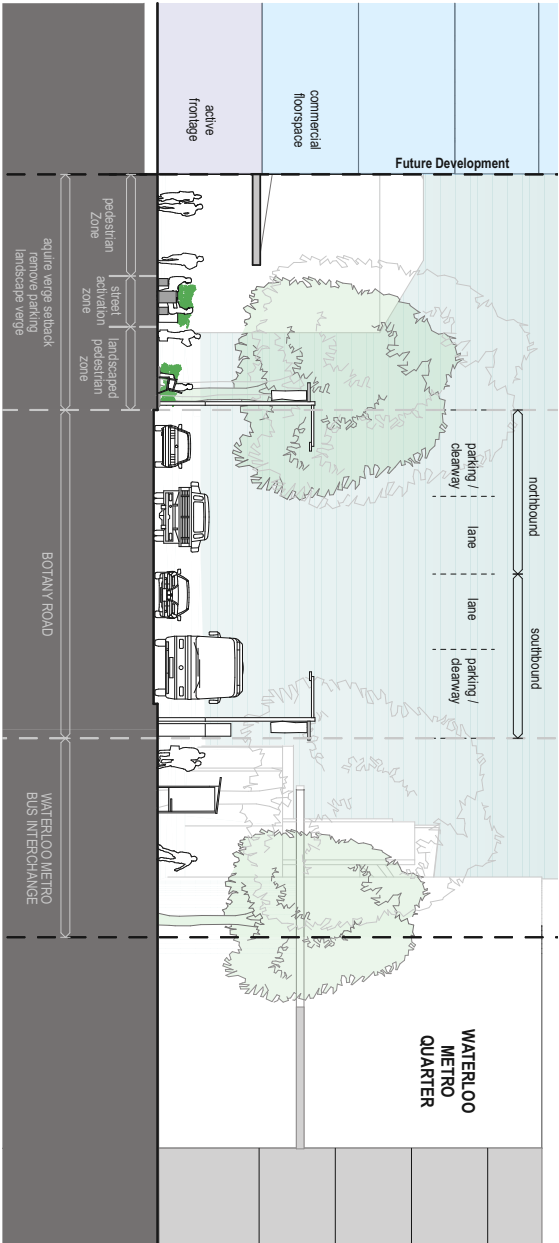


Figure 296: Street Typology Section A - Waterloo Metro Quarter

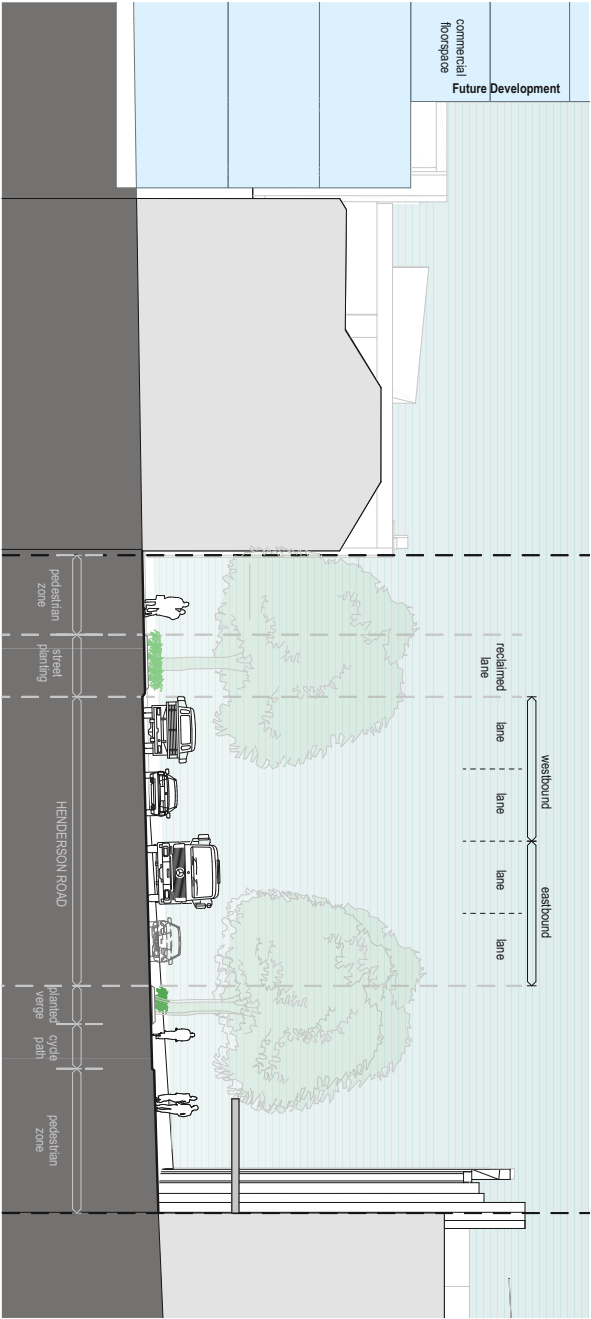


Figure 297: Street Typology Section B - Henderson Road

Vibrant High Street Typology - Regent Street

Key improvements are:

- 1 Implement parking blisters to increase tree canopy and slow traffic.
- 2 Provide street furniture adjacent to active frontages.
- 3 Leverage existing street tree canopy cover by planting new tree opposite.
- 4 Where two lane traffic permits, install planted medians as safe crossing opportunities at mid-block locations.

Vibrant High Street Typology - Regent Street Plaza

Key improvements are:

- 1 Upgraded plaza and extended plaza into reclaimed traffic lane.
- 2 Implement street planting beneath existing trees.
- 3 Break up sidewalks with programmed street activation / pedestrian / landscaping zones.
- 4 Cultural interpretation and artworks unite the public domain.

