

17 Land use implications

This chapter draws on the parallel station planning documentation and briefly presents the land use and built form, planning controls, connectivity, constraints and opportunities, station planning strategy and selected station plan drawings.

The Director-General's requirements

The Environmental Assessment must include consideration of, and a management framework for land use implications, including:

- *Consideration of integrating the project with surrounding current and future land uses, including the potential to enhance the public domain.*

17.1 Overview

In broad terms, the interface of the CBD Metro with both current and potential future land uses is primarily being addressed through a parallel master planning process centred on each project location. The master planning process recognises the broader land use planning and development issues that shape and influence each affected project location

This chapter draws on the master planning documentation and presents an overview of:

- Land use and built form.
- Planning controls.
- Connectivity.
- Constraints and opportunities.
- Station planning strategy.
- Selected station plan drawings.

For more detail on a number of areas, reference should be made to:

- The station planning documentation – for more detailed illustrative material regarding existing conditions, opportunities and constraints, strategy for access, built form and the public domain.
- Section 2.6 of Chapter 2 – for detail on the relationship of the station planning process to the Environmental Assessment process.
- Chapter 14 – for more detail on connectivity and accessibility factors, which are also a key part of the metro stations' integration with the surrounding area, recognising that the ability of customers to access the station from the wider district is critical to the success of the metro.
- Section 19.1 – for more detail on the visual character and amenity of station precincts.

17.1.1 CBD Metro land use interface

The CBD Metro project would traverse a varied urban environment. At Central Station, it would facilitate interchange with the CityRail network and service the southern CBD precinct. At the heart of the CBD it would service the retail and financial core between Martin Place and Wynyard along with the future employment and residential development at Barangaroo.

The suburb of Pyrmont illustrates the transition from the CBD to an area with a mixed-residential development pattern of terraced houses, adapted warehouses and apartments, in addition to a range of key destinations including the Star City Casino, Darling Harbour and the Sydney Fish Markets. It is also increasingly an employment area. Provision for a station at White Bay would address the future redevelopment of government-owned lands within the Bays Precinct and the possible location of a second international passenger terminal. Rozelle Station would service the residential precincts at Balmain, Rozelle and Lilyfield.

Chapter 6 identifies development sites at or near each station location, whether they are to be pursued as part of the project or otherwise. It discusses the potential of each site and illustrates how the development of these sites can be integrated with the station complex.

17.1.2 Station planning process

The process of understanding and analysing the surroundings of each proposed metro station, and the subsequent development of station plan principles, consisted of the following elements:

- Defining the existing catchment by mapping the distance that can be travelled by a pedestrian to and from the station in a specified time.
- Illustrating the existing context with reference to natural characteristics, built form, planning controls, movement patterns and existing transport networks.
- Identifying constraints, including barriers to movement and limited connectivity and interchange opportunities.
- Identifying opportunities, including servicing of key attractors and opportunities for integration with existing and proposed pedestrian, cycle and public transport facilities.
- Developing station planning strategies for access, built form and the public domain.

The station planning strategy for each station then informed the development of the station plan. The station plan is intended to provide a strategic framework, drawing together current council works, identifying future opportunities, and clearly identifying whether they are to be implemented as part of the CBD Metro project or by others at a later date.

The station plans would form the context for the preparation of future planning strategies or documents (such as Development Control Plans) and guide the development of future works programs. These plans have also guided the design of the CBD Metro project and have provided input into the consideration of station locations, entrances and integration with their surrounding precincts.

A station planning strategy for White Bay Station has not been prepared, as Sydney Metro proposes to provide a station box at White Bay as part of this project with the station to be provided at a later date. Any further development of this site would be in accordance with the Glebe Island and White Bay Master Plan (Sydney Ports 2000) and any subsequent plans developed for the Bays Precinct.



17.2 Objectives and strategy

In addition to the station planning strategy, the following objectives relate to designing the facilities to integrate with surrounding land uses and respond to the urban context, both present and future:

- Objective 1: Connectivity, amenity, safety and security for pedestrians, cyclists, vehicles and public transport through design of station buildings, entries, intersections and street upgrades.
- Objective 2: High quality built form outcomes, sensitive to the local context and high quality design of buildings (station entries and services buildings).
- Objective 3: High quality built form outcomes for stand-alone station entries, bus shelters and other architectural structures within the public domain.
- Objective 4: Streetscape and public domain improvements around stations and at the delivery points for pedestrian links.

Strategy 1: Sydney Metro would ensure that station plans have been prepared for land on which metro stations are to be situated, and land in the vicinity of such metro stations in accordance with clause 55D of the *Transport Administration Act 1988*. Sydney Metro would consult with other relevant public authorities when preparing a station plan or an amendment to a plan.

Strategy 2: Where there is the potential for development to occur at station sites after construction has finished (residual development), metro facilities would be designed to allow future development by other parties. These sites would not be directly related to the project. Approval for development sites would be sought in accordance with the *Environmental Planning & Assessment Act 1979* and/or the *City of Sydney Act 1988*. Relevant planning controls, including relevant LEPs and DCPs (e.g. floor space ratios (FSR), height and setback controls) would apply.

Strategy 3: The development above the station entrance at the Barangaroo-Wynyard East construction site (30 and 36-38 Clarence Street) would be designed and constructed as part of the project in conjunction with the metro station complex. The new building would be designed consistent with relevant planning controls, including relevant LEPs and DCPs (e.g. FSR, height and setback controls). Further approval for this development would be sought from the appropriate approval authority.

Strategy 4: On sites that have the potential for residual development, Sydney Metro would manage land not required as part of the metro station complex before transferring them to third parties for redevelopment in the long term. Interim land uses, such as retail or commercial uses, would be implemented to ensure active street frontages prior to residual development occurring. This would occur in consultation with local councils.

Strategy 5: A Public Art Plan would be developed and implemented in consultation with local councils and the Arts Council of NSW to:

- Integrate public art into station design and enhance public spaces.
- Establish a process for commissioning and selection of public art.
- Identify an ongoing arts and cultural program throughout the life of the project.
- Enhance passenger experience and add value to operation.
- Ensure quality by professional commissioning, with art being accessible to the public, local communities, commuters and visitors.

17.3 Specific issues

17.3.1 Public art

Public art provides the opportunity to enhance public spaces and would be an important aspect of the project. Public art would therefore be integrated into station design through an ongoing arts and cultural program designed to keep the metro 'alive', animated, culturally relevant and connected to the city. A Public Art Plan would be developed for the project and implemented across stations and other infrastructure, including Rozelle stabling and maintenance depot and pedestrian links.

17.3.2 Central Station

Land use and built form

The surrounding area has a mix of land uses, with a predominance of higher density tower buildings in the area to the north of Central Station. There are a number of major attractors in the area, including the University of Technology, Sydney College, Darling Harbour, Sydney Entertainment Centre and Paddy's Market.

Planning controls

Central Station is surrounded by three zoning types under the *Sydney Local Environment Plan 2005*. The City Centre zone to the north and north-west covers the CBD and Haymarket and includes commercial, retail, educational and some residential uses. The City Edge zone to the east and west covers Surry Hills and Ultimo and includes educational, residential and some commercial uses. Belmore Park is zoned Parks and Community Places.

The area around Central Station is subject to a variety of height controls including the sun-access plane to Belmore Park in the west; a maximum of 45–50 metres to the north and west; a maximum of 30–45 metres to the north east and maximum of 25 metres in the residential area to the east. Buildings over 110 metres are only permitted in locations north of Hay Street.

The general floor space ratio limits applying to the land adjacent to Central Station are: 8:1 to the north; 3:1 to the north west in Haymarket; 3:1 for commercial/ 4:1 for hotels/ 5:1 for serviced apartments/ 5:1 for residential to the east and west; 3:1 for commercial/ 6:1 for hotels/ 8:1 for serviced apartments and residential, between Albion and Foveaux streets to the west of Central Station. These controls are effectively a base control with clauses 10 and 54 of the *Sydney Local Environment Plan 2005* permitting substantial increases in floor space over and above the base amounts.

