



# Interchange Access Plan – Central Station

June 2020 Draft Version 19

Issue Purpose: CSSI CoA E92 Submission



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|----------------|---------------------------------|
| Author         | Sydney Metro                    |
| Version Number | 0.19                            |
| Date           | June 2020                       |
| File Name      | Central Interchange Access Plan |

# 1.0 Introduction

## 1.1 Sydney Metro

Sydney Metro has four core components:

### Sydney Metro Northwest

This project is now complete and passenger services commenced in May 2019 between Tallawong Station in Rouse Hill and Chatswood, with a metro train every four minutes in the peak. The project was delivered on time and \$1 billion under budget.

### Sydney Metro City & Southwest

Sydney Metro City & Southwest project includes a new 30km metro line extending metro rail from the end of Metro Northwest at Chatswood, under Sydney Harbour, through new CBD stations and southwest to Bankstown. It is due to open in 2024 with the ultimate capacity to run a metro train every two minutes each way through the centre of Sydney.

Sydney Metro City & Southwest will deliver new metro stations at Crows Nest, Victoria Cross, Barangaroo, Martin Place, Pitt Street, Waterloo and new underground metro platforms at Central Station. In addition it will upgrade and convert all 11 stations between Sydenham and Bankstown to metro standards.

In 2024, customers will benefit from a new fully-air conditioned Sydney Metro train every four minutes in the peak in each direction with lifts, level platforms and platform screen doors for safety, accessibility and increased security.

### Sydney Metro West

Sydney Metro West is a new underground railway connecting Greater Parramatta and the Sydney CBD. This once-in-a-century infrastructure investment will transform Sydney for generations to come, doubling rail capacity between these two areas, linking new communities to rail services and supporting

employment growth and housing supply between the two CBDs.

The location of seven proposed metro stations have been confirmed at Westmead, Parramatta, Sydney Olympic Park, North Strathfield, Burwood North, Five Dock and the Bays Precinct.

The NSW Government is assessing optional stations at Rydalmere and Pyrmont and further planning is underway to determine the location of a new metro station in the Sydney CBD.

### Greater Western Sydney

Metro rail will also service Greater Western Sydney and the new Western Sydney International (Nancy Bird Walton) Airport. The new railway line will become the transport spine for the Western Parkland City's growth for generations to come, connecting communities and travellers with the rest of Sydney's public transport system with a fast, safe and easy metro service. The Australian and NSW governments are equal partners in the delivery of this new railway, which is earmarked to open in time for the airport's opening.

Additional information can be obtained from the Sydney Metro website at [www.sydneymetro.info](http://www.sydneymetro.info).

## 1.2 Sydney Metro City & Southwest objectives

The objectives of Sydney Metro are to:

- Improve the quality of the transport experience for customers.
- Provide a transport system that is able to satisfy long-term demand.
- Grow public transport patronage and mode share.
- Support the productivity of the Eastern Economic Corridor.
- Serve and stimulate urban development.
- Improve the resilience of the transport network.
- Improve the efficiency and cost effectiveness of the public transport system.

## 1.3 Interchange Access Plan

The Interchange Access Plan has been developed by applying broad transport and access standards, guidelines, principles and strategies to the specific physical and operating environment of the interchange. It consolidates the requirements and aspirations for good customer transfer and identifies potential barriers or risks to achieving them, considering anticipated patronage and movement patterns once metro services are in operation.

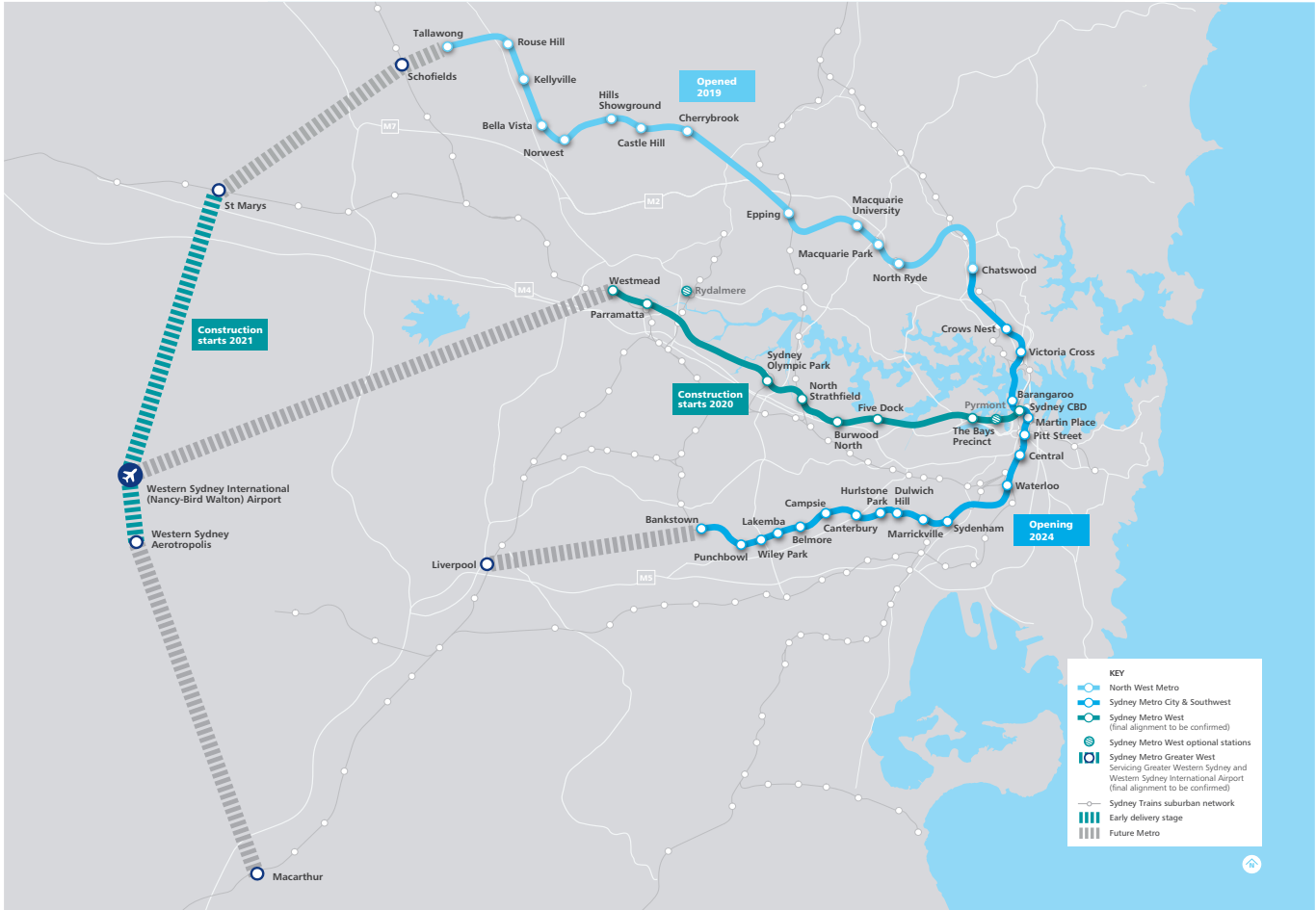
The Interchange Access Plan sets out areas that are likely to require attention, either as part of the metro development or subsequently, and identifies the agency or stakeholder responsible for delivering improvements. Some improvements to infrastructure and operations will be made as a direct result of constructing the metro stations and associated works.

## 1.4 Purpose

The Interchange Access Plan has been prepared to:

- Respond to the requirements of the Sydney Metro City & Southwest – Chatswood to Sydenham conditions of approval.
- Provide detailed interchange deliverables.
- Inform the interchange design of transport and access facilities, including footpaths, cycle paths and bike parking, bus stops (temporary transport requirements considered), and car parking.
- Identify customer amenities, shelter, and road and traffic management required to ensure easy, accessible, safe and efficient customer transfer when services start in 2024.
- Provide a list of actions for delivery partners and other stakeholders to enable the implementation of an easy customer transfer which supports the project objectives.

The Interchange Access Plan is provided to inform planning and investment decisions. This document will be updated in response to station design as required.

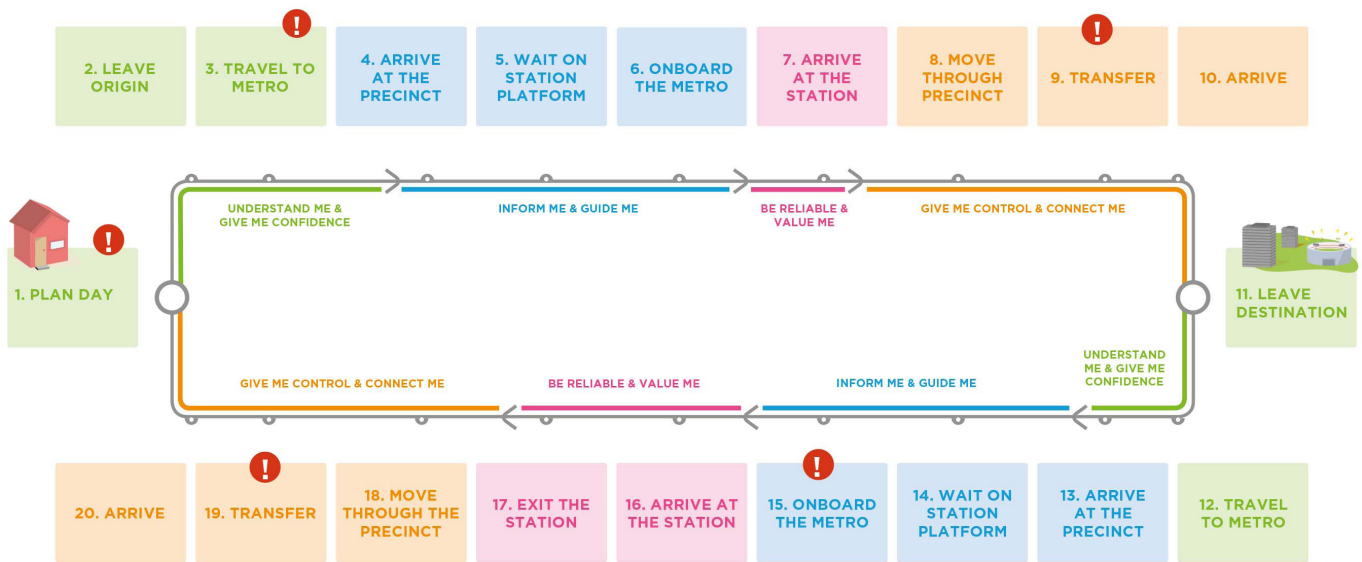


Sydney Metro Alignment Map

## 2.0 Interchange and transfer planning

Transport for NSW (TfNSW) is responsible for ensuring the needs of the customer are at the centre of planning and decision making for the transport system, and that all projects and services are designed and operated accordingly. This is reflected in the TfNSW mission statement:

*‘The customer is at the centre of everything we do in transport.’*



! CUSTOMER PAIN POINT AT A HIGH LEVEL

Door-to-door-to-door experience for Sydney Metro

### 2.1 Customer-centred design

Sydney Metro aims to serve a diverse set of customers who will undertake a number of journeys throughout the day and week using the metro. The design and delivery of service is centred around the customer – their needs, behaviours, and their jobs to be done.

Sydney Metro’s commitment is to deliver a reliable ‘door-to-door-to-door’ (from origin to destination and back again) transport solution, which is easy for all customers, through designing, seamlessly integrated experience with a focus on moving customers around safely, quickly and easily and is adaptive to change. Providing services centred around the customer is key to Sydney Metro’s ongoing success and building a solid

customer base.

Customers expect the provision of a service that is on time, clean, safe, comfortable, efficient, convenient, has the right information and has adequate customer service. These basics are key drivers of customer satisfaction.

Sydney Metro’s goal is to deliver a level of service that goes beyond satisfaction, makes it easy for customers to use the metro and encourages repeat use across the multiple types of journeys they may make. This will support TfNSW’s goal of increasing the number of journeys taken on public transport by the public, both in the peak and off-peak periods.

Sydney Metro provides a customer focus by addressing

customer needs at all stages of the journey. A critical principle of Sydney Metro is that every effort will be made to make good connections to other modes, ensuring easy and quick transfer.

It is critical to customers that their journey is seamless and well integrated across all connecting modes and that there is easy and safe access to connect to/from the metro.

At each stage of the journey there are a number of touchpoints where the customer will interact with a TfNSW product, service, system or is interacting in one of TfNSW’s spaces such as a station or an interchange or using one of TfNSW’s modes. At these touchpoints the aim is to make it easy to interact as well as provide consistency in service delivery and information, such that it is easy for a customer to have a seamless journey.

The stations, interchanges, trains and complete travel experience all contribute to and will be integral to the customer experience. A high-quality transport product is critical to attracting and retaining customers, and also to meeting broader transport goals.

Linking communities, schools, hospitals, key destinations and businesses with the new metro network is key in delivering the easy customer experience.

### 2.2 Sydney Metro customer principles

The Sydney Metro customer principles inform the design, development and operation of the services, products, systems and spaces to enable customers to have an easy and safe customer experience.



Sydney Metro customer principles



# Interchange and transfer planning *continued*

## 2.3 An integrated customer journey

Customers see their journey from 'door-to-door-to-door' and may plan and use multiple travel modes throughout their journey in order to achieve their tasks. It is critical to customers that their journey is seamless and well integrated across all connecting modes, and that access to/from the metro from other modes is easy, efficient and safe.

The Sydney Metro customer journey map captures the touchpoints in a customer's journey from door (origin – planning the day) to door (destination) to door (return to origin). Key customer satisfaction drivers and customer principles that are important to customers have been noted at each journey stage. The satisfaction drivers indicate the service attributes that customers consider most important, what customers believe represents value, and the elements of the transport experience that contribute to customer satisfaction. Customer experience of the transport system is made up of two core elements – the functional benefit and the experience of the journey itself. Customer Value Proposition research suggests there are a number of broad factors that encourage people to use public transport. These factors reflect the trade-offs customers consider when making their travel choices and indicate known customer 'pain points' that impact customer interaction with public transport. Sydney Metro must ensure that these elements are well understood in order to deliver products, services, systems and stations that match customer needs and increase its customer base.

## 2.4 Interchange functionality and role

Sydney Metro will facilitate a diverse range of trips, providing not only a fast journey to work but also encouraging trips for other purposes such as access within the Sydney's north-west, Sydney's Eastern Economic Corridor, the north-west business park, local or business trips, access to universities and educational institutions, and service and recreational uses.

In order to facilitate a range of trips across the multitude of destinations Sydney Metro stations will act

as both origins and destinations for these trips. Each station will vary to the extent that it is a trip origin or destination throughout the day. The diagram on this page shows the diverse range of trips to a variety of land use categories.