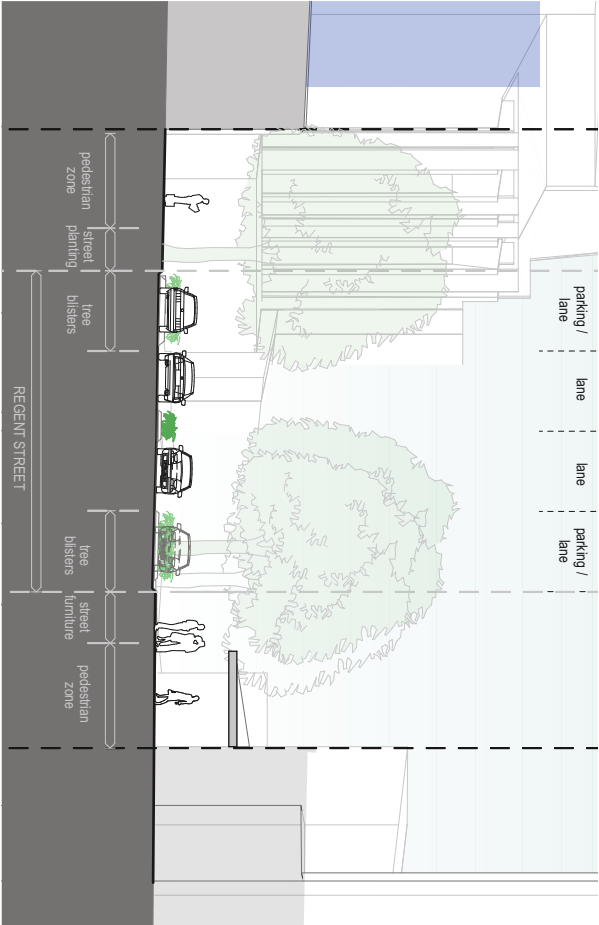


Figure 298: Street Typology Section C - Regent Street Traffic Condition

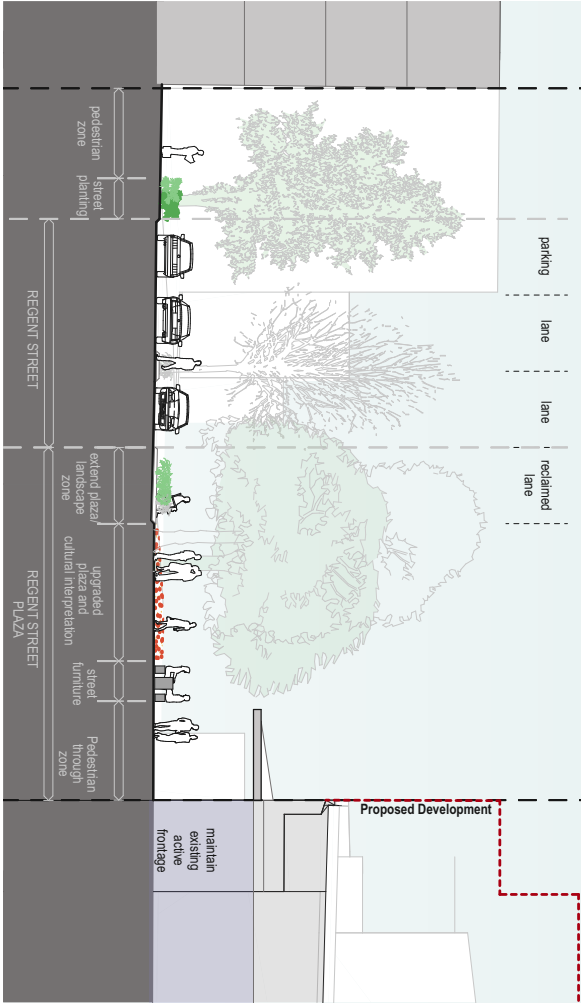


Figure 299: Street Typology Section D - Regent Street Plaza Upgrade

Active Laneways Street Typology - Margaret Street

Key improvements are:

- 1** Implement shared zones for services vehicles, cycling and pedestrians.
- 2** Unite the ground plane to widen narrow laneways.
- 3** Plant small canopy trees at intervals to encourage places to rest and give amenity to passer-bys.
- 4** Use bollards to differentiate pedestrian / vehicle space.
- 5** Reduce traffic speeds and prioritise active modes of transport.

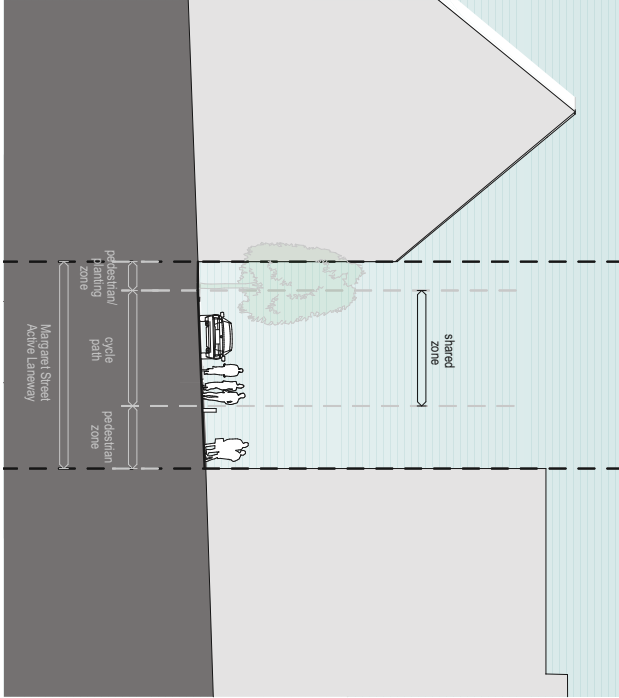


Figure 300: Street Typology Section E - Henderson Road

6.3 LEP / DCP Controls

Floor Space Ratio (FSR)

FSR controls could be revised to provide sufficient floor space to meet commercial floor space targets. The proposed FSR controls are inclusive of any other bonuses, such as design excellence, or Green Square bonus floor space. The following FSR control revisions are suggested based on urban design testing:

Waterloo Metro Quarter Precinct

- Facing Wyndham Street - 4:1 FSR.
- Facing Botany Road - 6.5:1 and 4.5:1 FSR.

Adjusted FSR in the WMQ would allow buildings to be constructed to a scale and form that would better suit the future scale of the Waterloo Metro Station directly opposite, whilst allowing for a reduction of forms toward residential areas of Alexandria along Wyndham Street.

Rosehill Precinct

- 8:1 FSR.

The increased FSR provides a form similar to land adjacent where AB 7:1 applies and will provide for essential non-residential uses.