Connectivity

The pedestrian network around Central Station includes George Street and Elizabeth Street as the major north–south connectors with Eddy Avenue the major east–west connector. The Devonshire Street tunnel is identified as a highly significant link across the otherwise impenetrable railway infrastructure to the south of Eddy Avenue. Critical pedestrian areas are identified as Belmore Park and the area to the west of the station, which includes Railway Square.

The cycleway network is limited with no dedicated bike lanes in the vicinity of Central Station, although bus lanes are available for use by cyclists on a number of streets including George Street, Elizabeth Street and Castlereagh Street. The City of Sydney Council's planned regional cycle route sees Castlereagh Street as the main northern route to the CBD and Hay Street as the main east–west link.

Railway Square provides an important interchange with buses serving the inner west, Sydney University and the City South. Eddy Avenue serves as the bus interchange location for the University of NSW and the Eastern Suburbs. Chalmers Street and Elizabeth Street serve as the bus interchange

for south eastern suburbs. The light rail interchange on the concourse (country services) level provides access to Darling Harbour and the Inner West.

Constraints and opportunities

The constraints and opportunities at Central Station are outlined in Table 17.1.

Table 17.1 Constraints and opportunities at Central Station

Constraints	Opportunities
Barriers to movement (railway infrastructure, heavily used roads).	Potential to improve the Eddy Avenue pedestrian environment, to improve access to the CityRail station.
Dispersed interchange locations (buses and light rail) and high levels of demand resulting in queuing.	Opportunity to provide a metro interface at Railway Square and reinforce the civic qualities of the square.
Functional requirements of the existing station (including servicing, access and need to accommodate substantial coach operations).	Growth opportunities afforded by large catchments to west and south-west, potential catchment to north-west (Darling Harbour) via a Quay Street entry/connection potential extension of the catchment to the east with new/improved east–west subsurface links.
Heritage elements of the existing station.	Integration with established bus and light rail services.

Station planning strategy

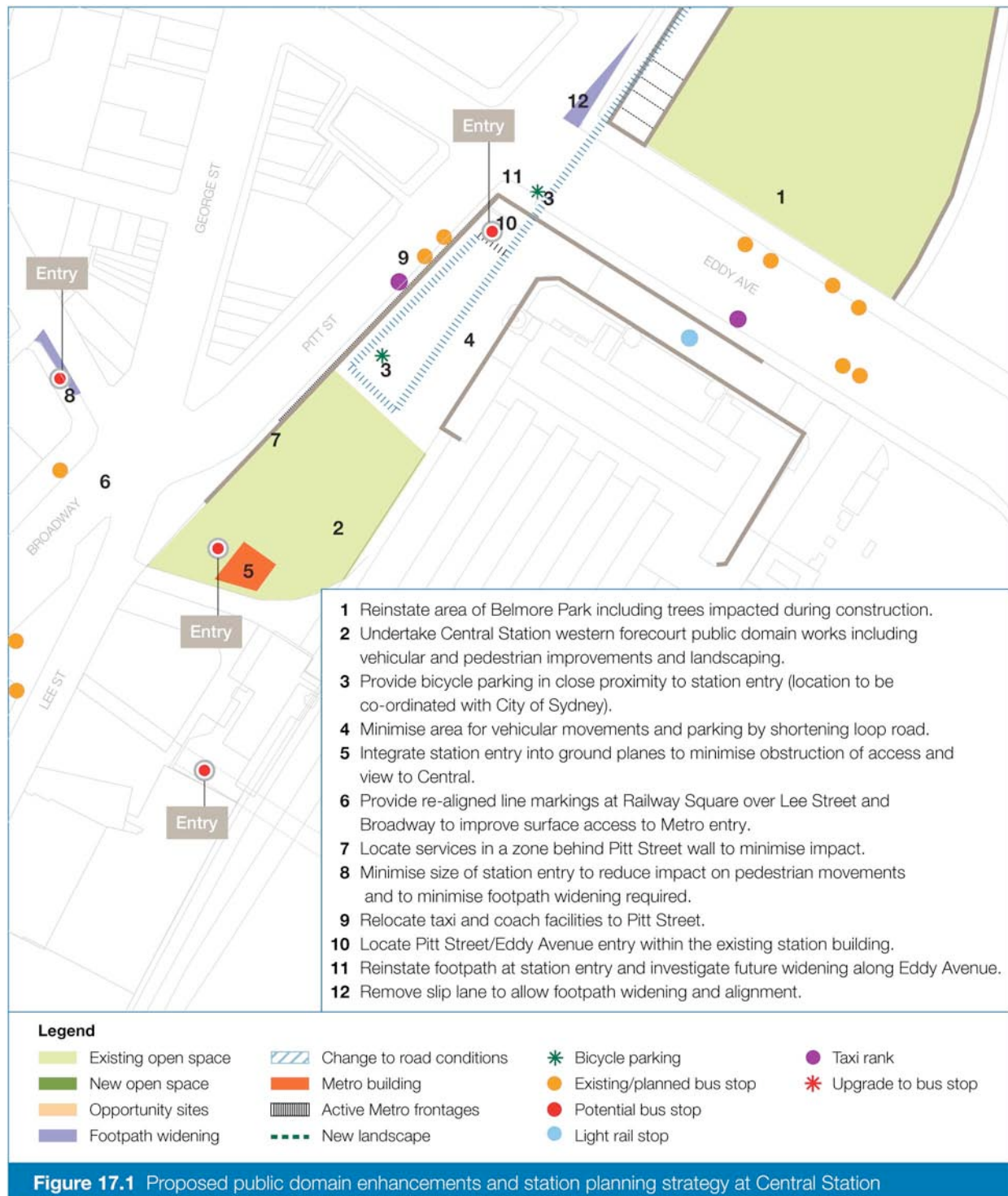
The station plan principles for Central Station are outlined in Table 17.2.

Table 17.2 Central Station – station plan principles

Issue	Principles
Access (sub-surface)	• Service the primary station function (in both short and long term) of interchange between metro and rail. • Connect directly to CityRail unpaid concourses at subsurface and within existing building envelopes. • Connect to bus, light rail and taxi. • Provide sub-surface connection under Railway Square to Quay Street. • Provide sub-surface connection from metro to the Devonshire Street tunnel. • Allow for possible future retail concourse/ link from Ambulance Avenue to Belmore Park
Access (street level)	• Service the primary station function (in both short and long term) of interchange between metro and rail. • Connect the metro to the surrounding precinct. • Provide direct access to metro and a metro presence from Railway Square. • Improve surface pedestrian access to Central Station across Railway Square. • Provide metro entry point(s) from Pitt Street. • Improve pedestrian amenity and station entry opportunities in Eddy Avenue. • Allow for future retail concourse between Pitt Street and Ambulance Avenue and from Pitt to Eddy Avenue forecourt under the existing terminus hall.

Issue	Principles
Access (transport)	• Service the primary station function (in both short and long term) of interchange between metro and rail. • Connect directly to CityRail unpaid concourses at subsurface and within existing building envelopes. • Connect to bus, light rail and taxi. • Simplify traffic and transport configuration of Eddy Avenue to focus on pedestrian movement along and across this street. • Consolidate vehicle movements on forecourt level to reduce impact.
Built form	• Minimise impact of new structures on heritage fabric of Central Station and surrounding area. • Incorporate service structures within existing buildings where possible.
Public domain	• Reconnect (visually and physically) the main Central Station building and Belmore Park. • Improve the Pitt Street frontage of Central Station.

The proposed public domain enhancements and the station planning strategy at Central are illustrated in Figure 17.1.