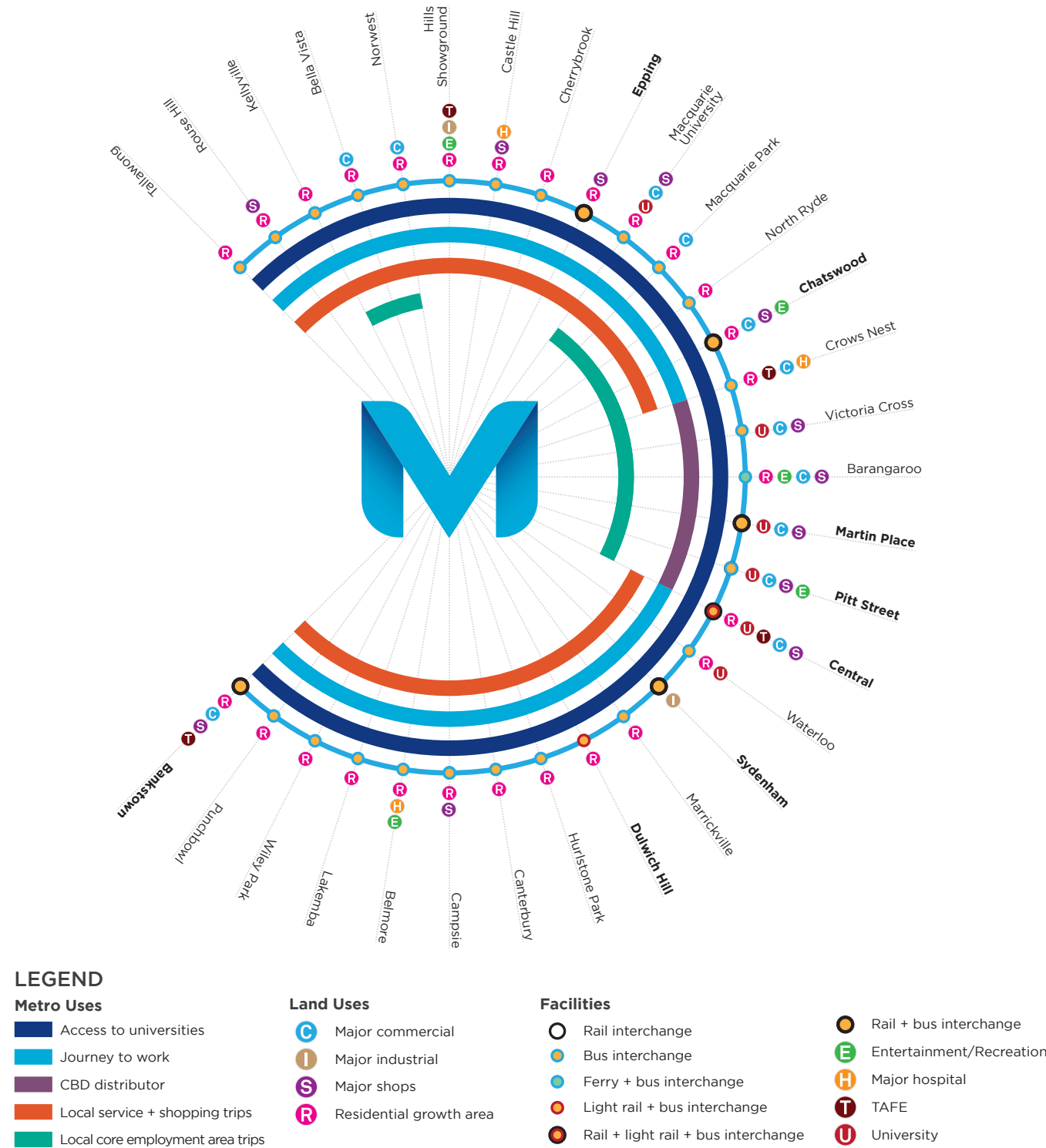
In general, stations with high levels of surrounding employment and/or educational institutions, such as Victoria Cross, Pitt Street or Macquarie University, tend to be destination stations in the morning peak period. Stations with high surrounding residential areas, such as Cherrybrook and Dulwich Hill, tend to be origin stations in the morning peak period. This trend reverses in afternoon as people return to their homes.

Other functional and node based characteristics of interchanges along the corridor including centres that both generate significant volumes of trips (origins from the catchment) as well as trips with destinations in or near the centre. This is typically associated with its positioning of the station within the overall network, as well as its proximity, density and importance of the surrounding land uses and in the centre it serves. Examples are Castle Hill, Crows Nest and Waterloo, where these stations have both significant residential catchments and employment zones that generate opposing two way flows through the stations during typical weekday peak periods.

The final interchange characteristic is that which has a significant internal transfer role between transport modes with a focus on connecting services for customer journeys across Sydney. These network nodes are functionally important and critical for supporting the delivery of efficient and seamless travel across the transport network. In some cases, the major design changes occur internally with only minor modifications to station access points, connections and facilities. Factors such as its historical establishment and its role in continuing to support growth in public transport use as well as in shaping an urban centre are also key considerations. Examples are Central, Chatswood and Sydenham, where these stations sit at critical decision making points in established areas of Sydney for travel across the network. In these situations its focused providing customers with the

opportunity to connect between rail to rail, or Metro or light rail lines. In less established locations, the focus maybe on bus to Metro connectivity or commuter parking. Examples of this include Tallawong, Rouse Hill

and Kellyville where customers key travel choices are based around these modes and the design is driven by these modal considerations that may be external to the station.



Sydney Metro trip diversity and accessibility

\*A new university campus and hospital are planned for the Bankstown CBD.

Interchange and transfer planning *continued*

2.5 Modal hierarchy

Designing an efficient interchange requires the allocation of space to different users, according to TfNSW's modal hierarchy. Wherever possible, this hierarchy aims to prioritise transfers from more equitable and sustainable modes, such as walking and cycling, over vehicle-based modes, including the provision of supporting infrastructure. The modal hierarchy used in this plan is consistent with the transport planning principles defined in the EIS.

Due to the location of each station, particularly within the Sydney CBD, in general, metro customers are not expected to access the station by driving their car. No car parking is to be provided at any of the metro stations between Chatswood and Sydenham and no additional parking will be provided between Sydenham and Bankstown.

Every arrival or departure from each station will be as a pedestrian – either from the precinct or after transferring from or to connecting modes.



Modal hierarchy

Consideration is given to accessible facilities for all modes of travel. The design of the interchange aims to prioritise customers with accessible requirements.

| Transport mode      | Description  |
|---------------------|--|
| Walking and cycling | Walking and cycling are the highest priority access modes as they are the most sustainable, cost-effective, equitable and accessible. Pedestrians and bicycle riders have the lowest environmental impact and (typically) require the least amount of space, while they also contribute to personal safety, urban and commercial viability.  |
|                     | For stations located within established urban areas, walking and cycling access will be predominantly along existing paths and routes, which may require upgrade. Additional new paths and routes may also be required. For stations located within new or developing urban development areas, additional new paths and routes may be proposed.  |
|                     | The interchange must provide safe, easy, quick, direct, continuous, high-quality, clearly signposted and accessible access between the station and other modes for connecting and transferring customers.  |
|                     | A safe and well-defined pedestrian connection shall be provided from the station entry/exit to the nearest footpath on the adjacent street network. Pedestrian routes within the station and interchange shall be clear, direct, unimpeded, accessible, provide for clear sight lines and passive surveillance, and facilitate easy circulation. Pedestrian risks within the station and interchange shall be reduced by highlighting all hazards with high-contrast finishes, special lighting or tactile paving. |

| Transport mode            | Description  |
|---------------------------|--|
|                           | <p>Pedestrian networks in and around the station must encourage walking, cater for forecast demand, minimise delays crossing roads, and provide safe access to the station and other modes for all (including older people, and people with young families and disabilities, who have greater safety and mobility needs) in line with <i>Disability Discrimination Act 1992</i> (DDA) requirements. Through-site links to stations should be open 24 hours a day (or as long as metro is operating).</p> <p>Pedestrian infrastructure shall be designed to accommodate modeled volumes/demands and to protect pedestrians from other road users in accordance with relevant Australian Standards, and Austroads and NSW Government guidelines.</p> <p>For bicycle riders, the interchange must provide safe and clear bicycle access in the vicinity of the station, signage and bike parking facilities at stations, in order to encourage cycling to Sydney Metro.</p> <p>Cycle routes must be of a high quality outside the stations, be designed to accommodate forecast user demands in accordance with Australian Standards and Austroad Guidelines, and be safely integrated with the local network.</p> <p>The station must enable through-access to allow for bicycles to be taken on metro trains. Cycleways need to be separated from vehicles, pedestrians and parked cars in accordance with Austroads Guidelines and NSW Government directions.</p> <p>Bicycle access and bike parking must be provided at all stations in accordance with Australian Standards, Austroads Guidelines and NSW Government directions.</p> |
| Rail                      | <p>Customer transfer from rail services will occur between platforms at Epping, Chatswood, Martin Place, Central, Sydenham, and Bankstown Stations. At these stations clear and intuitive wayfinding should be provided to ensure an easy customer transfer. At other stations customers will need to exit the stations and use existing footpaths to connect to other rail stations.</p> <p>Sydney Metro interchanges shall incorporate accessible facilities, and safe, accessible paths of travel between Sydney Metro platforms and other rail platforms, in accordance with the <i>Disability Standards for Accessible Public Transport 2002</i> (DSAPT).</p>   |
| Light rail, bus and ferry | <p>Transfer to other public transport modes is a high priority in station planning. These services expand the effective catchment area of Sydney Metro. Seamless and safe transfer is required in order to encourage linked trips within the public transport network.</p> <p>Sydney Metro interchanges shall incorporate accessible facilities and safe, accessible paths of travel between station and light rail, bus and ferry facilities, in accordance with the DSAPT.</p>   |
| Coaches                   | <p>Transfer to coaches is the next highest priority after public transport in station planning. Coach services provide connection to major city and regional NSW destinations. Safe transfers between coaches and the connecting public transport services and/or surrounding land use is important to ensure high level customer experience.</p> <p>Sydney Metro interchanges shall incorporate accessible facilities and safe, accessible paths of travel between the station and the coach facility, in accordance with the DSAPT.</p>  |



Interchange and transfer planning *continued*

| Transport mode | Description   |
|----------------|---|
| Taxi           | <p>Taxis are the highest priority of the car-based modes, supplementing the public transport system for access to destinations separated from the public transport network.</p> <p>Taxi access and parking should be provided at all stations, with shelters, seating and taxi providers' contact details.</p> <p>Taxi zones are to be visible and well signposted, and located where taxis can depart easily in most directions to reduce any unnecessary travel to reach the passenger's destination.</p> <p>Sydney Metro interchanges shall incorporate accessible facilities, and accessible paths of travel between station and taxi facilities, in accordance with the DSAPT.</p>   |
| Kiss-and-ride  | <p>Kiss-and-ride is the preferred mode of those accessing the station by private vehicle, but a relatively low priority. Kiss-and-ride supports the concept of car sharing, trip chaining and ride sharing, reducing the number of single-occupant trips, and, in some instances, parking demand.</p> <p>Kiss-and-ride spaces are to be provided where safe and efficient vehicle access and high vehicle turnover is available, as part of kerbside parking or within station car parks closest to the station. Kiss-and-ride in CBD areas will not be provided for exclusively, but could occur in existing short-term parking zones. Access must be safe and easy for vehicles to enter and exit, minimising conflicts with pedestrians, cycles, buses and other vehicles.</p> <p>Ridesharing services, such as GoCatch and Uber, will use kiss-and-ride zones to pick up and drop off passengers.</p> <p>Sydney Metro station interchanges shall incorporate accessible facilities and accessible paths of travel between station and kiss-and-ride facilities in accordance with the DSAPT.</p>  |
| Park-and-ride  | <p>Park-and-ride is the lowest priority of all modes. Given the high accessibility to sustainable transport modes in Sydney, formal parking facilities are only suggested outside of major centres. The stations between Chatswood and Sydenham will not include park-and-ride facilities and there is no additional car parking proposed for stations between Sydenham and Bankstown.</p> <p>For Sydney Metro Northwest, due to the extent of likely station catchments and the nature of the local transport networks, 4,000 parking spaces will be provided for metro customers at Tallawong, Kellyville, Bella Vista, Hills Showground and Cherrybrook Stations.</p> <p>Access to parking areas should be located away from town centres where possible, with new parking areas accessible by a safe, well-lit footpath to enable customers to drive and catch the train. Parking areas should also be located and designed to minimise disruption to walking connections between town centres and the station.</p> <p>Car park layouts shall ensure safe and efficient entry, exit and circulation for pedestrians and vehicles. Car parks shall have clearly marked pedestrian circulation to achieve safe segregation of pedestrian pathways and vehicles in car parks. Car park access points shall be oriented away from station entries to avoid conflicts between pedestrians and vehicles.</p> <p>Park-and-ride shall be compliant with the Sydney Metro Northwest Parking Management Strategy and the Sydney Metro City &amp; Southwest Parking Management Strategy.</p> |



Modes serving each station

\*No direct rail to metro interchange connection.