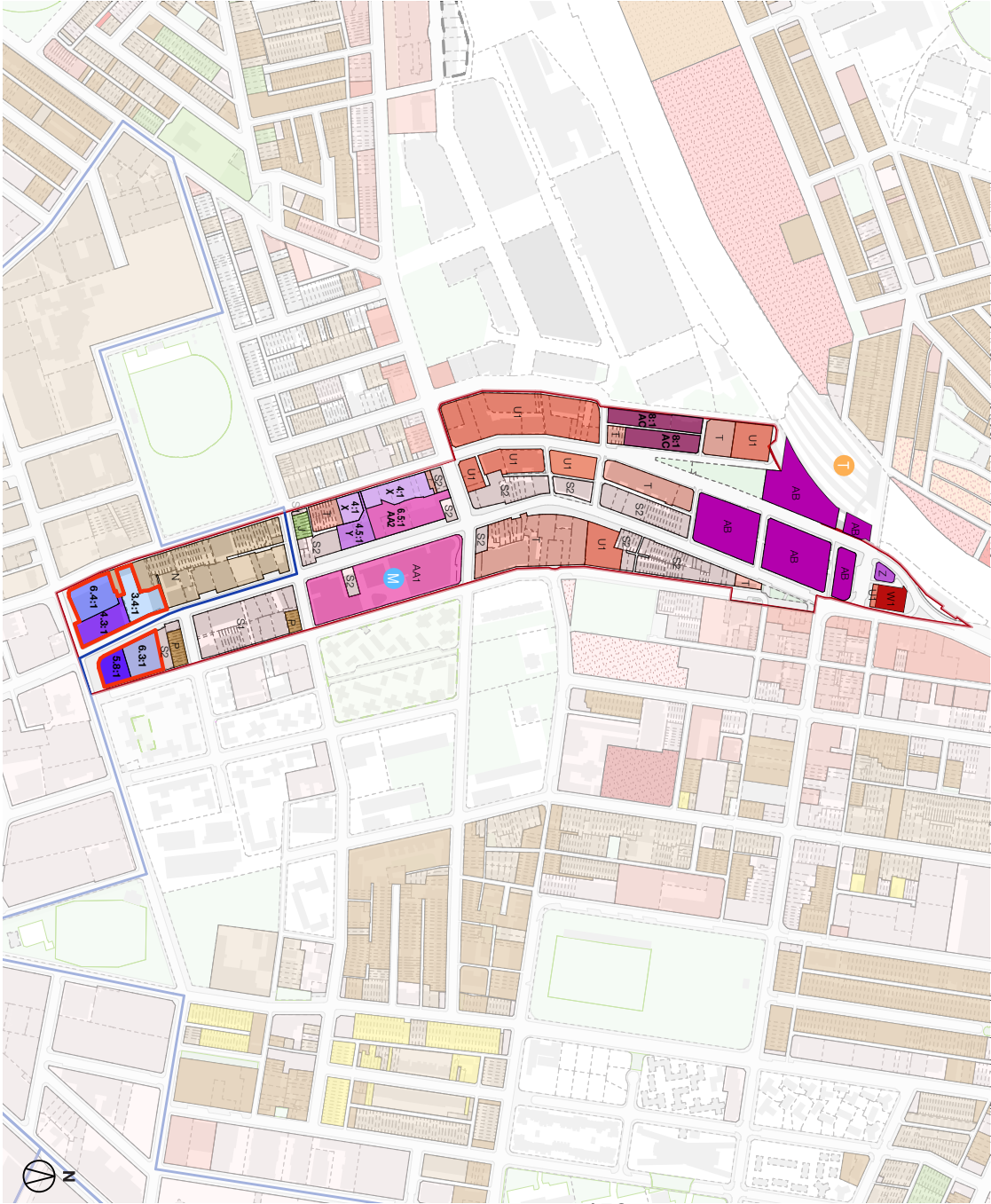
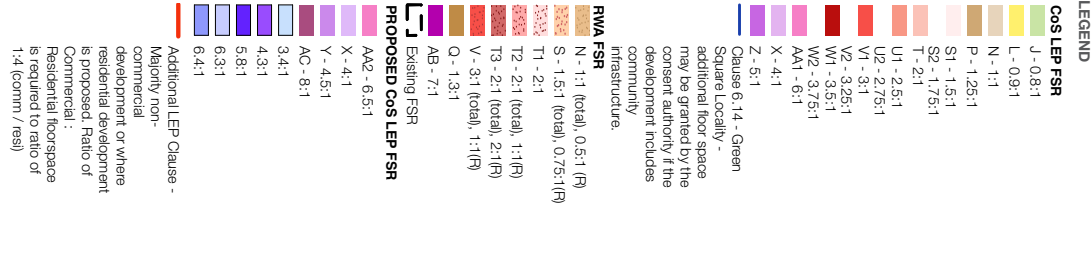
McEvoy Precinct

Site specific FSR controls be developed as shown on the figure adjacent. By implementing site specific FSR controls, evenly spread scale and massing can be applied to lots of varying sizes along Botany Road and McEvoy Street.