Note: Project detail shown is indicative only, subject to detailed design

17.3.3 Town Hall Square Station

Land use and built form

Town Hall Square is located within the midtown precinct of Sydney CBD. It has a strong retail focus, as well as a mix of commercial, residential and civic buildings. While densely developed, the midtown precinct is undergoing redevelopment, including several large-scale retail/residential developments in

Pitt Street Mall. A new civic square is proposed on the block bounded by George, Park and Pitt streets, opposite Town Hall. Although in a topographically elevated position of the CBD, the area is relatively flat, with steeper sloping land to the west toward Darling Harbour.

Planning controls

The Town Hall Square site and surrounding area is predominantly within the City Centre zone under the *Sydney Local Environment Plan 2005*. Building height controls within the station catchment extend up to 235 metres to the south of the station. Much of the precinct is affected by the sun access plane to Hyde Park, a constraint that indicates that future development is more likely along the George Street spine to the west. The general floor space ratio in the station precinct is predominantly 8:1 with substantial increases on that limit permitted by clauses 10 and 54 of the *Sydney Local Environment Plan 2005*. This indicates the potential for increased densities across the surrounding area.

Connectivity

The pedestrian network around CityRail's Town Hall Station is extensive and provides good connectivity through both surface and sub-surface links. George, Elizabeth and Park streets are major connectors for all modes, while Pitt Street is a primary walking link. The critical pedestrian area is George Street, between Bathurst and Park streets.

Bus lanes are available for use by cyclists on a number of streets and routes including: east down Druiett Street to Darling Harbour; north-south on George, Elizabeth, York and Castlereagh streets; east on Park (and William Street); and south-east on Oxford Street.

Bus is the main form of public transport around the station, with services to the north available from the QVB, services to the inner west and south-west available on George Street. Under the NSW Government's CBD Bus Strategy, the number of services using Park Street would increase significantly. The monorail runs adjacent to the station site and a stop is provided to the north within The Galleries Victoria development.

Constraints and opportunities

The constraints and opportunities at Town Hall Square are outlined in Table 17.3.

Table 17.3 Constraints and opportunities at Town Hall Square precinct

Constraints	Opportunities
Hyde Park limits patronage from the catchment to the east.	Location near the retail core, civic precinct and CityRail station with established catchments to the north, south and west.
Heavy traffic on George and Park streets limits pedestrian flow to the north and west.	Consistent with proposal to relocate additional buses to mid-city interchange on Park Street (an increase from 14 to 80 buses per hour at peak times).
Steep streets (Market, Druiett, Bathurst and Liverpool streets) to west limit pedestrian access.	Potential to reduce PM peak buses heading south from George Street into Druiett Street to relieve congestion at intersection of George and Park streets.
Demand for pedestrians, cycle, bus and traffic exceeds capacity on Park Street, particularly at intersections of George, Pitt and Elizabeth streets.	Potential to extend Pitt Street pedestrianisation/shared zone to Park or Bathurst Street.
Precinct vision has a higher level dependency on the Town Hall Square redevelopment project.	Potential for integration with the Town Hall Square proposal and sub-surface pedestrian network and CityRail.
Bus movement and stopping areas impact on visual and amenity of pedestrian areas.	Potential connection to future cycleways.

Station planning strategy

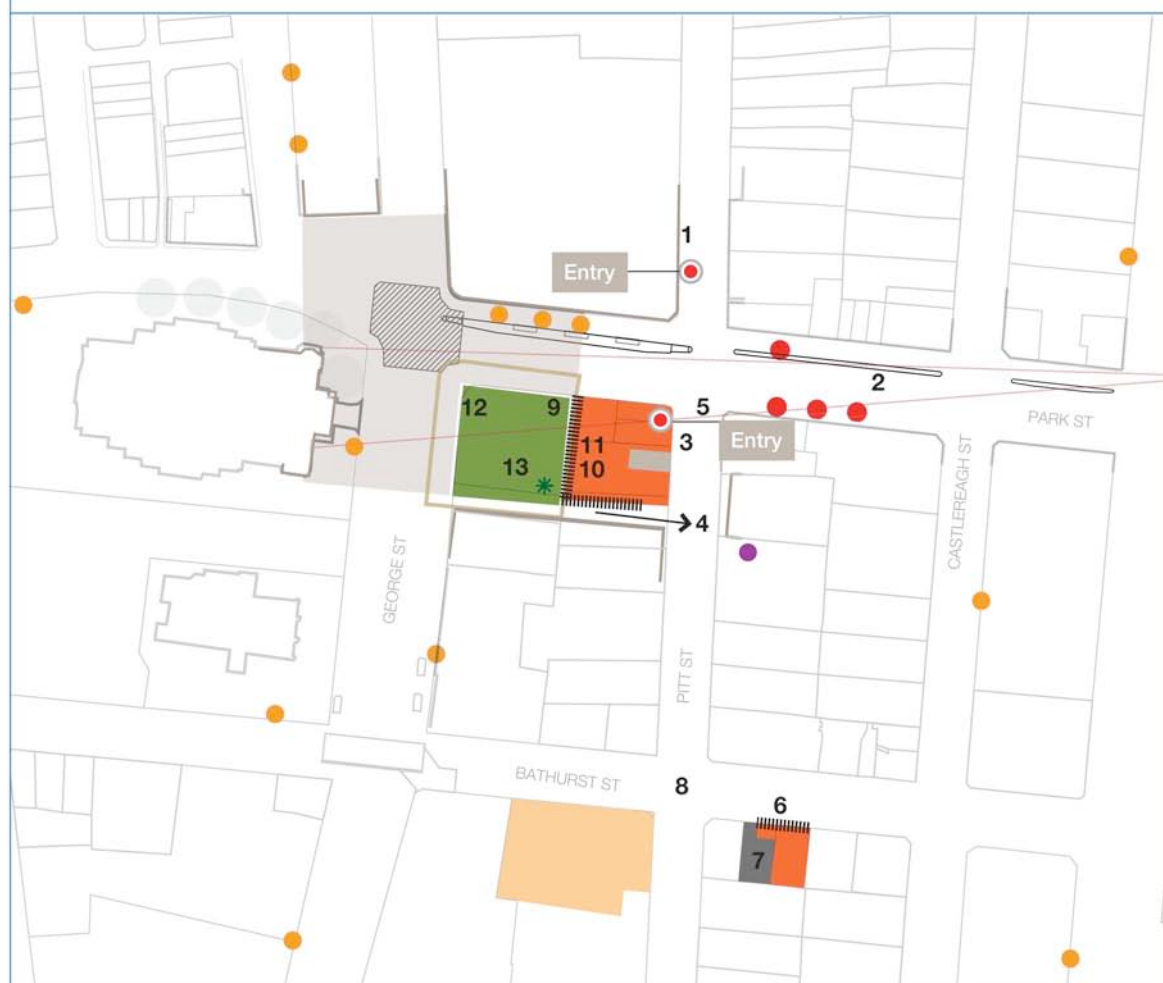
The station plan principles for Town Hall Square are outlined in Table 17.4.

Table 17.4 Town Hall Square – station plan principles

Issue	Principles
Access (sub-surface)	• Service surrounding catchment, with walking as primary mode of access. • Connect to existing sub-surface pedestrian network, including the CityRail unpaid concourse (and thus QVB, The Galleries Victoria and Town Hall Arcade). • Facilitate crossing of Park Street to connect with significant catchment. • Allow for future connections to catchments south of Bathurst Street and west of George Street.
Access (surface and transport)	• Service surrounding catchment, with walking as primary mode of access. • Improve pedestrian conditions along Pitt Street to north (Pitt Street Mall catchment) and south (Liverpool Street/World Square catchment). • Reinforce Park Street as a critical east–west connector, with emphasis on pedestrians, cyclists and public transport. • Provide entry points on both sides of Park Street, to provide access to existing and planned bus interchange. • Facilitate connection to bus stops at York, Druitt, George and Park streets.
Built form	• Support delivery of new Town Hall Square, including new buildings that address and activate this space. • Reinforce predominant street edge and building alignments. • Provide active uses (such as retail) at ground floor of buildings to enhance the safety and attractiveness of streets. • Minimise the impact of station services.
Public domain	• Support delivery of new Town Hall Square. • Reinforce the Park Street alignment through public domain works and landscaping. • Protect and introduce viewlines between significant buildings and spaces, including Hyde Park, Town Hall and Uniting Church.