Interchange and transfer planning *continued*

2.6 Legislative requirements and applicable guidelines

| Legislation or guideline                                  | Description   |
|---|---|
| Legislation   |   |
| Disability Discrimination Act 1992                        | Designated Sydney Metro stations and interchange facilities will be fully compliant with the <i>Disability Discrimination Act 1992</i> .  |
| Disability Standards for Accessible Public Transport 2002 | The purpose of <i>Disability Standards for Accessible Public Transport 2002</i> (Transport Standards) (DSAPT) is to enable public transport operators and providers to remove discrimination against people with disabilities from public transport services ‘as far as possible’.  |
| Strategy and policy                                       |   |
| Future Transport 2056                                     | <p>The strategy is an update of the 2012 <i>NSW Long Term Transport Master Plan</i>. It outlines a vision, strategic directions and customer outcomes. The strategy acknowledges the vital role transport plays in the land use, tourism, and the economic development of towns and cities. It includes issue-specific and place-based supporting plans that focus on integrated solutions rather than individual modes of transport. The strategy also focuses on the role of transport in delivering movement and place outcomes that support the character of the places and communities needed for the future.</p> <p>The principles of this strategy have been applied in the development of this plan, including the six state-wide outcomes to guide the provision of interchange facilities, integration of the metro station with the future strategic transport networks and consideration of future changes in technology and innovation affecting customer transfers. Future Transport also commits to the Towards Zero vision by creating a safe system road environment that is free from death and serious injury. Safe integration of Metro stations within the existing environment is key to achieving this commitment around Metro stations.</p> |
| Eastern City District Plan                                | <p>Prepared by the Greater Sydney Commission (GSC), the <i>Eastern City District Plan</i> is a 20-year plan to manage growth in the context of economic, social and environmental matters to achieve the 40-year vision for Greater Sydney. It contains the planning priorities and actions for implementing the <i>Greater Sydney Region Plan: A Metropolis of Three Cities</i>, at a district level and is a bridge between regional and local planning.</p> <p>The Eastern City District covers the Bayside, Burwood, City of Canada Bay, City of Sydney, Inner West, Randwick, Strathfield, Waverley and Woollahra local government areas.</p> <p>The content of the strategy has been considered in this plan by examining the context of the station in relation to the surrounding regional land uses and growth precincts, linkages to local, strategic and metropolitan centres, and connectivity to transport networks including rail, light rail and road corridors.</p>   |

| Legislation or guideline                       | Description  |
|--|--|
| Sydney City Centre Access Strategy             | The strategy outlines how people will enter, exit, and move in and around the Sydney CBD over the next 20 years, and demonstrates how light rail, buses, trains, ferries, cars, taxis, pedestrians and cyclists will interact in the heart of Sydney. The strategy will also be updated to reflect current changes in an evolving plan that allows for the growth of Sydney as a global centre through the establishment of a multi-modal transport access plan for the city centre. |
| Guidelines                                     |  |
| Australian Standards                           | <p>Standards relevant to construction, operation and maintenance of interchanges and all relevant modes.</p> <p>The relevant standards have been considered throughout the development of this plan and were used to guide the design development of the interchange. The standards were used to ensure the provision of safe and efficient multi-modal interchange facilities.</p>  |
| Austrroads guidelines                          | <p>Austrroads’ levels of service (LoS) establish standards of performance for key infrastructure, based on its ability to accommodate forecast use and movements safely and efficiently. Levels range from A to F, in descending order of performance.</p> <p>Austrroads guidelines were considered throughout the development of this plan, and were used to guide the design development process to provide safe and efficient interchange facilities..</p>                        |
| RMS Traffic and Transport Technical Directives | <p>These documents are Roads and Maritime Services (RMS) complementary documents to the <i>Austrroads Guide to Traffic Management</i> and the Australian Standards AS1742, 1743 and 2890</p> <p>The content of the directives were applied in conjunction with the relevant Austrroads guidelines, and were incorporated in the design of the multi-modal interchange facilities, such as crossing facilities, and changes to the existing road layout.</p>                          |
| Local council guidelines                       | Interchange facilities must comply with relevant local council guidelines.   |
| TfNSW Interchange Wayfinding Requirements      | <p>Sets out requirements for wayfinding in transport interchanges.</p> <p>A comprehensive wayfinding strategy for the interchange has been developed in accordance with the core principles of the wayfinding requirements as outlined by TfNSW, and outlines objectives and controls to ensure that intuitive, clear and consistent signage is provided at the interchange.</p>   |
| TfNSW Interchange Planning Guidelines          | <p>Guidelines for the development of interchanges.</p> <p>These guidelines have been considered in the design of the interchange, to ensure high quality infrastructure and a safe and efficient service is provided throughout</p>  |



# Interchange and transfer planning *continued*

## Legislative requirements and applicable guidelines *continued*

| Legislation or guideline                             | Description  |
|--|--|
| <b>Crime Prevention Through Environmental Design</b> | <p>Provides guidance on crime prevention strategies through the design of physical spaces.</p> <p>The content of this crime prevention strategy has been considered through the development of this plan, as demonstrated through the station and interchange layout that includes the provision of pedestrian plazas and additional public domain to improve pedestrian safety.</p>   |
| <b>NSW Bicycle Guidelines</b>                        | <p>Provides guidance to assist in the planning and design of high-quality cycleways within the on-road and off-road environments. The guide should be read in conjunction with Austroads guidelines, however it prevails for any differences.</p> <p>This plan responds to the relevant guidelines by incorporating the design principles in the delivery of bicycle facilities throughout and within proximity to the interchange, including bicycle paths and bicycle parking.</p> |

## 2.7 Operations and maintenance

The station must provide access for operations and maintenance activities. Sufficient space shall be provided at stations for the accommodation of buses in the event of planned or unplanned disruption of normal operations.

Further detail regarding the operation and maintenance of the interchange can be seen in the operations, maintenance and management provisions, which fits within the TfNSW Interchange Operations and Maintenance Framework.

## 2.8 Defining the interchange area

The area to be included in the Interchange Access Plan has been determined by the particular local context of each metro station. The definition of the ‘interchange’ area reflects local pedestrian routes, circulation patterns and desire lines; land use and the level of activity around the station; relationships to other transport networks and modes; and the proximity of local access roads and routes.

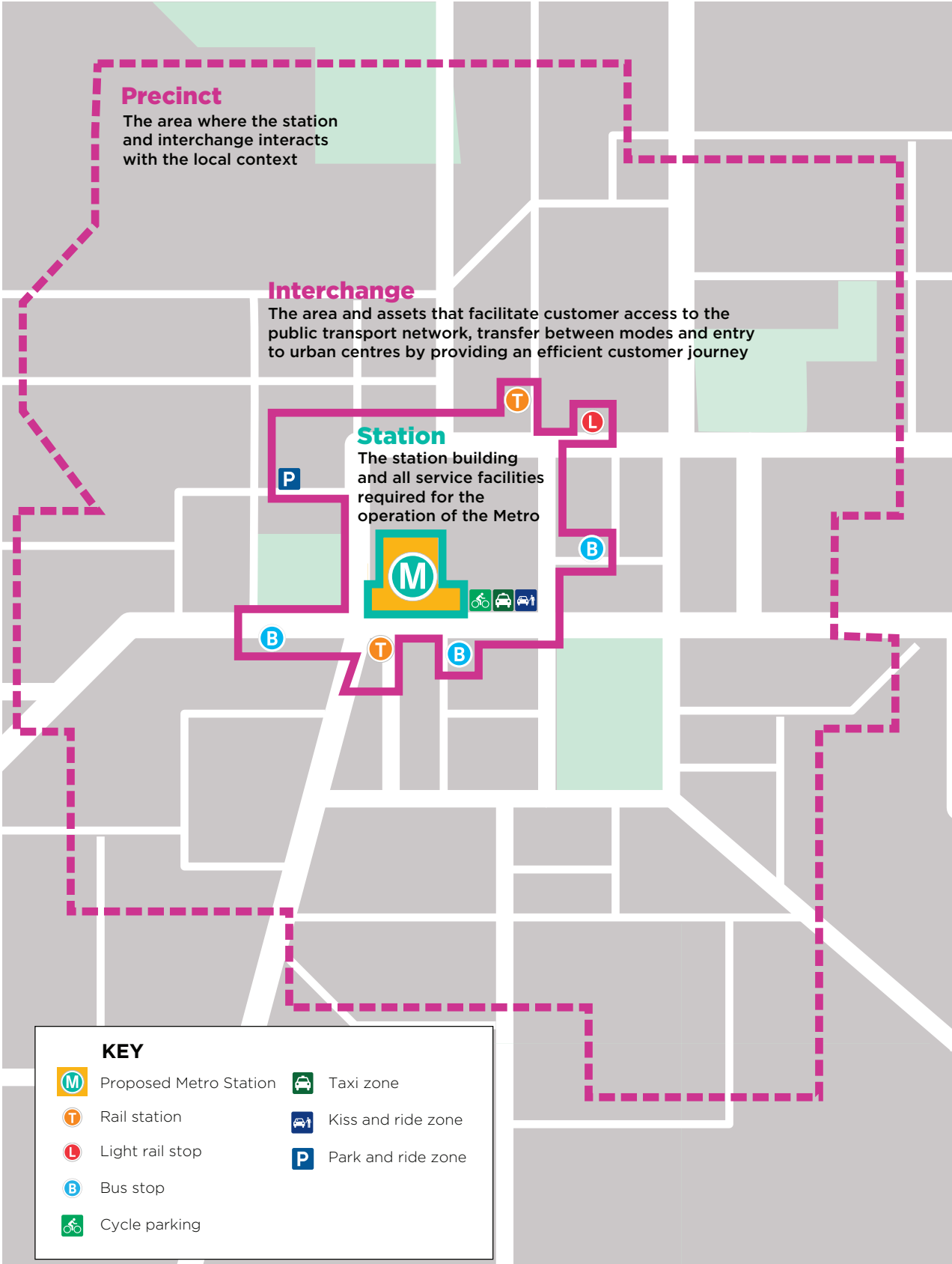
- The area to be considered as the interchange is effectively determined by:
- The current and likely demands for pedestrian access to the station entry/entries as currently proposed.
  - Formal or informal bike routes and desire lines, in relation to the station entry/entries.
  - The path of travel from the surrounding rail stations.
  - The path of travel from the surrounding light rail stops.
  - The path of travel from the surrounding bus stops.
  - Current or planned taxi zones, ranks or stands, as well as informal customer drop-off/pick-up points from/to taxis.
  - The anticipated propensity for, and location of, drop-off and pick-up of customers as passengers in private cars.
  - Major destinations within the immediate catchment of the station, including over site development to be undertaken as part of the metro project.
  - Where appropriate, transfer from other modes, including coaches.

Interchange and transfer planning *continued*

2.9 Terms and definitions

| Term         | Definition   | Ownership/responsibility   |
|--------------|--|--|
| Station      | <p>The station building and all service facilities required for the operation of the metro, including the entries and exits, and under the direct responsibility of the contracted operator.</p> <p>The station is within the interchange area, and includes the area directly owned by TfNSW as part of Sydney Metro or Sydney Trains, including the ground plane that will be used for over station development, the licensed maintenance area, and any other areas required for station operation.</p>  | <p>One or more of the following:</p> <ul style="list-style-type: none"><li>• Sydney Metro operator.</li><li>• TfNSW.</li><li>• Other transport operators.</li></ul>  |
| Interchange* | <p>The area and assets that facilitate easy, safe and intuitive customer access to and egress from the public transport network, transfer between modes by accessible paths, entry to urban centres, and an efficient customer journey. The interchange includes the station (see above).</p> <p>The interchange can have multiple sites that may not be connected, and includes areas that are owned by other stakeholders.</p>   | <p>One or more of the following:</p> <ul style="list-style-type: none"><li>• Sydney Metro operator.</li><li>• TfNSW.</li><li>• Other transport operators.</li><li>• Local council.</li><li>• RMS.</li><li>• Private property owners.</li></ul> |
| Precinct     | <p>The area that influences and interacts with the station and interchange, within the local context. The interchange provides a transport access focal point for the precinct, serving key attractions and generating opportunities for land use change and place-making opportunities within the precinct.</p> <p>The precinct includes areas that are owned by other stakeholders.</p>  | <p>One or more of the following:</p> <ul style="list-style-type: none"><li>• Local council.</li><li>• RMS.</li><li>• Private property owners.</li></ul>  |
| Catchment    | <p>The station walking catchment is generally within an 800-metre walk of the station. For suburban stations the catchment and the precinct may be the same. For urban stations the precinct will generally be smaller than the catchment. The Project may seek greater catchment areas to assess specific outcomes, such as parking impacts on local streets.</p> <p>The cycling catchment for Sydney Metro stations is taken as 2.5 kilometres, due to their proximity to each other and potential destinations along the network. This is a comfortable 10-minute bike ride for an average rider.</p> | <p>One or more of the following:</p> <ul style="list-style-type: none"><li>• Local council.</li><li>• RMS.</li><li>• Private property owners.</li></ul>  |

\* In the special case of Central Station, many customers will transfer within the boundaries of the station – both between train services and between train and metro services. Its Interchange Access Plan acknowledges the need to consider the broader principles of customer transfer as an integral part of station design.





Interchange and transfer planning *continued*

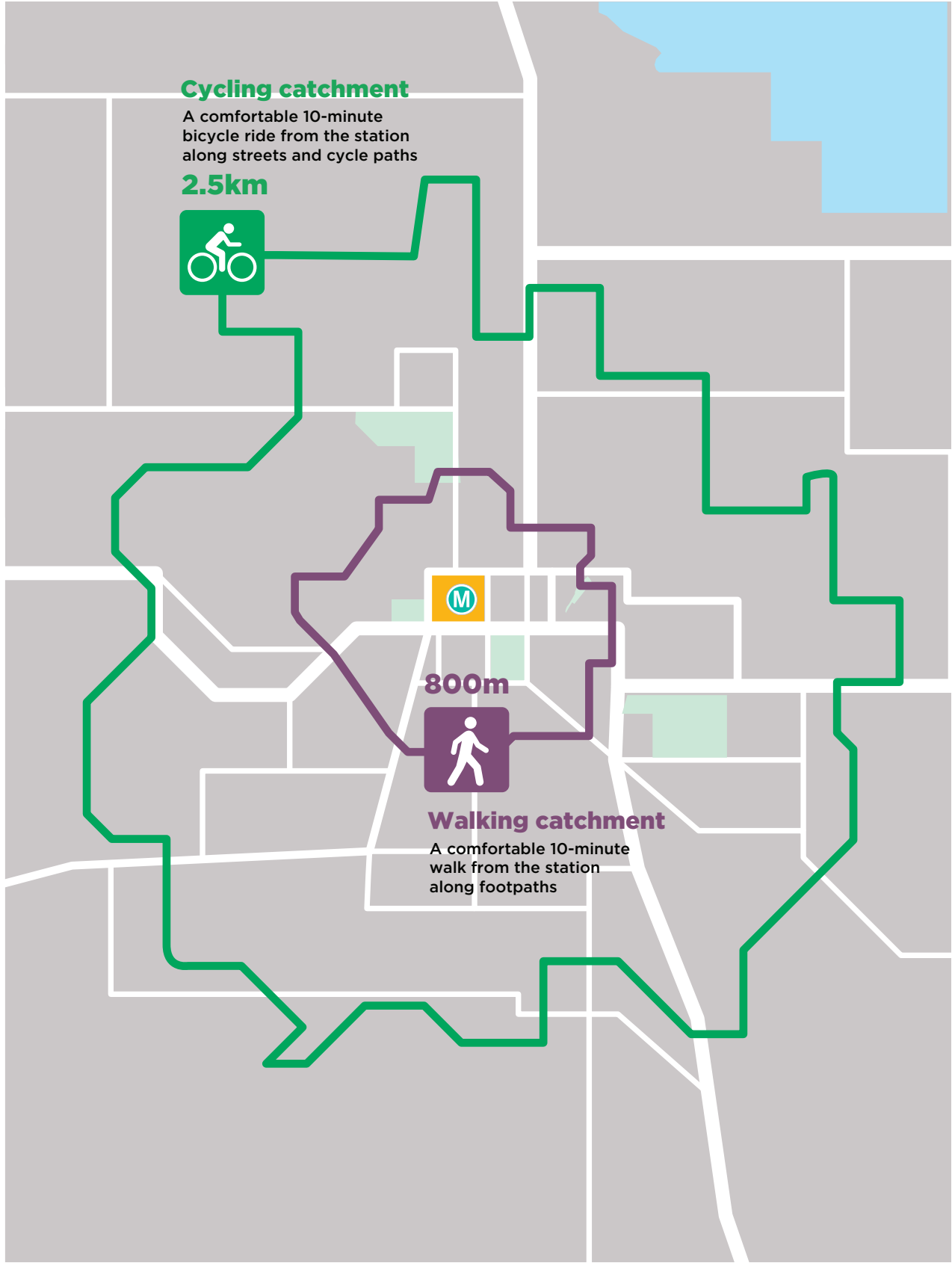
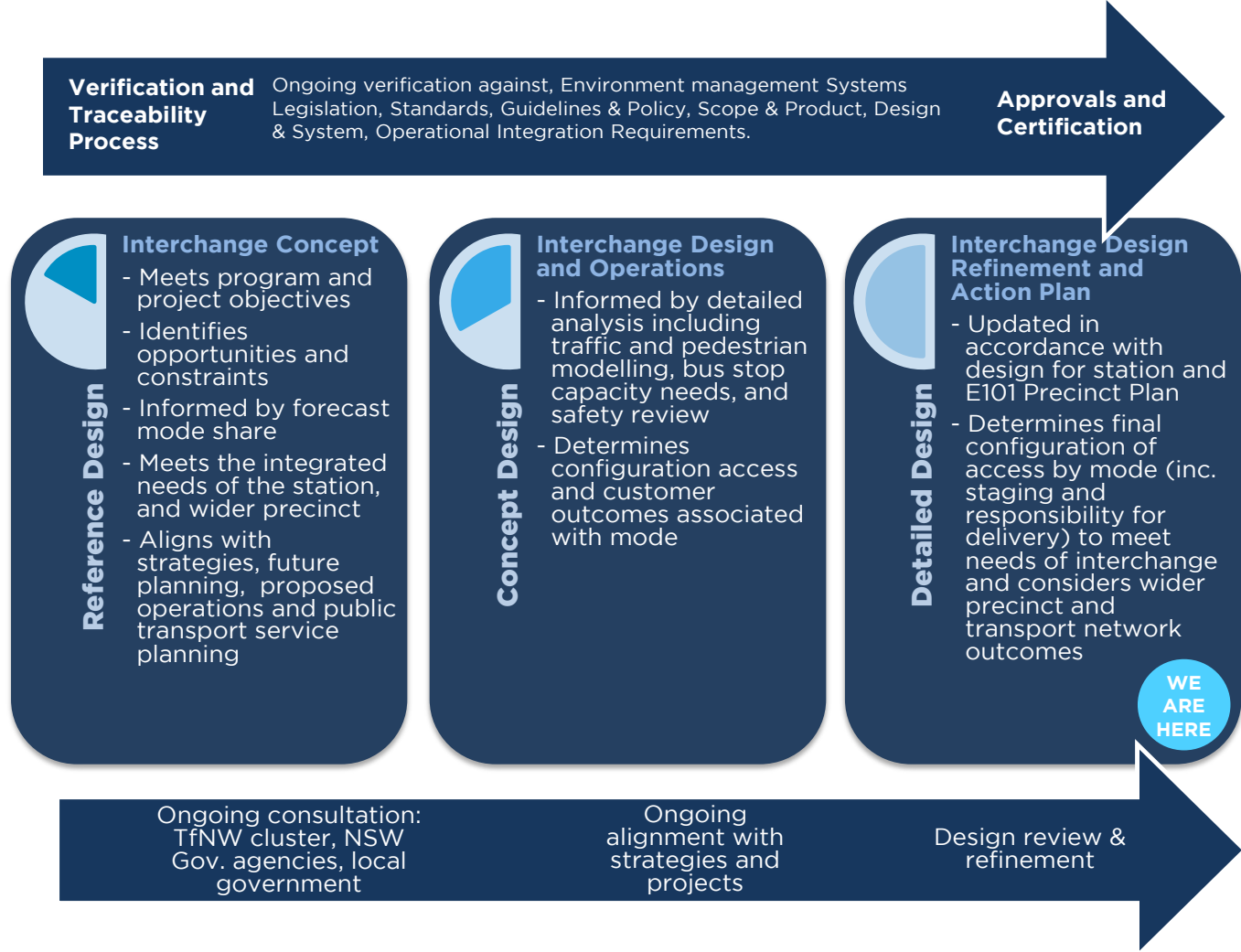