Regent Street Precinct

No Changes to FSR controls is proposed within the Regent Street precinct to preserve the local high street character.

Figure 301: Proposed LEP FSR Controls



FSR Controls with residential development

Urban Design testing revealed that existing FSR and Height controls are currently sufficient for residential development that provides one commercial floor plate (ground floor).

Therefore no FSR control adjustments are recommended for any development that is wholly or partly residential or student housing development. The existing FSR controls are recommended to be retained for residential development, as seen in Figure 303 adjacent.

A ratio of residential / commercial GFA is recommended to be 4:1 so that such that active frontages and active ground planes can be provided along key streets such as Botany Road, Gibbons Street and Wyndham near Henderson Road.

FSR Controls with non-residential development

It is recommended that increased FSR controls be included within the updated LEP as a site specific alternative FSR clause that would provide for existing FSR controls to be exceeded for wholly non-residential development.

A provision for retail floor space at ground floor is recommended as part of alternative FSR / GFA controls.

Urban design built form testing has been used to develop the FSR provisions for commercial development shown in Figure 304 adjacent.

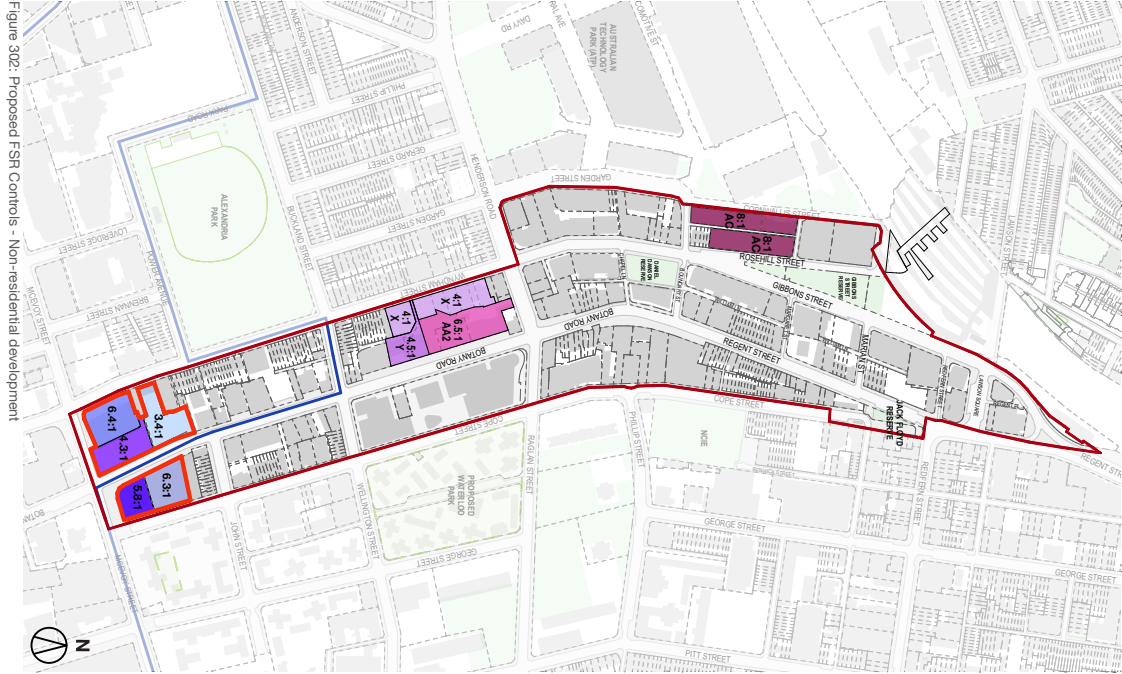
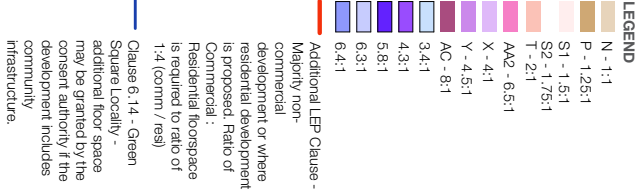