The proposed public domain enhancements and the station planning strategy at Town Hall Square are illustrated in Figure 17.2.

- 1 Locate station entry north of Park Street within existing footpath to western side of Pitt Street.
- 2 Ensure transparency of northern side of station to allow sightline to Town Hall from Hyde Park.
- 3 Widen footpath to western side of Pitt Street adjacent to station entry.
- 4 Protect sightline from new square to Uniting Church on Pitt Street.
- 5 Provide temporary retail frontages on station construction sites, while allowing for future development.
- 6 Locate services at rear with minimal street frontage.
- 7 Design station to allow for future entry from south and permit potential connection to the southern end of CityRail concourse.
- 8 Use materials and details on the frontage to the square that reflect the relationship to Town Hall and QVB.
- 9 Provide an unpaid concourse below street level that facilitates connections to CityRail concourse and The Galleries Victoria.
- 10 Provide an entry to the station that defines and addresses the proposed square, with address also to Pitt and Park Streets, and including retail tenancies where possible.
- 11 Include subsurface retail concourse at Town Hall Square, delivered in conjunction with City of Sydney.
- 12 Provide bicycle parking in close proximity to station entry (location to be co-ordinated with City of Sydney).



Legend

- | | | | |
|---------------------|---------------------------|--------------------------------------|---------------------|
| Existing open space | Change to road conditions | Bicycle parking | Taxi rank |
| New open space | Metro building | Existing/planned bus/light rail stop | Upgrade to bus stop |
| Opportunity sites | Active Metro frontages | Potential bus stop | |
| Footpath widening | New landscape | | |

Figure 17.2 Proposed public domain enhancements and station planning strategy at Town Hall Square Station

Note: Project detail shown is indicative only, subject to detailed design

17.3.4 Martin Place Station

Land use and built form

Martin Place is a significant public area that acts as a key link between the civic precinct to the east (the State Library, Parliament House and Hyde Park Barracks) and the city's major commercial sector to the west.

Planning controls

Martin Place is within a Parks and Community Places zone under the *Sydney Local Environment Plan 2005* while the surrounding area is zoned as City Centre. Significant solar access plane height constraints lie to the north of Martin Place, Wynyard Park and Hyde Park. A number of blocks between Martin Place and Circular Quay have a maximum 235 metres height limit. The general floor space ratio limit in the area surrounding the station is 8:1. This is effectively a base control with clauses 10 and 54 of the *Sydney Local Environment Plan 2005* permitting substantial increases in floor space over and above the base amount.

Connectivity

Martin Place has a key pedestrian function. Access from Martin Place, north to Circular Quay, is spread over a number of streets. George Street is the primary connector for most modes of transport within the area. There are bus routes on George Street, Castlereagh Street and Elizabeth Street. Major bus stops are located on Elizabeth Street either side of the Park Street intersection.

CityRail's Martin Place Station is located immediately adjacent to the proposed Martin Place metro station and provides access to CityRail services on the Eastern Suburbs and Illawarra lines.

Constraints and opportunities

The constraints and opportunities at Martin Place are outlined in Table 17.5.

Table 17.5 Constraints and opportunities at Martin Place precinct

Constraints	Opportunities
Highly constrained land ownership and development patterns (including heritage).	Established catchment (north, south and west).
Limited number of sites available for entry structures.	Nearby to financial precinct and retail core.
George Street limits pedestrian movement east–west.	Potential for connection to the south, improving connection with the retail precinct.
Hunter and King streets are barriers to north–south movement.	Major north–south pedestrian connectors (George, Pitt, Castlereagh, Elizabeth streets).
New elements in Martin Place must respond sensitively to consistency and simplicity of this space.	Strong east-west connector and ceremonial space.
North-south bus routes impact on east-west pedestrian movement.	Potential for integration with CityRail entry points, concourse and subsurface network.
Lack of existing bicycle parking in Martin Place. Constrained space for proposed bicycle parking.	Connection to George Street and Elizabeth Street bus services and potential cycle links.

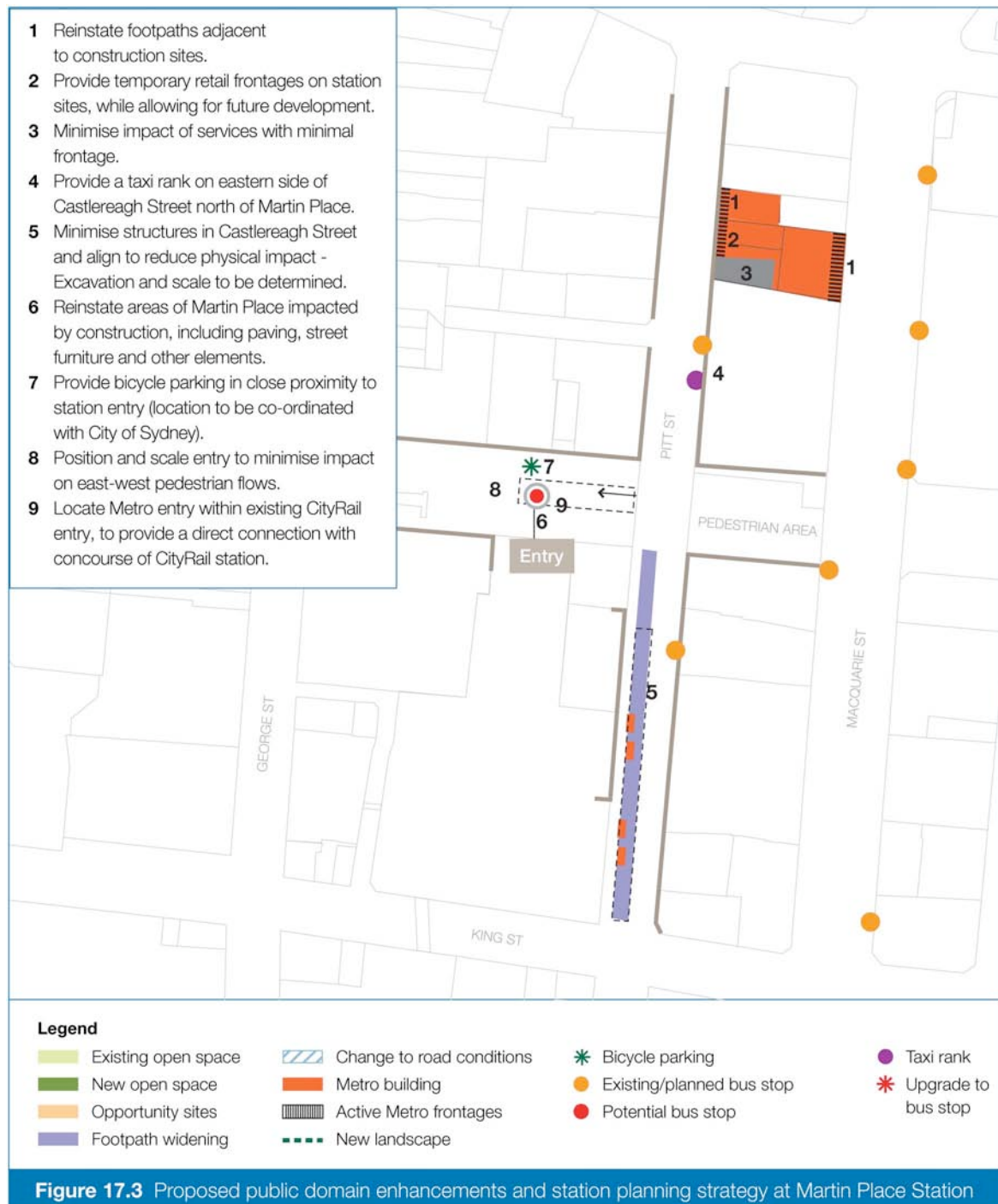
Station planning strategy

The station plan principles for Martin Place are outlined in Table 17.6.