Illustration of terms and definitions

2.9 Design Development Process

Sydney Metro undertakes interchange planning by considering the role of the interchange and requirements and aspirations for an easy customer journey throughout the design process. As identified in the figure below, the interchange planning process broadly comprises three stages: interchange concept, interchange design and operational analysis, and interchange design refinement and action plan. This process is undertaken to align with the design development process and to effectively integrate planned facilities, plazas and connections with other planned station projects and precinct enhancements.



As part of the CSSI Conditions (CoA) for the new Metro platform, station entry and associated connections within Central Station, the quality of the interchange design and its overall performance is required to be validated to support the detailed design development phase. The robustness of the design and its compliance to requirements, specification, standards and guidelines is verified at each design stage (refer to Figure xx), and this design process captures technical design audits, safety assurance, safety-in-design and risk reviews. This process also captures continuous stakeholder inputs along with any required updates to transport modelling appraisals required to support road agency applications and approvals.

## Interchange and transfer planning *continued*



### 2.11 Consideration of Station Design and Precinct Plan

The Interchange Access Plan and Station Design and Precinct Plan (SDPP) are being developed in conjunction with one another. Relevant items from the SDPP have been considered in the IAP, for example demonstration of urban and place making outcomes are reflected in the IAP through the identification of new plaza and how these facilitate safe and comfortable movement through to interchange facilities. The SDPP equally considers items in the IAP, for example pedestrian amenity and the provision of precinct kerbside facilities that are required to bring about an integrated customer journey.

### 2.12 Wayfinding

The aim at all interchanges is to provide intuitive, clear and consistent information and signage, as well as legible, intuitive spaces, to enhance customer journeys through efficient navigation and transfer between services and modes. Effective wayfinding will encourage a seamless customer journey from origin to final destination and back again.

Wayfinding and its legibility will ensure that all customers can travel independently and easily on Sydney Metro by:

- Understanding the needs of customers.
- Providing accurate information at the right time to appropriately guide and inform customers on their journey.
- Planning and creating predictable and intuitive environments.
- Applying a consistent system of signs and information.

Wayfinding will support the safety of pedestrians and protect them from other road users by providing clear signage to ensure:

- Safe integration with existing networks.
- Controlled (signalised), direct paths of travel

This plan was produced in conjunction with the SDPP and included joint presentations to DRP (section 3.0) and consultation with Council to ensure alignment. Refer to section 4.4 in the SDPP on bike parking, section 4.2 on public space and permeability, section 5.2 on Randle Lane, and the Eastern Entrance, and section 6.0 for SDPP and IAP coordination.

along pedestrian desire lines within low speed environments.

Wayfinding is supported by a design that is visually simple and intuitive to negotiate, contributing to an easy customer experience by:

- Providing visibility between station levels where possible.
- Using intuitive design to minimise wayfinding choices and the need for signage.
- Providing safe, legible, efficient, convenient, obstruction free, level, direct and attractive routes for customer access.

Wayfinding signage and information is to be provided in accordance with the TfNSW guidelines, to ensure consistency with TfNSW signage.

Customers are to be provided with wayfinding and information when they are:

- Interchanging between services or modes.
- Connecting to and from public transport by walking, cycling, catching a taxi, being dropped off or picked up in private vehicle or parking in their car.



### 3.0 Consultation

Targeted consultation was undertaken for the Central Station Interchange Access Plan (IAP) and included all major stakeholders. The consultation process involved the following steps:

- Organising briefing sessions with key stakeholders.
- Distributing the IAP to stakeholders ahead of the briefing session to allow for early review and comment.
- Presenting the key elements of the IAP to stakeholders and allowing time for discussion.
- Distributing the IAP to any additional personnel identified during the briefing session for further review and comment.
- Reviewing comments received and incorporating

feedback into the IAP where applicable.

- Responding to each stakeholder and ensuring contentment with responses to be able to close out comments where applicable.

In many cases pre-consultation sessions with key stakeholders were held to identify and resolve anticipated issues in advance of the formal consultation process. Furthermore, previous consultation was also undertaken with many stakeholders on the concept design of the station, and the consultation discussed here refers to that undertaken during the detailed design process. Various working groups and forums were used to obtain feedback on the IAP, and consultation. These are summarised below:

| Forum/organisation   | Meeting dates                              | Key Aspects  |
|--|--|--|
| Design Review Panel <ul style="list-style-type: none"><li>• NSW Government Architect</li><li>• Heritage Council</li><li>• City of Sydney</li></ul>                                       | 17/04/2018<br><br>05/02/2019<br>09/04/2019 | Focused on the IAP, station access, and pedestrian and bike movements.<br><br>Project changes and how it contributes to managing passenger growth, existing precinct constraints, other programs and the function and flexibility of the new Eastern Entrance on Chalmers Street.<br>Safeguarding for the western section of Central Walk. |
| Traffic and Transport Liaison Group <ul style="list-style-type: none"><li>• TfNSW Greater Sydney Division (formerly RMS)</li><li>• City of Sydney</li><li>• Emergency Services</li></ul> | 27/02/2019                                 | IAP overview, challenges and actions/ responses including bike parking.  |
| Sydney Trains  | 27/02/2019                                 | IAP, managing existing areas of constraint, and integration of new project bike parking within the existing Chalmers Street public domain.   |
| TfNSW Greater Sydney Division (formerly RMS)/ SCO Working Group  | 04/09/2019                                 | IAP overview, access challenges for pedestrians and cyclists, TfNSW and project delivery improvements and coordinated actions/ responses.  |
| TfNSW Greater Sydney Division (Light Rail)   | 04/03/2019                                 | IAP overview, access and proposed Sydney Light Rail project bike parking provision in Chalmers Street.   |
| TfNSW Infrastructure and Place (Central Precinct Renewal Program)  | 05/04/2019                                 | IAP overview, access and movement patterns and changes, integrated design outcomes and bike parking provisions, CPRP strategy and requirements, and actions/ responses.  |

| Forum/organisation | Meeting dates            | Key Aspects  |
|--------------------|--------------------------|--|
|                    | 13/08/2019<br>21/11/2019 | Chalmers Street pedestrian analysis and outcomes.<br>Bike parking investigation, feasible designs and quantum, and opportunities for increasing station precinct bike parking. |

A brief summary of the presentations given to key stakeholders on the IAP and the main issues raised is presented in the following table.

| Group/organisation   | Feedback themes  |
|--|--|
| Customer Technology and Strategy (Centre for Road Safety)                  | The design of the new eastern entrance on Chalmers Street must consider integrating with upgraded streetscape, the new cycleway and the light rail. Consideration must also be given to operations and the impact of pedestrian movements on cyclists.   |
| Customer, Technology & Strategy  | The information provided regarding new cycle connections is limited and more information should be provided on pedestrian and cyclist enhancements related to Sydney Metro projects and other known projects.  |
| TfNSW Greater Sydney Division (GSD) (formerly Roads and Maritime Services) | A number of corridors around the station are identified as being traffic priority routes. This may limit the potential for improved pedestrian connections. Grade-separated connections for pedestrians and freight and servicing traffic access should be acknowledged and considered as part of the plan together with an extension of Central Walk towards Railway Square.        |
| TfNSW GSD(SCO)   | Freight, delivery and service vehicles need to be considered and accounted for throughout the development of the IAP. Grade separated connections should be considered.<br><br>Obstacles in linking existing cycle routes in and around the Central Station precinct need to be highlighted within the plan. Design and space requirements for bicycle parking should be considered. |
| TfNSW Infrastructure and Place   | More detail is required regarding the transfer of passengers between Metro and suburban rail.  |
| TfNSW GSD (Light Rail)   | More details are required for interchange between Light Rail and Central Walk/new eastern entrance.  |
| TfNSW GSD (Metro Bus & Ferry Service Planning and Development)             | Further investigations are needed to assess rail-bus transfers and the impact on customer. Options to improve pedestrian amenity at the pedestrian island between Elizabeth Street and Chalmers Street need to be investigated.  |

## 4.0 Interchange Access Plans planning conditions

The Minister for Planning granted approval to carry out Critical State Significant Infrastructure (Sydney Metro City & Southwest- Chatswood to Sydenham) on 9 January 2017, subject to conditions of approval. A modification including Central Station and Metro Facility South was subsequently approved on 13 December 2017, subject to additional conditions of approval. The Interchange Access Plans requirements under these conditions of approval are outlined below.

| Condition  | Description   | Relevance in the document  | Condition | Description   | Relevance in the document   |
|------------|---|--|-----------|---|---|
| <b>E92</b> | The Proponent must develop an Interchange Access Plan for each station to inform the final design of transport and access facilities and services, including footpaths, cycleways, passenger facilities, parking, traffic and road changes, and integration of public domain and transport initiatives around and at each station. The Interchange Access Plan(s) must consider walking and cycling catchments and take into account: |  |           | (f) patronage changes resulting from land use, population, employment, transport infrastructure and service changes;                                | Forecast patronage is presented in Section 6.1 to 6.5 local context (pp. 17-20) and accounts for future land use, population and employment. Potential future service changes have informed the design process and the provision of interchange facilities detailed in Section 7.0 interchange and transfer requirements overview.  |
|            | (a) a station access hierarchy consistent with the transport planning principles defined within the EIS;  | A modal hierarchy consistent with the principles defined in the EIS was adopted.<br>Refer to Section 2.5 Modal hierarchy and section 9.0 interchange access hierarchy review.  |           | (g) integration with existing and proposed transport infrastructure and services;   | The station and precinct has been designed to integrate effectively with existing and proposed transport infrastructure and services for all travel modes. The interchange provides for safe and efficient transfer to all modes in close proximity to the station.<br>Refer to Section 7.1 walking; Section 7.2 cycling; Section 7.3 train ; Section 7.4 light rail; Section 7.5 bus; and Section 7.7 vehicle drop-off; together with Section 9.0. |
|            | (b) safe, convenient, efficient and sufficient access to stations and transfer between transport modes (including subterranean connections and the safeguarding of additional entrances in response to land use change and patronage demand);   | Safe, convenient, efficient and sufficient access was considered for each travel mode in the development of the IAP. Safeguarding for future demand was considered and included in the action plan.<br>Refer to Section 6.0 local context; Section 7.0 vehicle drop-off interchange and transfer requirements; Section 8.1, 8.2, 8.6, 8.7 and 8.8 for operations and performance, Section 9.0 interchange access hierarchy, and Appendix A and Appendix B actions and implementation program.  |           | (h) pedestrian, cycle, bus, taxi, vehicle and emergency vehicle access and parking infrastructure and service changes;                              | Access for all modes has been accounted for and has considered potential service changes.<br>Refer to Section 7.1 walking; Section 7.2 cycling; Section 7.3 train; Section 7.5 bus; and Section 7.7 vehicle drop-off; and Section 8.3 and 8.6 for service and operation provision and now Sydney Yard Access Bridge.  |
|            | (c) the maintenance or improvement of pedestrian and cyclists level of service within a justified proximity to stations;  | The level of service for pedestrians and cyclists was considered and used to inform the design of pedestrian thoroughfares and crossings, planned cycleways and other infrastructure.<br>Refer to Sections 2.4 and 6.5 for interchange functional needs, Section 2.7 and 5.2 for spatial and operational needs, Section 7.1 walking interchange and transfer requirements; Section 7.2 cycling interchange and transfer requirements; and Appendix A and B, actions and implementation program |           | (I) legislative requirements and applicable guidelines;   | All applicable legislation, standards and guidelines were used in the development of the design and Interchange Access Plan.<br>Refer to Section 2.6 legislative requirements and applicable guidelines.  |
|            | (d) current transport initiatives and plans;  | All current transport initiatives and plans were considered, including state government strategies, Council plans and general transport design guidelines.<br>Refer to Section 2.6 Legislative requirements and applicable guidelines, Section 5.0 for regional context and related projects and strategies, Section 6.0 for local context and planning needs, Section 7.0 for modal requirements, spatial considerations and Section 10.0 and Appendix A and B for project integration items. |           | (j) safety audits, including but not limited to a review of traffic facility and cycle changes to ensure compliance with Austroads design criteria; | The traffic facility and cycle changes in scope comply with Austroads design criteria. Refer to section 2.10 for references to the design development process including auditing reviews, verification, assurance, requirement and guideline traceability and certification, and Section 8.8 for observed performance outcomes for design reviews.  |
|            | (e) opportunities and constraints presented by existing and proposed transport and access infrastructure and services;  | Key opportunities and constraints affecting the design are presented in Sections 5.2, 5.3, 6.5 and 6.6 Opportunities and constraints (p. 20).  |           | (k) final design, infrastructure, management and service measures and the level of access and service to be achieved for all users; and             | Design principles and access and service objectives are detailed in Section 2.0 interchange and transfer principles (p. 4). Refer to Section 2.10, 7.0, 8.1, 8.4-8.6, 8.8 and 9.0 for references to the design development process including auditing, reviews, verification, assurance, requirement and guideline traceability and certification, including performance and service needs and how this is achieved for all users.                  |
|            |   |  |           | (l) the contents of the Interchange Operations and Maintenance Plan (IOMP)  | The contents of the developing IOMP have been taken into account including operational requirements, management provisions and responsibilities.  |