Figure 302: Proposed FSR Controls - Non-residential development

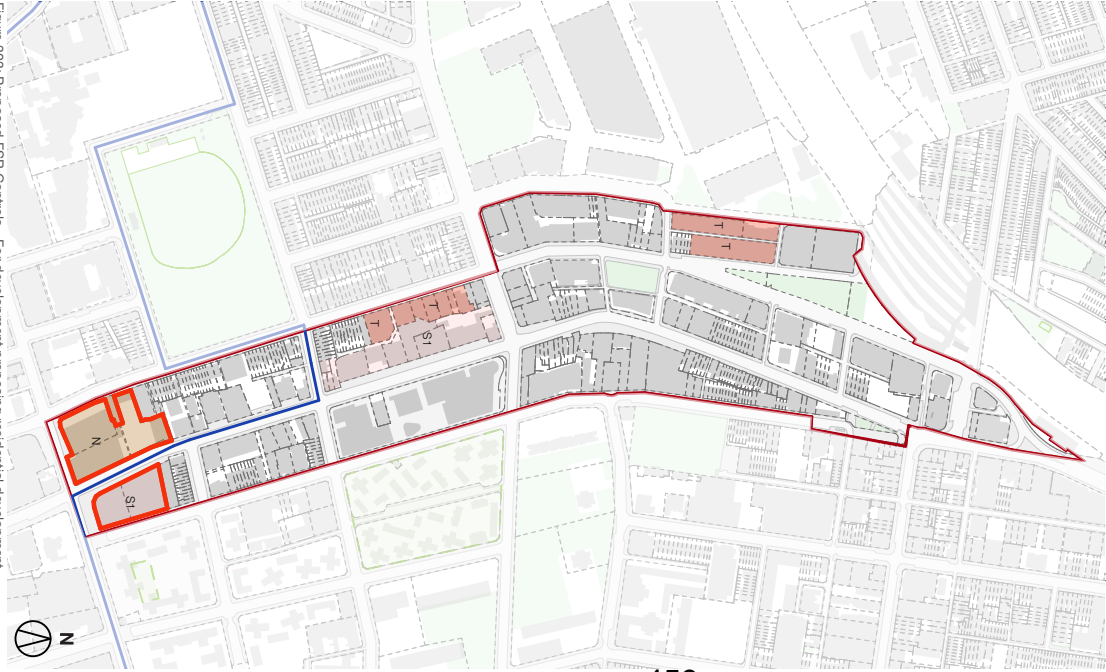


Figure 303: Proposed FSR Controls - For development proposing residential development

LEP - Height of Buildings (HOB)

Recommended height of building controls will provide uplift, with the aim to balance transitions with neighbouring buildings and sensitive areas. These should be read against proposed Sun Access Plane (SAP) amendments in Figure 308. The revised controls include plant, services and associated over-runs as per the existing COS controls. No Revised LEP HOB controls are recommended for residential development.

Waterloo Metro Quarter Precinct

By setting the proposed HOB controls to a RL height above AHD the sites facing Waterloo Metro Station along Botany road can benefit from maximised of floor space, (GFA) optimised large floor plates, and a scale appropriate street wall opposite Waterloo Metro Station, whilst respecting solar access to neighbouring low scale buildings on Wyndham Street.

Rosehill Precinct

A maximum HOB RL applies to linear north-south oriented lots and allows for flexibility within developed built form massing. The HOB RL sets the upper limit for a built form which is likely to result as stepped or sloped when read against proposed SAP controls, resulting in reduced massing adjacent to lower scale terraces and to maintain solar access to Daniel Dawson Reserve.

McEvoy Precinct

Each lot is proposed to have an individual height in metres control to provide for a continuous top of building RL across the naturally sloped lands at the Corner of McEvoy Street and Botany Road. Heights in Building controls step toward the fine grain terraces adjacent, providing a variation in scale to suit the existing local character.

LEGEND

LEP Max Height (m)

- (U) 9m
- (W) 12m
- (O) 15m
- (P) 18m
- (R) 22m
- 90-100 (in RL)
- 110-120 (in RL)

Proposed LEP Max Height (m)

- (H) 22m
- (U1) 30m
- (U) 35m
- (W) 38m
- (V) 49.8m
- RL 49.8m
- RL 60.9m
- RL 74.9m

Proposed heights take into account 3.5m plant room allowance.