Table 17.6 Martin Place Station – station plan principles

Issue	Principles
Access (sub-surface)	• Service surrounding catchment, with walking as primary mode of access. • Connect to existing CityRail concourse and associated retail spaces.
Access (surface)	• Support pedestrian movement as primary mode of access, as well as interchange between metro, rail and buses. • Reinforce Castlereagh Street as a major north–south connector to allow access to catchment north of Hunter Street (financial precinct) and south of King Street (retail precinct). • Reinforce east–west pedestrian flows in Martin Place.
Access (transport)	• Connect to existing CityRail unpaid concourse and associated retail spaces.
Built form	• Reinforce predominant street edge and building alignments, especially along Martin Place. • Minimise built elements in Martin Place to minimise impact on visual and physical access. • Provide active uses (such as retail) at ground floor of buildings to enhance the safety and attractiveness of streets and spaces. • Minimise the impact of station services.
Public domain	• Reinforce the character and configuration of Martin Place. • Protect viewlines along Martin Place and Castlereagh Street. • Provide for enhanced pedestrian conditions at station entries.

The proposed public domain enhancements and the station planning strategy at Martin Place are illustrated in Figure 17.3.



Note: Project detail shown is indicative only, subject to detailed design

17.3.5 Barangaroo-Wynyard Station

Land use and built form

The precinct of Wynyard represents a transition between the commercial development of Sydney's financial core and the mixed use/ recreational precincts of King Street Wharf, Cockle Bay Wharf and the proposed Barangaroo development site.

Planning controls

Barangaroo-Wynyard is surrounded by City Centre zoning under the *Sydney Local Environment Plan 2005*. While the Barangaroo site is zoned Maritime and Transport, this would be re-zoned as City Centre in recognition of the proposed Barangaroo development.

A solar access plane exists to the north of Wynyard Park. To the west of York Street, a height plane of 80 metres generally applies, and street-wall buildings or podia with low towers prevail. To the east, in the financial district, a height plane of 235 metres generally applies and sky-scrapers are the prevailing form of development.

With the exception of Moreton's Hotel on Hickson Road, all of the Barangaroo-Wynyard surrounds have a general floor space ratio limit of 8:1. Moreton's Hotel and other buildings on Hickson Road north of Napoleon Street have a general maximum floor space ratio of 7.5:1 for commercial and 8:1 for hotels/serviced apartments and residential buildings. These controls are effectively a base control with clauses 10 and 54 of the *Sydney Local Environment Plan 2005* permitting substantial increases in floor space over and above the base amounts.

Connectivity

There is an extensive system of CityRail and retail arcades around Wynyard. To the north, Wynyard connects under Margaret Street to the Met Centre retail arcade, which provides entries to George and Jamison streets. The north-south connection linking the Met Centre with Wynyard is well used and very crowded during peak and lunch hours. To the east, Wynyard connects under George Street to the Hunter retail arcade, which provides entries to Hunter and Pitt streets. To the west, a non-retail arcade connects under the station platforms and under Clarence Street to Kent Street.

Wynyard Park, adjacent to the station, is the major bus terminus for buses to and from the North Shore crossing the Harbour Bridge. Other critical bus stops are located in George Street for buses connecting Circular Quay with the southern CBD and inner west.

A dedicated cycleway is proposed by the City of Sydney along Kent Street between Druitt Street and Observatory Hill where it would connect with the Harbour Bridge cycleway. A regional route would also run north-south along Clarence Street and east-west from Jamison Street.

Constraints and opportunities

The constraints and opportunities at Barangaroo-Wynyard Station are outlined in Table 17.7.

Table 17.7 Constraints and opportunities at Barangaroo-Wynyard precinct

Constraints	Opportunities
Barangaroo is not well connected to the remainder of the CBD or existing rail services.	Nearby to future Barangaroo development.
Access to Clarence Street from Barangaroo is very steep with a number of vertical walls along Hickson Road and steep footpaths of Margaret Street.	Integration with the proposed Barangaroo Pedestrian Link.
The Western Distributor acts as a major visual barrier, and	Enhanced pedestrian environment along Margaret Street to create a strong east-west

Constraints	Opportunities
poses construction constraints.	corridor.
Limited vehicular access points to Barangaroo, placing vehicular pressure on Napoleon and Margaret streets.	Established catchments – north and east.
Moreton's Hotel site constrains metro and pedestrian link entry options.	Opportunity to integrate with future works to CityRail's Wynyard Station.
Current and projected demand for space along Margaret Street by pedestrian, buses and vehicles exceeds capacity.	Good cycle access by proposed Kent Street cycleway and new ferry wharf at Barangaroo.
High utilisation of York Street bus stops in AM peak creates congestion back onto Harbour Bridge.	
Carrington Street bus terminal highly congested in PM peak.	

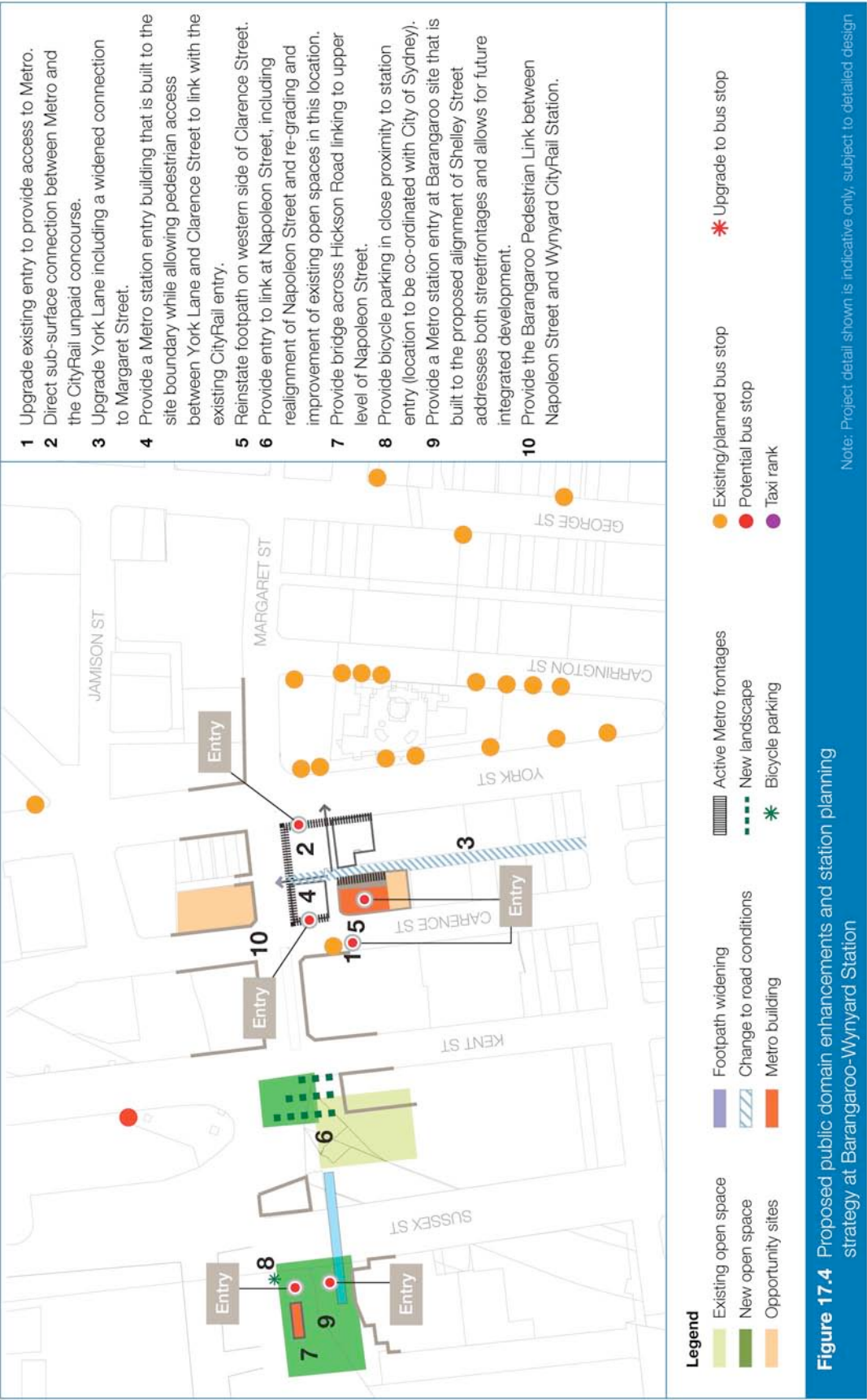
Station planning strategy

The station plan principles for Barangaroo-Wynyard are outlined in Table 17.8.