# Interchange Access Plans planning conditions *continued*

| Condition                      | Description  | Relevance in the document   |
|--------------------------------|--|---|
|                                | and operational management provisions for future operational requirements, including maintenance, security and management responsibilities.  | Refer to Section 4.9 operations, maintenance and management provisions. Refer to Sections 8.1 and 8.6 for detailed considered as part of the design process and action OM1 in Appendix A for the development responsibility of the interchange operations and maintenance plan (IOMP).  |
| <b>E92</b><br><i>continued</i> | The Interchange Access Plan(s) must be prepared in consultation with the Traffic and Transport Liaison Group (TTLG) and the Design Review Panel and must be supported by traffic and transport analysis. Where necessary, consultation must also be undertaken with major landholders adjoining station precincts. The Plan(s) must detail a delivery and implementation program which must be provided to and agreed by the Secretary before commencement of permanent aboveground facilities at any station site | The Interchange Access Plan has undergone various levels of consultation with stakeholders including council, the TTLG and the Design Review Panel. The action plan details a program for delivery and implementation of the works required for the interchange. Traffic and transport analysis was undertaken to support the design and action plan.<br>Refer to Section 3.0 consultation; and Section 10.0, Appendix A and Appendix B actions and implementation program by the project and its integration with other programs.                                    |
| <b>E93</b>                     | In developing the Interchange Access Plan(s), the Proponent must consider:   |   |
|                                | (a) traffic and accessibility design requirements; and   | Traffic and accessibility design requirements were accounted for, including the Disability Discrimination Act, Disability Standards for Accessible Public Transport and Roads and Maritime Services standards.<br>Refer to Section 2.6 legislative requirements and applicable guideline; Section 8.1 on new vertical transport assets; Section 8.2 on the Eastern Entrance and Central Walk; Section 8.8 on movement and accessibility improvements; Section 9.0 on modal provision and Section 10.0, Appendix A and Appendix B actions and implementation program.. |
|                                | (b) the Station Design and Precinct Plan(s) required by Condition E101.  | The Interchange Access Plan and Station Design and Precinct Plan are being developed in conjunction with one another and give consideration to each other in their ongoing refinement. Refer to Section 10 design development process and Section 2.11 consideration of the SDPP.   |
| <b>E94</b>                     | The Proponent must in consultation with the TTLG review the need and opportunities for lift access between Hickson Road and High Street and  | Not applicable for Central Station  |

| Condition    | Description  | Relevance in the document   |
|--------------|--|---|
|              | which meets the objective of increasing the patronage catchment to Barangaroo Station and improved community accessibility. The review must be presented in the Interchange Access Plan and the findings implemented by the Proponent.   |   |
| <b>E95</b>   | The Proponent must in consultation with the TTLG review the need and opportunities for a pedestrian and cycle bridge across the rail corridor to replace the Nelson Street Bridge. The review must be presented in the Interchange Access Plan(s) and the findings implemented by the Proponent.   | Not applicable for Central Station.   |
| <b>E95.1</b> | Before approval of the Interchange Access Plan or Station Design and Precinct Plan relevant to the Sydenham Station upgrade and Sydney Metro Trains Facility South, the Proponent must, in consultation with the TTLG, investigate opportunities for dedicated cycle connections between Sydenham Station and Marrickville Station. Where opportunities for such connections are identified, the relevant Interchange Access Plan and/or Station Design and Precinct Plan must include provision for delivery of any connections | Not applicable for Central Station  |
| <b>E96</b>   | The Interchange Access Plan(s) must be reviewed by a qualified traffic and transport professional(s), independent of the detailed design process for the CSSI, having regard to the requirements of this approval.   | The Interchange Access Plan has undergone a review by an independent traffic and transport professional in accordance with the requirement of the approval. |

5.0 Regional context

5.1 Crows Nest to Waterloo

Sydney Metro will deliver a world-class metro rail system for the people of Sydney. The most obvious benefit will be to people in local communities from Rouse Hill to Bankstown walking to their nearest metro station.

The schematic map below shows metro’s role in the context of the wider transport system. Many more people will be able to benefit from fast, accessible, reliable and frequent metro services by travelling to a metro station by bike or other public transport modes.

Providing seamless multi-modal journeys for customers is a key outcome of *Future Transport Strategy 2056*.

In this context, Sydney Metro will deliver interchanges that help achieve this outcome by putting the customer at the centre.

Metro’s high-frequency service means that there will never be a long wait time when transferring between services. Interchange connectivity combined with high-quality links between rapid and suburban buses will help transform the travel experience and enable access

to more places.

Improved cycling infrastructure and bike parking will enable easier travel by bike, connecting metro stations to surrounding cycle routes. Each metro station will connect into the surrounding walking and cycling network, and will provide bike parking facilities.

The integration of walking and cycling and public transport will increase metro’s accessibility to more people in Sydney, helping to make journeys faster and more reliable and providing greater travel choices to communities.

5.2 Related projects

The following projects will be completed and operational when the Sydney Metro City & Southwest commences operations:

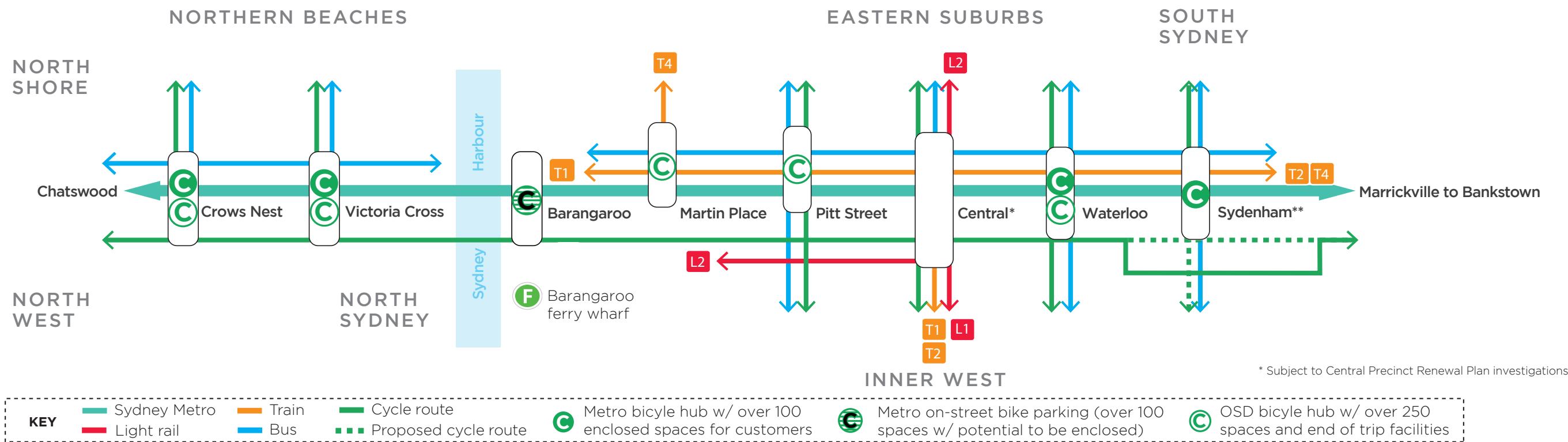
- CBD and South East Light Rail and the following associated changes:
  - New light rail stop in Chalmers Street including general place enhancement.
  - Light rail and bus interchange in Rawson Place.
  - Amendments to bus stop arrangements in Eddy Avenue and Chalmers Street.
  - Sydney CBD bus network service route changes.
  - Sydney CBD cycle routes (cycle route along Chalmers Street and Eddy Avenue).
- *Chinatown and City South Public Domain Plan* (City of Sydney, 2015).

At Central Station, as at several other stations on the Sydney Metro network including Chatswood, Martin Place, Sydenham, and Bankstown, the metro station should be considered within a broader rail station and network context.

The Central Station IAP was prepared in response to a specific condition of approval for the construction and operation of the metro station, and therefore focuses on access to the metro platforms at Central Station.

At the same time, the IAP adopts an integrated approach to encourage good customer transfer to all train services, which is complemented by extensive internal improvements delivered by the project. This will enable customers to move more conveniently within the paid areas, and with the flexibility offered by Opal cards, easily between metro, Sydney Trains and, in some cases, NSW TrainLink services.

The IAP for Central Station was developed to support the Sydney Metro station modifications and allows for updates as enhancements to the interchange design and operations occur over time. This includes wider improvements within the Central precinct as Transport for NSW investigates opportunities for renewal to help maximise placemaking, opportunities and outcomes of the Central Precinct Project.





## 5.0 Regional context *continued*

### 5.3 City station bike parking hub strategy

The planning and design of a city station bike hub parking strategy considered access to interchanges and the supporting facility provisions required for different customer types and how they can be effectively accommodated. The strategy recognised the following unique customer and integrated station development profiles:

1. Access and provision needs for long term bike parking needs associated with interchange customers wanting to access the Metro service.
2. Access and provision needs for long term bike parking needs associated with the over station development
3. Access and provision needs for short term bike parking needs associated with the over station development and in some cases customers travelling by Metro.
4. Spatial provision and consideration of the design flexibility to accommodate shared bike parking schemes as an option for customers, if required.
5. Spatial provision and consideration of the station and Metro trainsets to enable customer to travel on Metro with bikes.

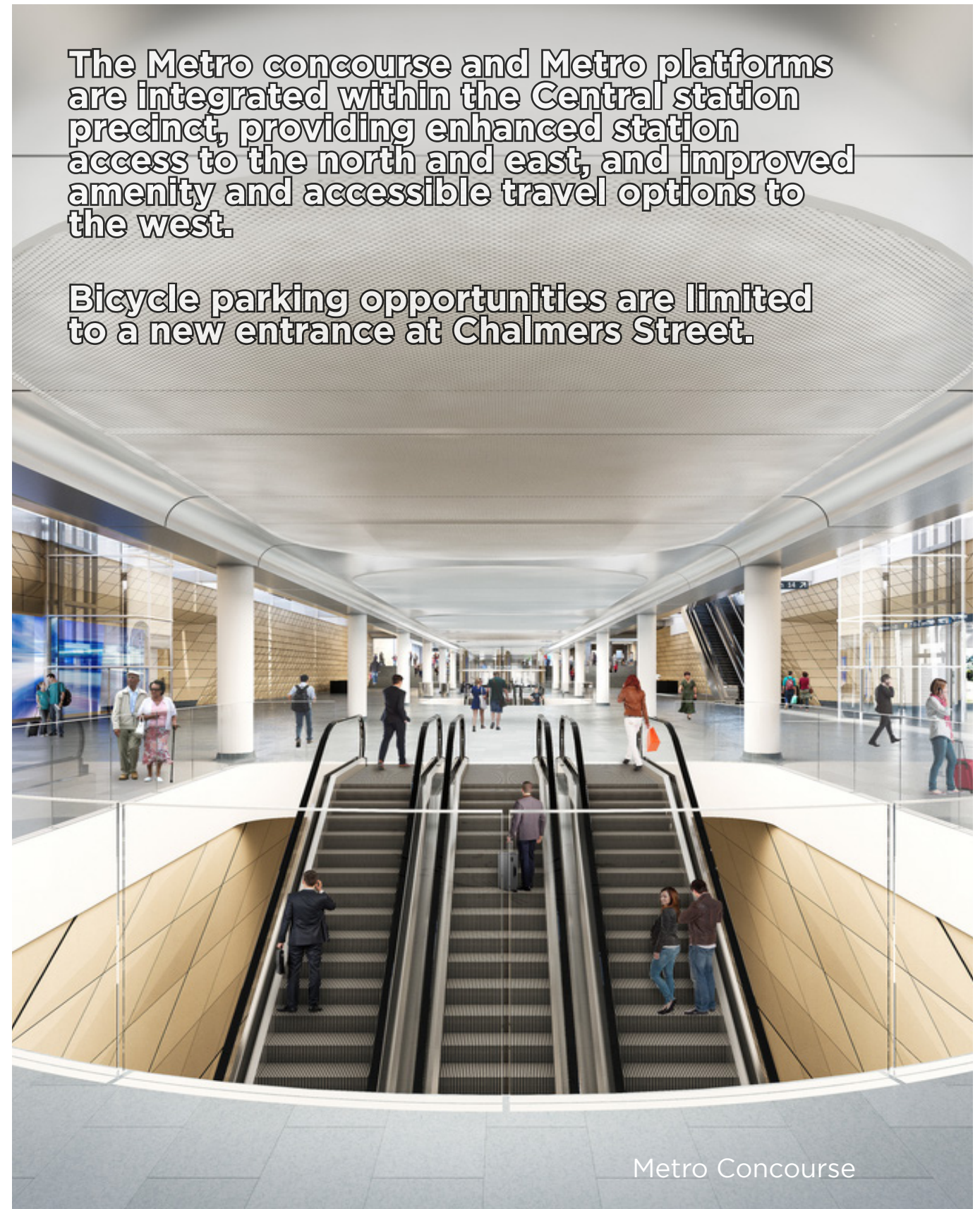
All customer designated bike parking is aligned with customer demand profiles, aim to offer appropriate choices, manage access and network impacts, and enable increases in the typical station catchment size.