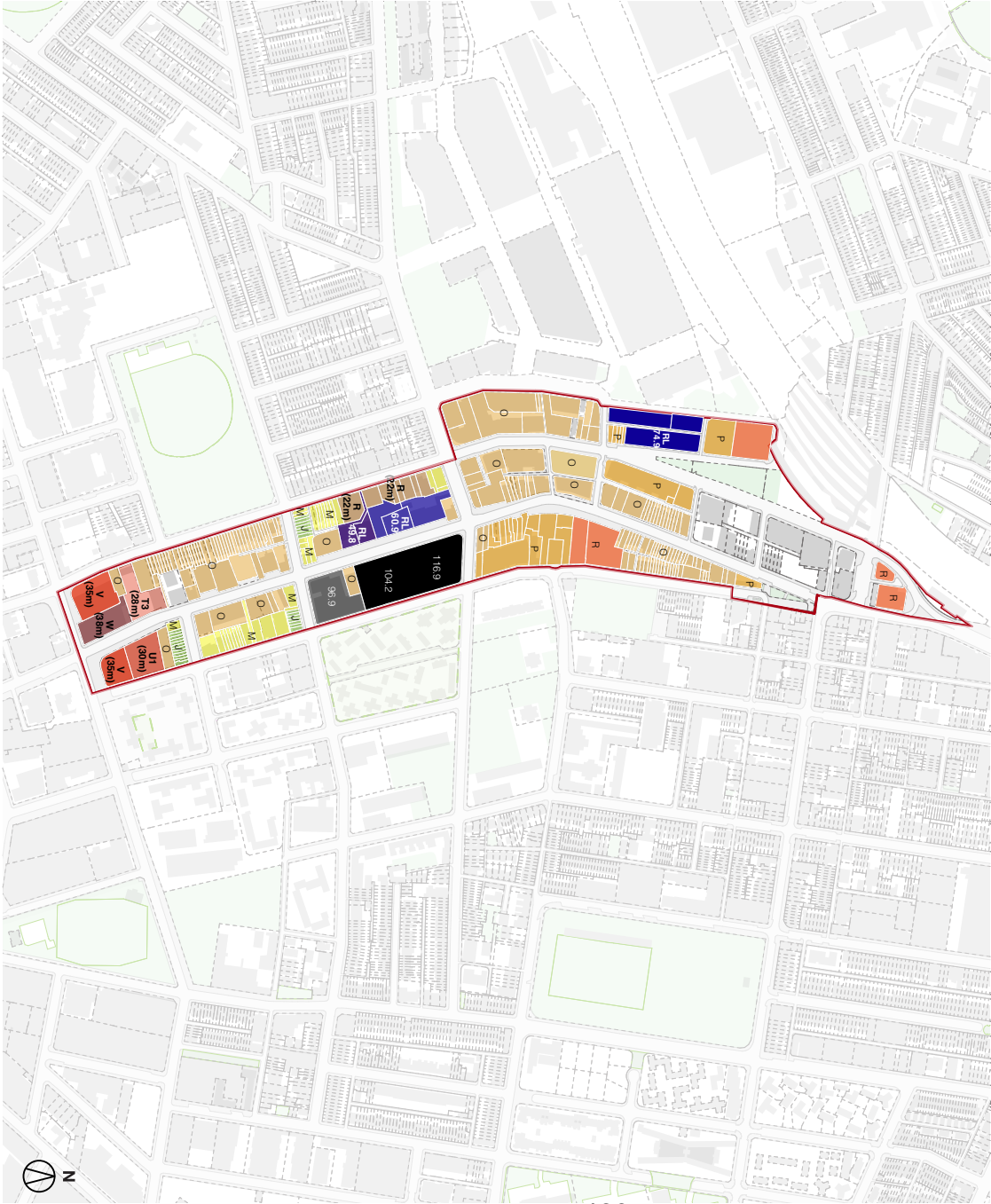


Figure 304: Proposed LEP Height of Buildings (in metres) Controls

DCP - Height of Buildings (HOB) in Storeys

Controls are recommended to be revised to match the LEP Height of Buildings for non-residential development only. HOB in Storeys control changes are summarised below:

Waterloo Metro Quarter

- 12 storeys - 66 - 74 Botany Road
- 9 Storeys- 100- 110 Botany Road
- 5 storeys - Wyndham Street frontage