Table 17.8 Barangaroo-Wynyard – station plan principles

Issue	Principles
Access (sub-surface)	- Accommodate existing pedestrian desire lines and accommodate Metro passenger demand. - Provide safe, legible, level, direct and attractive pedestrian routes. - Achieve a high level of connectivity and integration between Metro and other modes of transport, particularly CityRail. - Connect to and support the proposed Barangaroo Pedestrian Link between Barangaroo and Wynyard Station.
Access (surface)	- Accommodate pedestrian demand at station entries, reduce pedestrian delay and consider opportunities to expand and upgrade open spaces and footpaths. - Provide safe, legible, convenient, level, direct and attractive routes, accessible to all. - Provide a safe, well-lit and visually appealing public realm.
Access (transport)	- Increase public transport integration (integrate the Metro, CityRail's Wynyard Station and the Wynyard bus interchange). - Facilitate passenger access and metro-rail and metro-bus interchange and safeguard metro-light rail interchange.
Built form	- Reinforce predominant street edge and building alignments, especially along Margaret Street. - Incorporate entry and service structures within existing buildings where possible. - Provide active uses (such as retail) at ground floor of buildings to enhance the safety and attractiveness of streets and spaces.
Public domain	- Improve legibility and amenity of pedestrian movement along Margaret Street through public domain spaces and elements. - Create an attractive, pedestrian-focused public domain around the eastern entrance. - Allow adequate space in front of station entries to accommodate passenger flows. - Consider opportunities to expand and upgrade open spaces and footpaths. - Ensure that new works are consistent with the existing public domain and current council guidelines.

The proposed public domain enhancements and the station planning strategy at Barangaroo-Wynyard are illustrated in Figure 17.4.



17.3.6 Pyrmont Station

Land use and built form

Pyrmont has a development pattern of terrace houses and adapted warehouse apartment buildings. The suburb is a key transitional location between the CBD and the suburbs of Glebe and Forest Lodge. Union Square functions as the main civic square on the Peninsula. Key features of the local area include Star City Casino, Darling Harbour, Sydney Fish Markets and new apartment buildings.

Planning controls

Public Recreation zones are located around the harbour foreshore and on parts of Harris Street. The precinct includes substantial areas of Residential zone. Height restrictions (in many areas nine metres) on Harris, Miller and Union Streets are associated with low-scale heritage buildings. Greater heights are permitted on the Star City Casino site.

Connectivity

There is a major pedestrian desire line along Union Street towards Pyrmont Bridge and the City. A local pedestrian spine exists on Harris Street. The Cliff Bottom Walk opens up areas to the west of Union Square. The Cliff Top Walk is limited by steep stair access at Mount Street.

There is a dedicated cycle link through Union Square and shared pedestrian/cycle access along Union Street/Miller Street from the City. There is a cycle connection onto Anzac Bridge at Quartermaster Drive/Saunders Street.

The light rail line links the northern end of the Pyrmont peninsula with Darling Harbour, Central Station and Lilyfield. Harris Street and Miller Street are the bus routes through the area for services between the City and Rozelle.

Constraints and opportunities

The constraints and opportunities at Pyrmont Station are outlined in Table 17.9.

Table 17.9 Constraints and opportunities at Pyrmont Station precinct

Constraints	Opportunities
Pyrmont has been largely redeveloped in the past decade and limited development sites on the peninsula.	Community focus around Union Square centrally located and serviced by buses.
Heritage constrains sites available for station entries and requires careful design considerations.	Established heritage character of Pyrmont and strong village identity.
Topography constrains access in the west of the peninsula.	Open spaces and park around foreshore create attractive natural setting.
The northern end of Pyrmont is cut by traffic on Pyrmont Bridge Road.	Strong east-west pedestrian links and proposed cycleway upgrade along Union and Miller streets.
The Anzac Bridge's elevated approaches impact the environment on the western side of the peninsula.	Potential relocation of bus stops on western side of Harris Street and three light rail stops.
Light rail blocks access along Edward Street and light rail cuttings disconnect pedestrian movements.	Established catchments – north and east and integration with planned Harris Street and Union Square upgrades.
Footpaths are narrow along Miller Street.	Nearby to Darling Harbour, Casino, CBD and Sydney Fish Markets.

Station planning strategy

The station plan principles for Pymont are outlined in Table 17.10.

Table 17.10 Pymont – station planning strategy

Issue	Principles
Access (surface)	• Service surrounding catchment, with walking and cycling as primary mode of access. • Improve pedestrian conditions along Union and Miller streets connecting to Darling Harbour/CBD and future development at Fish Markets to west. • Remove pedestrian barriers where possible. • Facilitate connection to bus stops. • Minimise impact on Union Square during construction; reinstate in accordance with City of Sydney's plan.
Access (transport)	• Improve pedestrian conditions along Union and Miller streets connecting to Darling Harbour/CBD and future development at Sydney Fish Markets to the west. • Facilitate connection to bus stops, light rail and taxi ranks.
Built form	• Reinforce street edges, particularly around Union Square and along Harris Street. • Provide active uses (such as retail) at ground floor of buildings to enhance the safety and attractiveness of streets. • Minimise the impact of station services.
Public domain	• Use landscape and public domain elements to emphasise east-west movements. • Consider Union Square as a significant pedestrian environment. • Allow for future extension of east-west alignment to existing cliff walk. • Improve quality, safety and attractiveness of public domain. • Protect viewlines from Union Square along Miller and Union streets.

The proposed public domain enhancements and the station planning strategy for Pymont are illustrated on Figure 17.5.

- 1 Light rail interchange through Star City.
- 2 Relocate existing loading area on Pyrmont Street further north.
- 3 Reconfigure Paternoster Row to exit at Harris Street.
- 4 Locate services at rear.
- 5 Position station building to form the corner based on existing building lines .
- 6 Widen footpath on Pyrmont Street at station entry.
- 7 Accommodate new entries within buildings that reinforce the consistent street edge with active uses to street fronts.
- 8 Provide new shared zone on Mount Street.
- 9 Locate services at rear.
- 10 Setback to northern side of western entry to allow for a future connection between Harris Street and green space, and to expose cliff side.
- 11 Provide new bus shelters on Harris and Miller Streets.
- 12 Reinstate areas of Union Square and footpaths adjacent to stations that are impacted by development, in accordance with City of Sydney plans.
- 13 Locate trees to eastern end of Union Square.
- 14 Locate bicycle parking in close proximity to station entry (location to be co-ordinated with City of Sydney).