The strategy consolidates customer bike parking provision at select station locations situated on approaches to the core CBD, and all choices are well connected to the bike network, avoid areas of high activity levels and conflict, have the spatial availability to accommodate an enclosed bike parking hub, and offer opportunities for activation and community support. These key elements have contributed towards the design and future delivery of approximately 1,000 bike parking spaces for city station customers with approximately 70% of these situated at four nominated bike parking hubs.

Refer to the figure on page 16 for an understanding of the spatial arrangement of the proposed interchange bike hubs.

The promotion of cycling through this hub concept is only one part of the projects contribution to access and travel by cycling, which also incorporates an allocation of more than 3,000 bike parking spaces within five over station developments also positioned along the city section of Sydney Metro City and Southwest corridor.

Designated bike parking space provisions at the Over Station Development directly aligns with a high Greenstar building rating and Council's DCP. These facilities together with the Metro service help minimise car parking provision at these strategic and highly constrained nodes and help to manage the likely knock on effects to the network. Designated bike parking spaces, which directly aligns with a high Greenstar building rating and Council's DCP. These facilities together with the Metro service help minimise car parking provision at these strategic and highly constrained nodes and help to manage the likely knock on effects to the network.





# 6.0 Central Station – local context

## 6.1 Station interchange enhancements

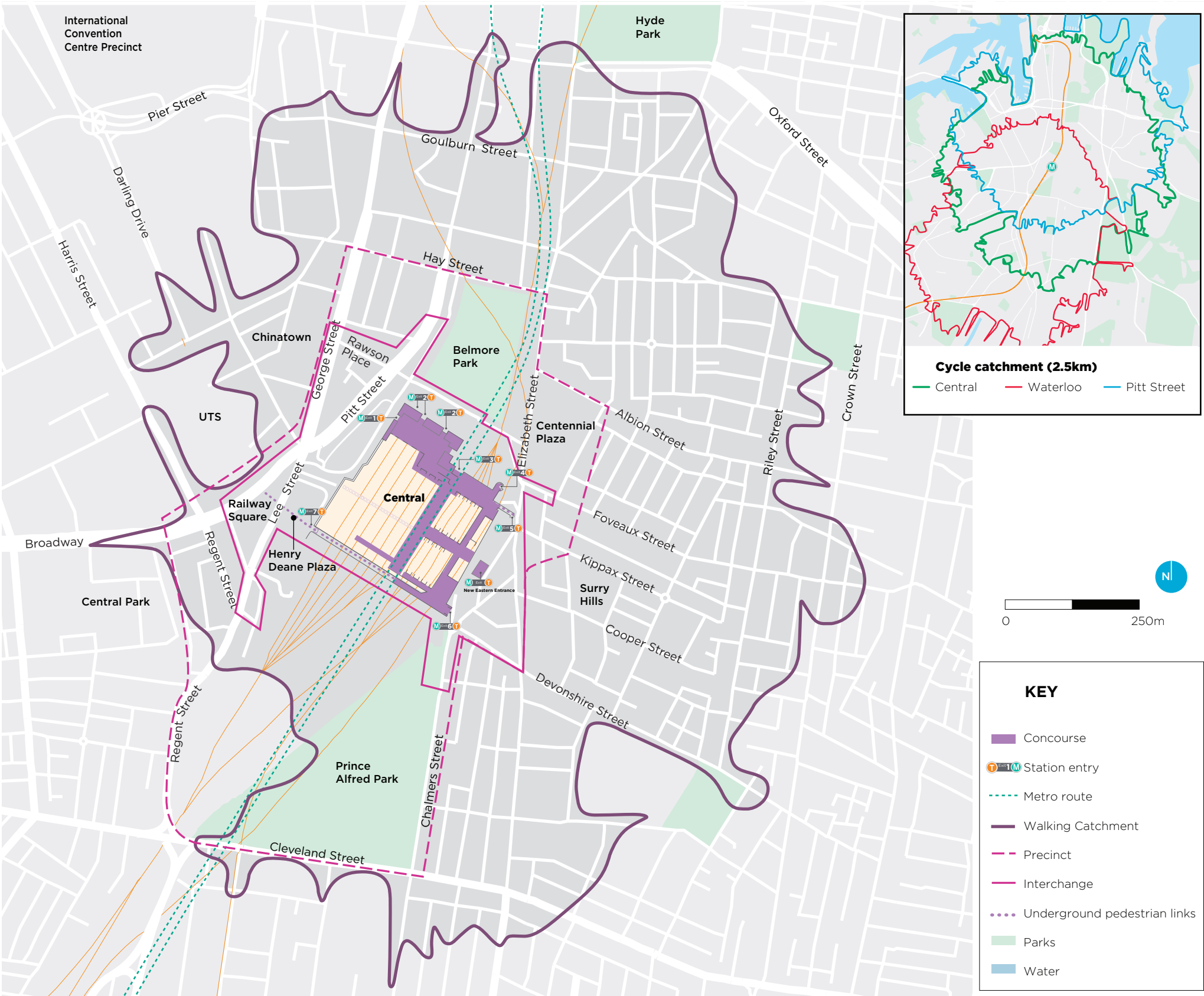
Central Station is located at the southern end of the Sydney CBD, and is the busiest station in NSW. It is the primary destination for intercity and inter-state rail and some city bound bus services.

The metro platforms at Central Station will be located below the existing platforms 13, 14 and 15. The location will facilitate transfers, connecting with suburban, intercity, and regional rail services, together road based buses, coaches and light rail services. This will be supported by upgrades to the northern concourse with transformed thoroughfares.

Sydney Metro will provide Central Walk, a 19-metre wide underground pedestrian concourse from the new entrance on the eastern side of Chalmers street. Central Walk will connect with the Eastern Suburbs and Illawarra Line concourse, the metro platforms, and the suburban platforms 16 to 23.

The new Chalmers Street entrance will provide access for customers from the Surry Hills catchment area into Central Station. The entry will provide direct transfer for light rail customers from the new light rail stop located on Chalmers Street.

The potential western extension of Central Walk would improve connections between metro platforms and intercity platforms, to the western side of Central Station including Railway Square.



Central Station – local context

Central Station – local context *continued*

Transport for NSW (TfNSW) is investigating ways to improve the connections and relationship between Central Station (including Sydney Metro) and its surrounding land uses. This will include considering improved pedestrian connections to the west.

The metro services at Central will also service the residential catchment within the southern Sydney CBD, including emerging residential developments between Park Street and Belmore Park, and the Chinatown and Darling Harbour precincts.

6.2 Station strategy

The station strategy for Central Station is to:

- Provide an efficient and a high-quality interchange for customers to connect to other public transport services
- Provide easy, safe and intuitive transfer to and from the metro station within the existing network and road environment.

- Integrate with the Sydney City Centre Access Strategy and other Sydney CBD planning.
- Respect the heritage significance of the Central Station precinct
- Anticipate possible development of the Western Forecourt and over station development.
- Support connectivity with major land uses and development in the locality.

6.3 Current land use and characteristics

Existing land use and characteristics

The site is the busiest transport interchange in NSW, providing transfer to all modes except ferries.

All current entries will continue to be used, along with a new Eastern Entry east of Chalmers Street adjacent to the Dental Hospital.

To the west of the station is a mixed commercial, educational and residential precinct, with major attractors such as Chinatown, Haymarket and the southern Sydney CBD – the most diverse and active precinct within the Sydney CBD, with cinemas, restaurants, shops, bars, clubs, tourist accommodation, and high-density residential and office spaces. Also to the west are Darling Harbour, including the new Sydney International Convention, Exhibition and Entertainment Precinct, and the University of Technology Sydney, the University of Notre Dame and Paddy’s Markets.

To the north of the station are Belmore Park and the southern part of the midtown CBD, with its mixed commercial, residential, retail, cultural and tourist land uses.

To the east of the station is a mixed commercial and residential district, with a high proportion of restaurants and entertainment venues. South-east of Central is Prince Alfred Park, including recreational facilities. The Inner Sydney High School is currently being constructed at the corner of Cleveland and Chalmers Street opening for students in 2020. This school enhances education uses in the area and is expected to accommodate 1,200 students when fully enrolled.

Existing station precinct strategic planning context

The *SICEEP (Sydney International Convention, Exhibition and Entertainment Precinct) Urban Design and Public Realm Guidelines* describes the design objectives for this significant precinct at the edge of Central Station’s walking catchment. These planned progressive improvements enhance pedestrian connectivity between the two precincts.

The *Chinatown and City South Public Domain Plan* (City of Sydney, 2015) is part of the *City Centre Public*

| Feature                                | Description  |   |  |
|--|--|---|--|
| Location                               | <ul style="list-style-type: none"><li>• Within the existing Central Station, below platforms 13, 14 and 15.</li></ul>  |   |  |
| LGA                                    | <ul style="list-style-type: none"><li>• City of Sydney.</li></ul>  |   |  |
| Station entry                          | <b>West entrances</b> <ul style="list-style-type: none"><li>• Existing western station entry from Railway Square and Broadway, connecting to the Devonshire Street Tunnel.</li><li>• Existing western station entry from the Western Forecourt, connecting to the Grand Concourse and Northern Concourse.</li><li>• Safeguard potential extension of Central Walk and on-street connections.</li></ul>   | <b>North entrances</b> <ul style="list-style-type: none"><li>• A new northern entry to the metro platforms from Eddy Avenue.</li><li>• Existing northern station entry from Eddy Avenue and Pitt Street, connecting to the Grand Concourse and Northern Concourse.</li><li>• Existing northern station entry from the Porte Cochere of the Grand Concourse, connecting to L1 Dulwich Hill light rail.</li></ul> | <b>East entrances</b> <ul style="list-style-type: none"><li>• A new eastern entry via a pedestrian plaza connecting to Central Walk and opening to the eastern side of Chalmers Street.</li><li>• Existing eastern station entries from Devonshire Street, connecting to the Devonshire Street Tunnel, and the corner of Chalmers and Elizabeth Streets connecting to the T4 Eastern Suburbs and Illawarra Line Concourse.</li><li>• Existing eastern station entry from Elizabeth Street, connecting to the Northern Concourse.</li></ul> |
| Transport interchange                  | <ul style="list-style-type: none"><li>• Walking, cycling, inter-state rail, intercity rail, suburban rail, light rail, bus, coach, taxi and kiss-and-ride (includes point to point service types).</li></ul>   |   |  |
| Main features and traffic arrangements | <ul style="list-style-type: none"><li>• Transfer to train services via Central Walk, and existing underground paid and unpaid pedestrian connections.</li><li>• New on road light rail route along Chalmers Street and Eddy Avenue.</li><li>• Existing kiss-and-ride, taxi ranks, bike parking and bus stops retained.</li><li>• A cycleway along Chalmers Street and Eddy Avenue will be delivered as part of the CBD and South East Light Rail project.</li><li>• Enhancement of pedestrian and cycling infrastructure around the station will be enabled by the project and further investigated by TfNSW.</li><li>• Wayfinding signage and Sydney Metro information will be provided.</li><li>• Consultation with Sydney Trains regarding improvements to pedestrian infrastructure at the Western Forecourt, Eddy Avenue and Pitt Street colonnades, Devonshire Street Tunnel, Hay Street ramp and Lower Carriage Lane.</li></ul> |   |  |
| Customers                              | <ul style="list-style-type: none"><li>• Southern CBD employment, education, entertainment and residential precincts.</li><li>• Interchange to and from metro services and other modes of transport.</li><li>• Sydney gateway for travellers to and from interstate and NSW regions.</li></ul>  |   |  |
| Key attractions                        | <ul style="list-style-type: none"><li>• Belmore Park</li><li>• Broadway Shopping Centre</li><li>• Central Park</li><li>• Chinatown</li><li>• Darling Harbour</li><li>• Sydney Institute of TAFE</li></ul>  | <ul style="list-style-type: none"><li>• University of Technology, Sydney</li><li>• International Convention Centre Sydney (ICC Sydney)</li><li>• Moore Park precinct special events</li><li>• Notre Dame University</li><li>• Oxford Street</li></ul>   | <ul style="list-style-type: none"><li>• Paddy’s Market</li><li>• Prince Alfred Park</li><li>• Railway Square</li><li>• Surry Hills</li><li>• Sydney Exhibition Centre</li></ul>  |

Domain Plan, which outlines ideas for improving city streets and open spaces. It also proposes a range of strategies to improve the experience of the Central Station area, including ensuring that buildings contribute to an active place, and urban elements provide a high-quality background to the human experience of the place.

The Sustainable Sydney 2030 strategic plan (City of Sydney, 2008) also nominates the following key priorities that are supported by the project:

- Further integration of the public transport network at Central Station, Global Sydney's most important public transport interchange. A connected public transport network improves business competitiveness and supports land use development priorities that strengthen local area economies.
- A focus on central Sydney as the economic heart of Global Sydney and providing direct connection and accessibility to other economic centres in Sydney's Eastern Economic Corridor.
- Support and plan for enhanced access by public transport from greater Sydney to central Sydney while reducing road congestion.

### 6.4 Modes without provision

There is no design provision considered for the following modes at Central Station:

- Ferry
- Park and ride

### 6.5 Future changes and functional needs

#### Land use and transport integration

Metro services at Central will support state and local strategic and planning controls by encouraging economic growth in the Central to Eveleigh corridor and facilitating connections to the Eastern Economic Corridor, and enabling a range of services and infrastructure that meets the needs of residents, workers and visitors.

It is expected that metro services at Central will have the following specific benefits:

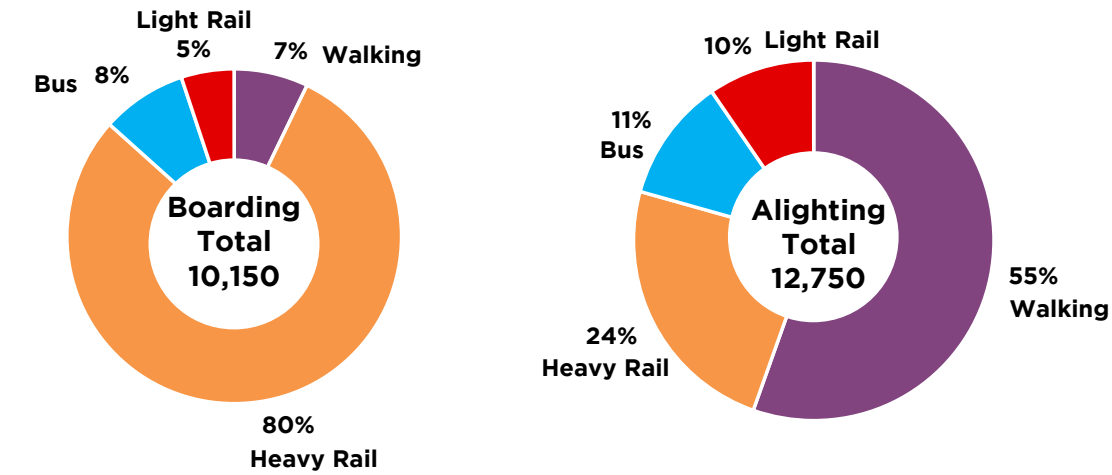
- Metro services will improve access to the southern Sydney CBD, the fastest growing mixed employment,

- residential, educational and retail area in Global Sydney, with proximity to Chinatown, Darling Harbour, the southern Sydney CBD and the educational institutions of the Sydney Institute of TAFE and the University of Technology Sydney.
- Metro services will further reinforce the Sydney CBD and the Sydney education and health precinct as the anchor of Global Sydney and Australia's largest employment centre.
- Metro services will reinforce the role of Central as the major hub of Sydney's transport network and provide improved network connectivity with access to suburban rail lines, light rail, intercity trains, intercity coaches and bus services to the inner west, south-west and south-east.
- Metro services will provide an opportunity for the renewal and development of a number of sites adjacent to the station, comprising mixed retail, commercial and recreation uses on the eastern side of Elizabeth Street. Metro is also likely to reinforce the southern Sydney CBD, Chinatown, Haymarket, Darling Harbour, Ultimo and the Sydney education and health precincts as new growth areas of the Sydney CBD.
- Metro services at Central Station will provide broader network benefits and connectivity through supporting transfer between metro and train services with approximately 9,600 customers transferring between Sydney Metro and other train services at Central Station in the AM peak hour.