Rosehill Precinct

- 12 storeys

McEvoy Precinct

- 8 storeys - McEvoy Street frontage
- 7 storeys - Botany Road frontage

LEGEND

CoS DCP Max HOB (Storeys)	Proposed DCP Max HOB (Storeys)
2 storeys	5 storeys
3 storeys	7 storeys
4 storeys	8 storeys
5 storeys	9 Storeys
6 storeys	12 Storeys
RWA Max Height HOB (Storeys)	
(E) 2 storeys	
(J) 3 storeys	
(O) 5 storeys	
(W) 14 storeys	
(Y) 18 storeys	

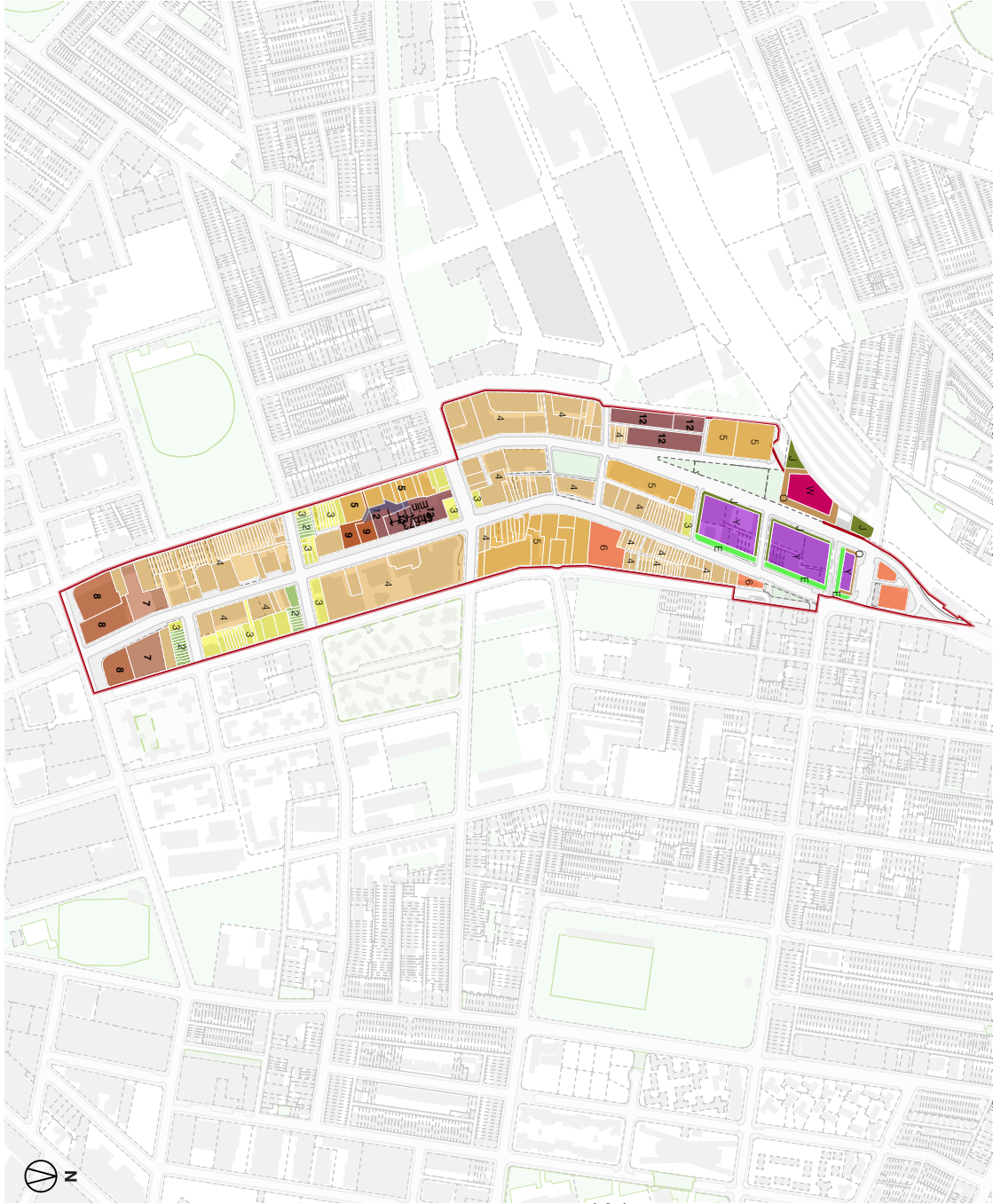


Figure 305: Proposed DCP Height of Buildings (in storeys) Controls



Figure 308: Proposed Built Height Controls - Aerial View