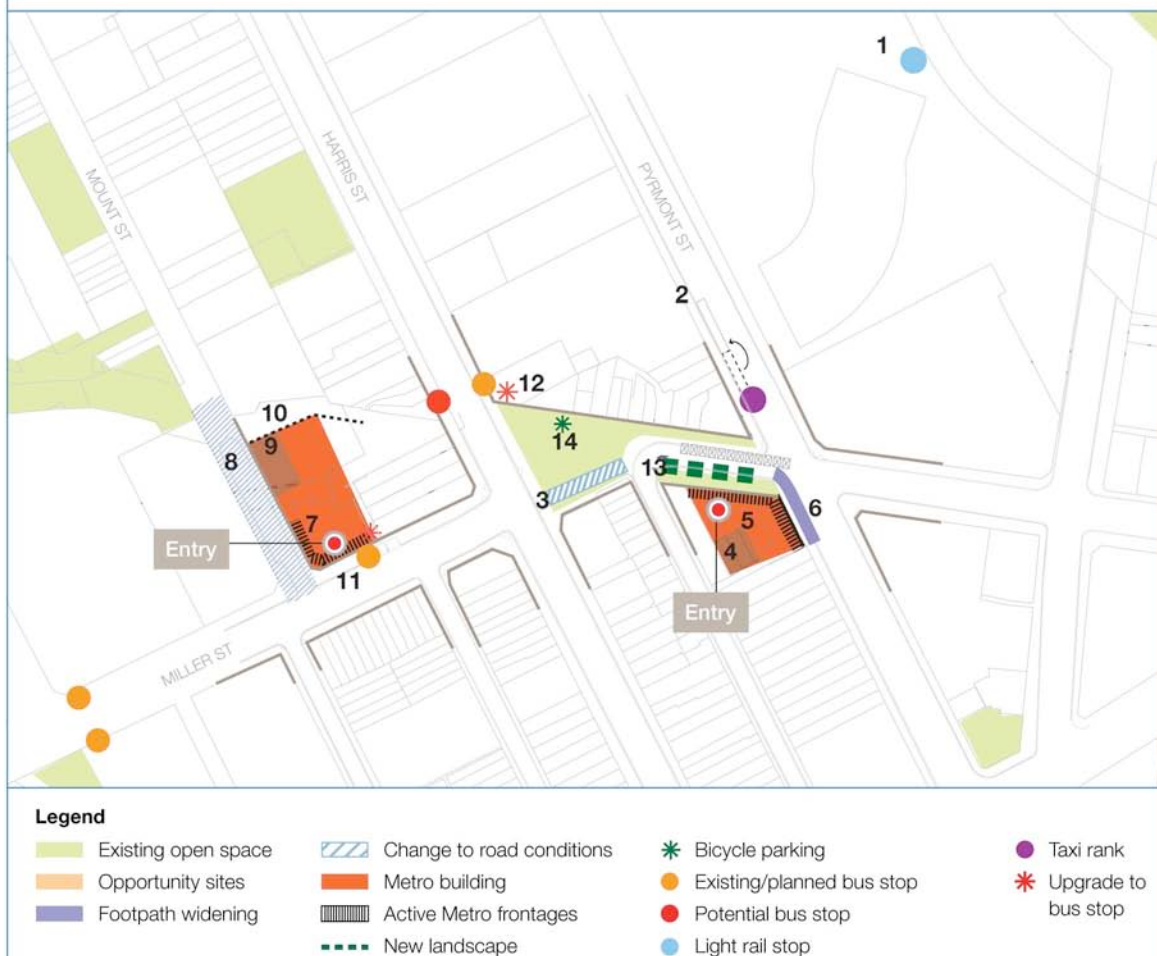


Figure 17.5 Proposed public domain enhancements and station planning strategy at Pyrmont Station

Note: Project detail shown is indicative only, subject to detailed design

17.3.7 Rozelle Station

Land use and built form

Within 10 minutes' walking distance of the Rozelle Station (that is, the suburbs of Balmain and Rozelle) the predominant land use is residential. Retail uses are focussed along the ridge line along Darling Street, while a number of small industrial buildings (many now converted to other uses) are scattered throughout Rozelle. Commercial uses (car yards and service stations) are focused on Victoria Road. Schools and parks are scattered through the peninsula. Dock and port uses alongside the water are gradually declining to be replaced by residential and mixed-use development.

Planning controls

Land use zones within a one kilometre radius of the station location Industrial, Public Purpose, Business and Residential. The general floor space ratio control on the Rozelle side of Victoria Road is 0.5:1 while on the Balmain side it is 0.7:1.

Connectivity

Darling Street is the major pedestrian spine and local streets lead up the hill towards Darling Street. The Balmain side of Darling Street has a stronger residential catchment and better permeability with a more closely-spaced street pattern. Pedestrian activity on Victoria Road is limited both north and south of Darling Street.

Public transport is limited to buses, with services to the City via both Anzac Bridge and Glebe. Ferry services operate on a limited basis between Balmain West (Elliot Street) and Circular Quay.

Constraints and opportunities

The constraints and opportunities at Rozelle Station are outlined in Table 17.11.

Table 17.11 Constraints and opportunities at Rozelle Station precinct

Constraints	Opportunities
Heritage sites and conservation zoning to north of Victoria Road (Balmain Side).	Established residential catchment, with higher densities to north-west, provides a solid passenger catchment.
Established suburb with generally small lots that limit the extent of future development.	Availability of shopping, educational and recreational opportunities outside of business hours provides a passenger catchment for off-peak services.
Victoria Road restricts pedestrian flow, and creates amenity and safety issues.	Potential for increased future catchment, particularly to the western side of Darling Street.
Narrow and steeply sloping footpaths, especially along Victoria Road near the intersection with Darling Street, make walking more difficult.	Potential for green connectors parallel to Victoria Road with better amenity and safety for pedestrian/cycle movement.
Ridge line limits visibility for traffic travelling westbound, reducing pedestrian safety.	Prominent intersection in the local area with strong pedestrian usage.
There are capacity constraints on the road network, with Victoria Road/ Darling Street the controlling intersection in corridor.	Established and recognisable 'centre' at a major intersection.
Bus waiting facilities and information are poor.	Opportunity to enhance pedestrian amenity and improve connections, particular at bus stops.
	Opportunity to provide an underground path beneath Victoria Road.
	Integration with Victoria Road bus corridor upgrade and Darling Street Master Plan study.

Station planning strategy

The station plan principles for Rozelle are outlined in Table 17.12.

Table 17.12 Rozelle Station – station plan principles

Issue	Principles
Access (surface)	• Service surrounding catchment to both sides of Victoria Road, with walking and cycling as primary modes of access. • Improve pedestrian conditions along Victoria Road adjacent to stations, including safe and attractive crossing of Victoria Road. • Provide safe entry to station along Victoria Road.
Access (transport)	• Service surrounding catchment to both sides of Victoria Road, with walking and cycling as primary modes of access. • Improve pedestrian conditions along Victoria Road adjacent to stations, including safe and attractive crossing of Victoria Road. • Provide safe entry to the metro station along Victoria Road. • Facilitate direct connection to bus stops on Victoria Road.
Built form	• Reinforce street edges, particularly along Darling Street. • Provide active uses (such as retail) at ground floor of buildings to enhance the safety and attractiveness of streets. • Create station entry buildings that are highly visible, memorable and reflect their immediate context. • Minimise the impact of station services.
Public domain	• Use landscape to emphasise the Victoria Road alignment, connecting with harbour foreshore. • Provide a sequence of landscape areas along the ridgeline (Darling Street) – the main pedestrian connector. • Provide northern station forecourts that relate to paths of movement, integrate with the adjacent churches and school, are buffered from the noise of Victoria Road and improve the quality, safety and attractiveness of the public domain.

The proposed public domain enhancements and the station planning strategy for Rozelle are illustrated in Figure 17.6.