- Metro service will exit the station and walk to a destination in the AM peak.
- Connectivity between Metro platforms and Sydney Trains, NSW Trains, Sydney Light Rail and bus services is equally important for customers alighting Metro services in the AM peak.
  - A majority of customers boarding Metro service will transfer onto the service from Sydney Trains or NSW Trains platforms.
  - Walking to the station, and transfers from bus or Sydney Light Rail services combined represents a small proportion of the total demand generated by customers boarding Metro services.
  - These observed trends are likely to be reversed in the PM peak and align with Central Station's role as a major transport hub.

The Metro concourse, Central Walk, new eastern entrance and Northern Concourse enhancement's play a vital role in supporting these and other internal and external station movements along with helping to tackle current station operational deficiencies.

2036 AM Peak Hour Metro Demand and Mode Split



2036 1-hour AM peak Sydney Metro demand and mode splits at Central Station (PTPM4.1 City and Southwest Final Business Case 2026 and 2036 Project LUTI Scenarios (Run 143 and Run 144))

#### Future Metro demand and modal transfer splits

The demand and mode split data presented in the two pie charts present a broad level understanding of the functional role of the Metro service at Central Station. The 2036 AM peak hour demand profile and customer connectivity profiles present the following characteristics:

- Boardings and alightings of the Metro services will be similar during peaks;
- A high proportion of customers alighting the



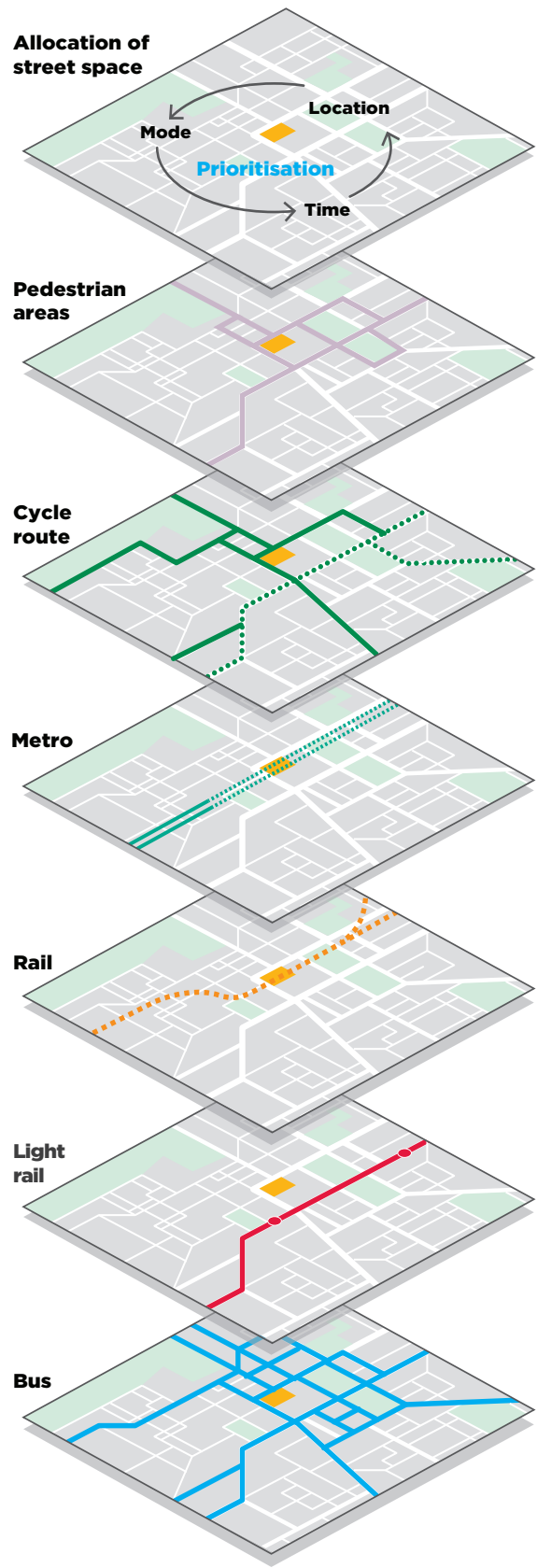
6.6 Opportunities and constraints

Central Station’s transport opportunities and constraints are outlined in the table below.

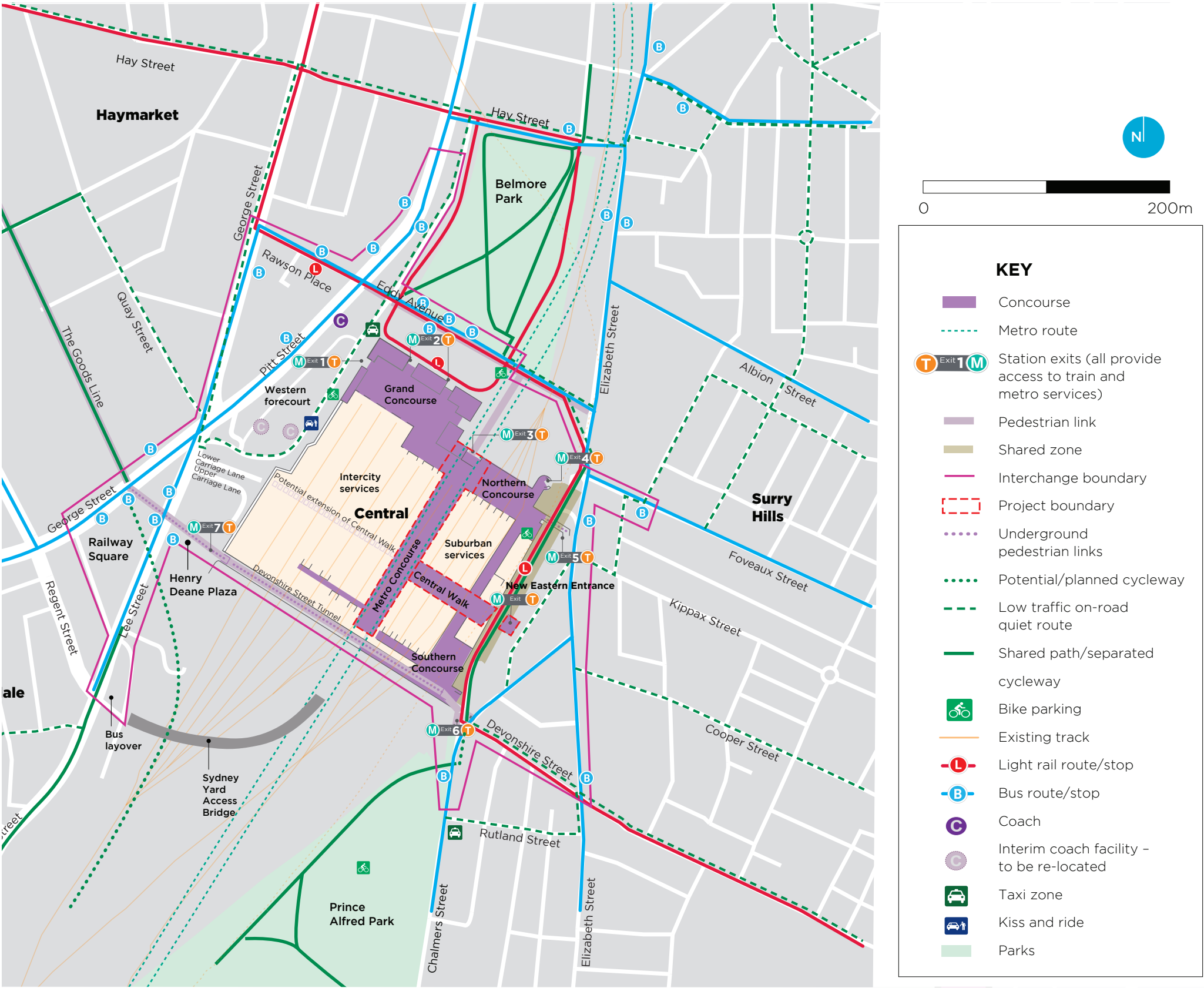
| Opportunities  | Constraints   |
|--|---|
| OP 1 Increases the spatial allocation for pedestrians through committed changes to Chalmers Street delivered as part of the CBD and South East Light Rail project and the new Sydney Metro eastern entrance.   | CON 1 Protect and be sensitive to heritage features and fabric.   |
| OP 2 To support active and public transport trip growth  | CON 2 The existing rail corridor to the north and south and existing station configuration is a barrier for east-west pedestrian movement.              |
| OP 3 Integrates with the Sydney City Centre Access Strategy (connections) and wider CBD planning.  | CON 3 Footpaths are constrained by built form and high traffic volumes which create barriers for access and movement.                                   |
| OP 4 Manage congestion and physical constraints through optimisation of bus services, the CBD and South East Light Rail services, and proposed connectivity enhancements to Redfern Station and Waterloo Station.                                    | CON 4 The designation of kerbside interchange points, spatial provision and overcrowding of footpaths , bus stops and physical inability to facilitate. |
| OP 5 Providing an alternative and flexible access design to the eastern side of Central Station to help manage crowding and facilitate station patronage growth and improve the overall customer experience to and within Central Station.           | CON 5 A lack of cycle parking provision at Central Station.   |
| OP 6 Provide new east-west cross corridor connections through the long term planning of the precinct, to improve precinct connectivity and support future planned growth.  | CON 6 A lack of spatial opportunities to separate pedestrian connections and key cycle routes.  |
| OP 7 Improved interchange facility provision and legibility for transfer between modes   | CON 7 Need to facilitate vehicle access to the Dental Hospital which impacts how Chalmers Street operates.  |
| OP 8 Improved wayfinding across Central Station precinct through the implementation of planned project commitments   | CON 8 Potential conflict at the eastern side of Chalmers Street, pedestrian movements, light rail and cyclists.   |
| OP 9 Staged provision of bike access and facility improvements through the master-planning of the precinct and planned project commitments   |   |
| OP 10 Adaption of movement and place framework principles through the gradual reallocation of under-utilised road space in areas with high valued public domain and safeguarding for grade separated connections through the renewal of the precinct |   |
| OP 11 Improved station access for people with mobility needs.  |   |
| OP 12 Sydney Yard Access Bridge – Easier access for servicing and maintenance of Sydney Rail Yards with improved safety and operational outcomes from the removal of rail and road conflict.   |   |



7.0 Central Station – interchange and transfer requirements overview



Mode layers



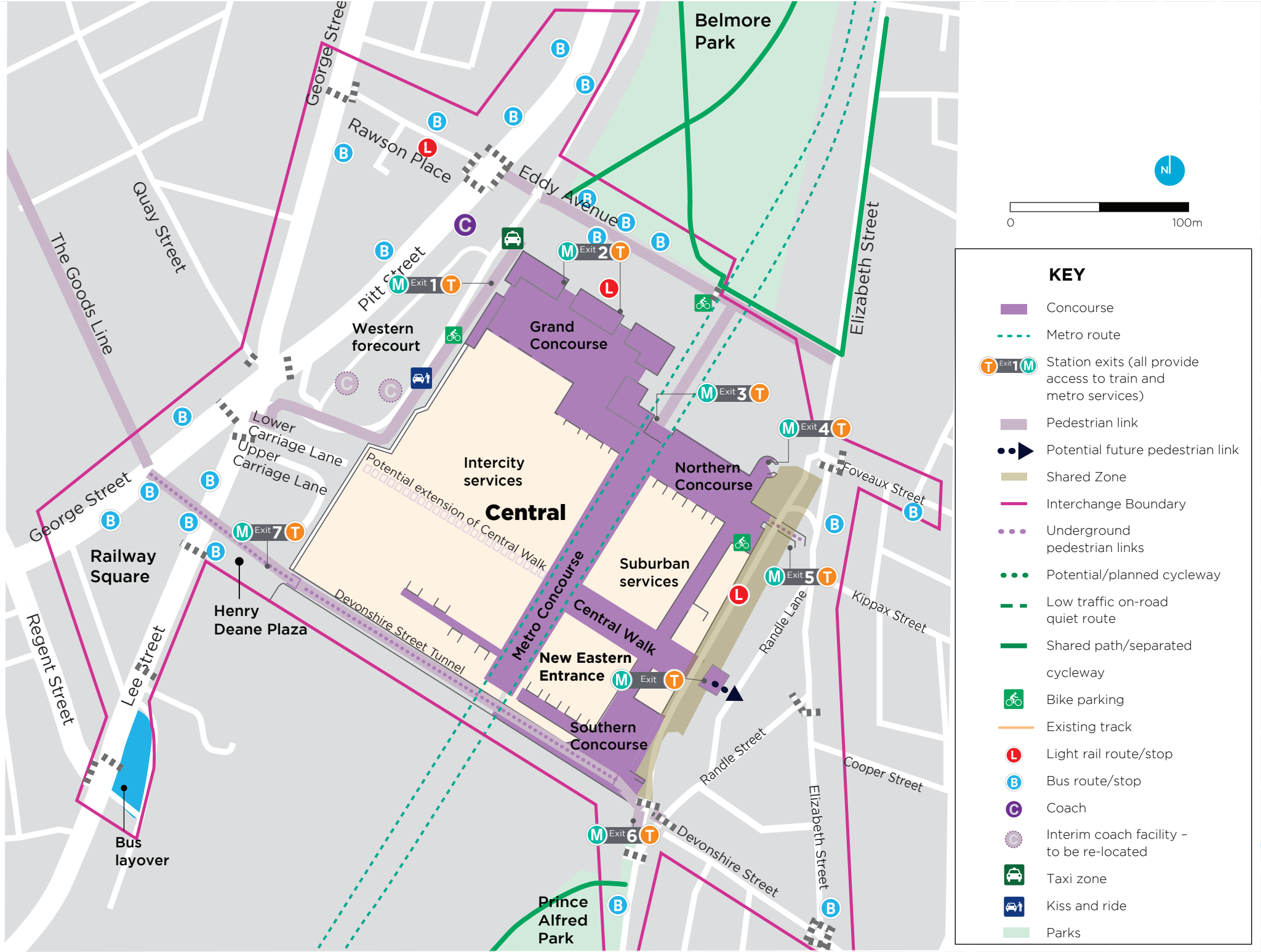
Central Station – interchange and transfer requirements overview (incomplete)