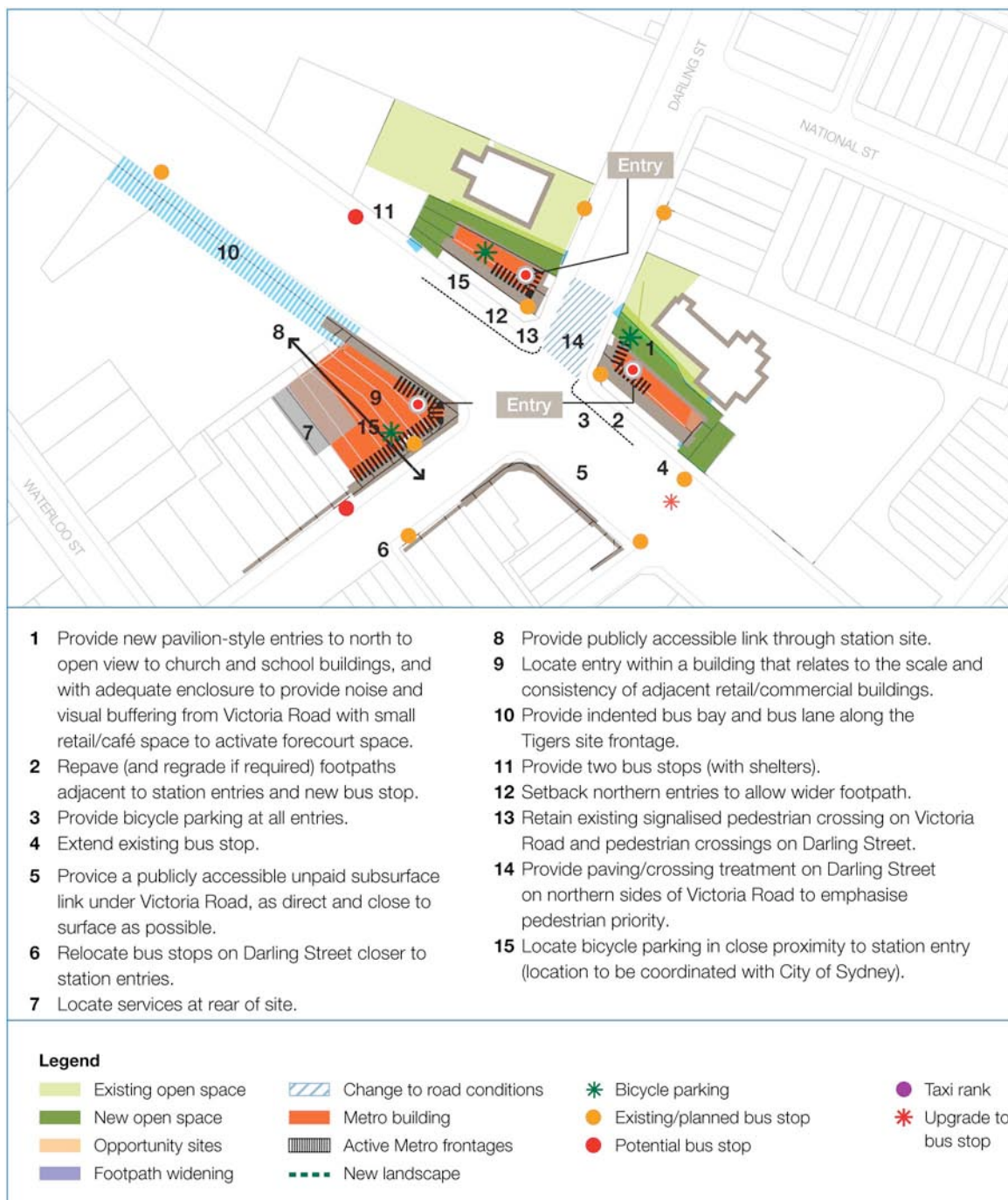


Figure 17.6 Proposed public domain enhancements and station planning strategy at Rozelle Station

Note: Project detail shown is indicative only, subject to detailed design

17.3.8 Rozelle stabling and maintenance depot

Land use and built form

The Rozelle stabling and maintenance depot site lies adjacent to the lower eastern slopes of Rozelle and in Lilyfield. Heavy planting along the southern edge of the rail yards screens the City West Link and some of Annandale from view. A number of industrial buildings line the northern side of the rail yards, and range from about eight to 12 metres in height. Residential areas generally address the side streets with a limited number of buildings overlooking the depot site.

Planning controls

The site is zoned Ports and Employment. The allowable floor space ratio for the adjacent residential areas is 0.5:1 to the north, west, and south-west; and 0.6:1 to the south-east.

Connectivity

Pedestrian movement in the area is focused on connections between Darling Street and the light rail station at Lilyfield. Pedestrian activity along much of Lilyfield Road and on Victoria Road is limited. Permeability in the adjacent residential areas is limited by the street pattern. There is no provision for pedestrians on the City West Link.

Bus is the main form of public transport surrounding the station (on Victoria Road, Darling Street, Robert Street and The Crescent). There is also a light rail station at Lilyfield.

Lilyfield Road forms part of the RTA's regional bicycle route, which connects Parramatta to the CBD via the Anzac Bridge.

Constraints and opportunities

The constraints and opportunities at Rozelle stabling and maintenance depot are outlined in Table 17.13.

Table 17.13 Constraints and opportunities at Rozelle stabling and maintenance depot

Constraints	Opportunities
There are significant level changes on existing rail yards.	Small-scale commercial and light industrial sites along Victoria Road towards Iron Cove Bridge may offer potential for redevelopment.
There is a need to maintain light rail land and operations.	There is new publicly accessible open space in south-east of the site
Parts of the site are potentially prone to flooding.	There are good views from some locations to the city and Rozelle Bay.
There are limited landscape opportunities within some parts of the site.	There is a potential for improved links and connectivity to surrounding locations including cycling access.
There is limited access from City West Link.	The site has a long history of rail use and light industrial development on its boundary.
	The cutting on Lilyfield Road edge would help to mitigate noise and light.
	Noise barriers are already installed along the Annandale side of City West Link.
	There are potential links to White Bay via existing 'mouse holes' under Victoria Road.

Master planning strategy

The master planning strategy for access and built form at the depot site are outlined in Table 17.14.

Table 17.14 Rozelle depot – station plan principles

Issue	Principles
Vehicle access	• Provide access to administration building from Gordon Street. • Provide heavy vehicle access from City West Link side. • Locate parking behind administration centre away from the view of Lilyfield Road. • Retain access to property on Lilyfield Road west of the site.
Access safeguards	• Access to White Bay is limited. Safeguard future potential access from City West Link to White Bay.
Pedestrian/bicycle movement	• Improve local and regional pedestrian and bicycle links. • Reconnect residential areas of Lilyfield and Annandale. • Promote alternatives to car use by strengthening existing regional bicycle route along Lilyfield Road. • Reduce conflicts between car and bicycles through separation of modes. • Preserve existing Light Rail station and lands. • Safeguard future potential pedestrian and bicycle connection to White Bay via the depot site.
Built form	• Use the project buildings to engage with the surrounding public realm and transport corridors in interesting ways. • Use high quality materials and finishes to buildings and structures. • Locate buildings to maximise views from Easton Park and Lilyfield Road to Rozelle Bay and the CBD. • Use the broken or semi-transparent facades on industrial buildings to visually engage park visitors with the activity occurring on site. • Demonstrate sustainability design principles and features.
Landscape and public domain	• Link open spaces of Annandale, Rozelle and Lilyfield. • Reintegrate the site with ecological systems and open spaces. • Improve habitat links and quality of water discharged to Rozelle Bay. • Provide new publicly accessible open spaces.

The existing context, proposed public domain enhancements and the master planning strategy for Rozelle stabling and maintenance depot are illustrated in Figure 17.7.



Figure 17.7 Proposed public domain enhancements and master planning strategy at Rozelle depot

Note: Project detail shown is indicative only, subject to detailed design

17.4 Mitigation and management

The station planning process described in section 2.6 is directed at ensuring the long-term integration and compatibility of land use surrounding each of the stations and the depot, and effectively forms the mitigation for land use changes for the project.

17.5 Conclusions

The CBD Metro would traverse a varied environment through the heart of Sydney. Like many major urban infrastructure projects, it would create or enhance opportunities for urban development and renewal. In particular, it has the potential to bring major benefits to the public domain through projects like Town Hall Square and the Barangaroo Pedestrian Link.

To ensure it successfully interfaces with surrounding land uses – current and future – the project is being addressed through a parallel master planning process centred on each station location.

Local planning controls would continue to regulate new development at all stations.