7.1 Central Station – walking interchange and transfer requirements



Mode layer



Central Station – pedestrian interchange and transfer requirements

## Central Station – walking interchange and transfer requirements *continued*

| Item  | West entrances   | North entrances   | East entrances  |
|---|--|---|---|
| <b>Current state</b>                        |  |   |   |
| <b>Current levels of access and service</b> | <p>The interchange is characterised by a large number of pedestrian movements to and from the east and the west, and north towards Eddy Avenue and Belmore Park. Pedestrian movements are largely generated from activity from pedestrians transferring between modes and the surrounding commercial, education, residential and entertainment precincts, parklands and other attractions.</p> <p>The CBD and South East Light Rail will be operational in late 2019. Two light rail stops at Central (Chalmers Street and Rawson Place) will provide for transfer to Central Station metro and other train services. An additional light rail platform at the Chalmers Street light rail stop will be served by special event and peak period operational needs. This facility will aid and manage event operations including events at Moore Park, UNSW students, and Randwick Racecourse.</p>   |   |   |
|   | <p>Existing transfer points on the perimeter of the station are:</p> <ul style="list-style-type: none"> <li>• CBD inbound bus services on western sides of Pitt Street and Railway Square – CBD and through-routed buses.</li> <li>• CBD outbound bus services on eastern sides of Pitt Street and Railway Square – inner west and south-west buses.</li> <li>• Rawson Place light rail stop will provide access for southbound customers to metro and other rail services via the Eddy Avenue entrance to the Grand and Northern Concourses.</li> <li>• Western Forecourt – catering to coach, taxi and kiss and ride; and rail replacement buses during periods of service disruption.</li> <li>• Coach services on the eastern side of Pitt Street – regional, intercity and interstate services.</li> </ul> <p>Pedestrian access to Central Station is impacted by heavy traffic volumes and limited footpath spatial provision during peaks, including intersections at George, Pitt and Lee Streets (Railway Square).</p> <p>The current access arrangements provide both at grade and grade separate route options, between Broadway and Railway Square, and the Devonshire Street Tunnel exit.</p> | <p>Existing transfer points on the perimeter of the station are:</p> <ul style="list-style-type: none"> <li>• CBD inbound bus services on southern side of Eddy Avenue.</li> <li>• CBD outbound bus services to the Eastern Suburbs on northern side of Eddy Avenue and Rawson Place.</li> <li>• L1 Dulwich Hill light rail services at the Porte Cochere of the Grand Concourse.</li> <li>• Coach services on southern side of Eddy Avenue – regional, intercity and interstate services.</li> </ul> <p>Pedestrian access to Central Station is impacted by heavy traffic volumes and limited footpath spatial provisions during peaks, including intersections at:</p> <ul style="list-style-type: none"> <li>• Elizabeth Street and Eddy Avenue.</li> <li>• Pitt Street and Eddy Avenue.</li> <li>• Pedestrian crossing of Eddy Avenue near the northern station exits.</li> </ul> | <p>Existing transfer points on the perimeter of the station are:</p> <ul style="list-style-type: none"> <li>• CBD inbound services on western sides of Chalmers and Elizabeth Streets (near Foveaux Street).</li> <li>• CBD outbound buses (eastern and southern suburb buses) on eastern side of Elizabeth Street.</li> <li>• Central light Chalmers Street rail stop will provide direct access to platforms via the new metro entry at the eastern side Chalmers Street and Central Walk. The surface public domain will be pedestrianised, with a north-south cycle path between light rail platforms and the metro entry.</li> </ul> <p>The construction and recent operation of the CBD and South East light rail has re-routed bus services and stops to accommodate its alignment on Chalmers Street and Eddy Avenue. Pedestrian access to Central Station is impacted by heavy traffic volumes and limited footpath space, including intersections at:</p> <ul style="list-style-type: none"> <li>• Chalmers and Devonshire Streets.</li> <li>• Chalmers, Elizabeth and Foveaux Streets.</li> </ul> <p>The operation of Metro and light rail services together with the More Trains and More Services program and the relocation of stops and services around Central will provide opportunities and more choices for customers to travel to different destinations across the public transport network.</p> |
| <b>Integration</b>                          |  |   |   |
| <b>Station access</b>                       | <p>The west of the station is served by two access points, which require safe, convenient and direct pedestrian routes:</p> <ul style="list-style-type: none"> <li>• Via Henry Deane Plaza to the Devonshire Street Tunnel (Exit 7).</li> <li>• Via the Western Forecourt or Hay Street ramp to the Grand Concourse (Exit 1).</li> </ul>   | <p>The north of the station is served by two access points, which require safe, convenient and direct pedestrian routes:</p> <ul style="list-style-type: none"> <li>• Via Pitt Street and Eddy Avenue to Pitt Street (Exit 2).</li> <li>• Via Eddy Avenue to Eddy Avenue Plaza (Exit 5)</li> </ul>  | <p>The east of the station is served by three access points, which require safe, convenient and direct pedestrian routes:</p> <ul style="list-style-type: none"> <li>• Via Elizabeth Street to the Northern Concourse (Exit 4).</li> <li>• Via Elizabeth and Chalmers Streets, and an underground pedestrian connection to the Eastern Suburbs rail concourse (Exit 5)</li> <li>• Via Chalmers Street to the Southern Concourse, via the Devonshire Street Tunnel (Exit 6).</li> </ul> <p>A third entry point will be introduced on the eastern side of Chalmers Street with the construction of the metro platforms, providing access to metro services and the T4 Eastern Suburbs and Illawarra Line, and transfer to platforms 16 to 23.</p>   |

# Central Station – walking interchange and transfer requirements *continued*

| Item  | West entrances  | North entrances  | East entrances  |
|---|---|--|---|
| <b>Pedestrian environment and design considerations</b> | Pedestrian environment improvements must include provision of adequate space for safe and comfortable movement of pedestrians. Additional measures should include more legible and consistent wayfinding, and improved safety through activation, quality paving, better lighting and CCTV.   |  |   |
|   | <p>Pedestrian movements in the western part of the Central Station catchment are generated by Railway Square, bus stops and light rails stops at Rawson Place and from activity in the mixed commercial, educational, tourism and residential areas to the west.</p> <p>The pedestrian environment potentially impacted by peak customer movements generated by the station includes:</p> <ul style="list-style-type: none"> <li>• The Western Forecourt and Grand Concourse entry (Exit 1)</li> <li>• The western end of the Devonshire Street Tunnel (Exit 7), connecting to Henry Deane Plaza, Lee Street, Railway Square and the George Street underpass to west of Broadway.</li> <li>• North-south movement on footpaths along the eastern side of Pitt Street and Broadway.</li> <li>• Access points and key interchange points to the west of Central Station (coach zones, bus stops and vehicle drop off).</li> </ul> | <p>Pedestrian movements in the northern part of the Central Station catchment are generated by activity in the mixed commercial, residential, retail, cultural and tourism areas to the north.</p> <p>The pedestrian environment potentially impacted by changes to the station and interchange arrangements together with peak customer movements generated by the proposed station includes:</p> <ul style="list-style-type: none"> <li>• The north-western entry to Pitt Street and Eddy Avenue.</li> <li>• The northern entry to Eddy Avenue via the Eddy Avenue Plaza (Exit 3).</li> <li>• East-west footpaths running along Eddy Avenue and north through Belmore Park.</li> </ul> | <p>Pedestrian movements in the eastern part of the Central station catchment are generated by activity in the mixed commercial, residential, dining and entertainment areas to the east.</p> <p>The pedestrian environment potentially impacted by proposed changes to the station and interchange arrangements together with peak customer movement includes:</p> <ul style="list-style-type: none"> <li>• The eastern end of the Devonshire Street Tunnel, connecting to Chalmers Street (Exit 6).</li> <li>• Light rail operations and the entry at the northern end of Chalmers Street (exit 5)</li> <li>• The stair eastern entry at the corner of Elizabeth and Chalmers Streets (Exit 4).</li> <li>• Changes in movement patterns from the opening of a new Eastern Entrance to the new Central Walk, which connects to Chalmers Street.</li> <li>• North-south footpaths running along Chalmers and Elizabeth Streets.</li> <li>• Foveaux Street footpaths and the intersection at Elizabeth Street</li> <li>• Interchange facilities to the east of Central Station (light rail and bus stops).</li> </ul> <p>Changes in movement patterns from the potential future connection between the new Eastern Entrance on Chalmers Street and Randle Street are safeguarded in the metro design (Refer to section 8.2 for further details)..</p> |
| <b>Spatial considerations</b>                           | <p>The design should consider and integrate with Sydney City Centre Access Strategy actions including pedestrian areas and priority pedestrian improvements, CBD bus planning and kerbside zones.</p> <p>The design should also ensure that transfer between modes within the defined station interchange allows for accessible provision that is DDA compliant and that there is adequate allowance for pedestrian movement and areas to serve as places.</p>  |  |   |
|   | <ul style="list-style-type: none"> <li>• The continued accommodation of large volumes of east-west and north-south pedestrian movement along and between Broadway and Pitt Street.</li> <li>• Allowing customer access through a plaza that has both an access function for the station through pedestrian traffic for surrounding areas together with a place function, supporting combined retail and commercial uses.</li> </ul>   | <ul style="list-style-type: none"> <li>• The changes in movement patterns allowing customer access through a plaza that has both an access function for the station and a place function, supporting combined retail and commercial uses.</li> <li>• Provide convenient and direct access to surrounding transport interchange facilities, retail and commercial precincts, parklands, entertainment and civic areas.</li> </ul>   | <ul style="list-style-type: none"> <li>• The accommodation of the large volumes of north-south pedestrian movement along Chalmers and Elizabeth Streets and east west movement to Foveaux Street across Chalmers and Elizabeth Street intersection.</li> <li>• Allowing customer access through a plaza that has an access and movement function serving metro, light rail long with three eastern entry points.</li> </ul>   |



## Central Station – walking interchange and transfer requirements *continued*

| Item  | West entrances  | North entrances  | East entrances  |
|---|---|--|---|
| <b>Spatial considerations</b><br><i>continued</i>           | <ul style="list-style-type: none"> <li>Provide convenient and direct access to surrounding transport interchange facilities, retail and commercial precincts, parklands, entertainment and civic areas.</li> <li>Ensure that pedestrian access is not impacted by spatial and operational constraints at the Western Forecourt, Grand Concourse, Railway Square bus stops and the intersection of Broadway, George and Pitt Streets.</li> </ul>   | <ul style="list-style-type: none"> <li>Ensure that pedestrian access is not impacted by spatial and operational constraints at station access points and Eddy Avenue bus stops.</li> </ul> | <ul style="list-style-type: none"> <li>Provide convenient and direct access to surrounding transport interchange facilities, retail and commercial precincts, parklands, entertainment and civic areas.</li> <li>Ensure that pedestrian access is not impacted by spatial and operational constraints at the new eastern entry, Elizabeth and Chalmers Streets bus stops and Chalmers Street light rail stops.</li> </ul>                           |
| <b>Grade separated pedestrian connection considerations</b> | <p>Safeguard for possible future development of the western side of Central Station to enable further improvements to easy transfer for pedestrians. These options include:</p> <ul style="list-style-type: none"> <li>Redevelopment of the Western Forecourt, Lee Street precinct and Henry Deane Plaza.</li> <li>Refurbishment of Devonshire Street Tunnel refurbishment.</li> <li>Potential extension of Central Walk to the west including a Western Entrance</li> </ul>  |  | <p>Safeguard for possible future development of the eastern side of Central Station that will support further improvements to easy transfer for pedestrians. These options include connections to:</p> <ul style="list-style-type: none"> <li>Refurbishment of Devonshire Street Tunnel.</li> <li>A redeveloped Centennial Plaza.</li> <li>Safeguarding access to Randle Street and Elizabeth Street from new eastern entry connections.</li> </ul> |
| <b>Safe transfer</b>  | <p>Ensure pedestrian safety and protect from other road users by:</p> <ul style="list-style-type: none"> <li>Safe integration with existing networks.</li> <li>Adequate spatial provision on footpaths and at pedestrian crossings</li> <li>Controlled (signalised) cross points and provision of direct paths of travel along pedestrian desire lines with the maximum degree of separation between pedestrians and vehicles.</li> <li>Provision of new walking links as part of the Central Precinct Renewal Project, including the Goods Line South active transport corridor.</li> </ul>  |  |   |
| <b>Transfer to and from bike parking</b>                    | <ul style="list-style-type: none"> <li>Bike parking facilities located within or adjacent to Central Station, at locations to be determined.</li> <li>Uncovered bike racks will also be provided, outside of the station entries on the footpath in Chalmers Street and other points still to be determined, and to ensure pedestrian flows are not impeded.</li> </ul>   |  |   |
| <b>Transfer to and from other rail</b>                      | <p>Transfer between the new metro and other rail services at Central Station will occur via Central Walk, which will provide an underground connection to metro services and the T4 Eastern Suburbs and Illawarra Line, and transfer to platforms 16 to 23; and connectivity improvements to the Grand Concourse and Northern Concourse.</p> <p>The following existing connections at Central Station will remain – the Northern Concourse, Intermediate Suburban tunnel, Southern Suburban tunnels and Southern Intercity Tunnel. The north-west part of the Olympic Tunnel will be closed at its intersection with the metro station vertical transport, with the remainder staying open.</p> |  |   |
| <b>Transfer to and from light rail</b>                      | No specific design provision is required for the west entrance.   | Easy transfer to and from the L1 Dulwich Hill light rail will be provided at the Porte Cochere of the Grand Concourse.   | Easy transfer to and from the L2 CBD and South East light rail will be provided at Chalmers Street.   |
| <b>Transfer to and from bus</b>                             | Easy access to and from bus stops at Railway Square will be provided via the west entrances.  | Easy access to and from bus stops at Eddy Avenue will be provided via the north entrances.   | Easy access to and from bus stops at Chalmers Street and Elizabeth Street will be provided via the east entrances.  |
| <b>Transfer to and from ferry</b>                           | <ul style="list-style-type: none"> <li>No design provision is considered for this location.</li> </ul>  |  |   |
| <b>Transfer to and from taxi</b>                            | Easy access to existing taxi ranks and set down areas will be provided via the west entrances from the Western Forecourt to the Grand Concourse, via the western entrance.  | No design provision is made for taxi ranks and set-down areas at the north entrances.  | Easy access to and from existing taxi ranks and set down areas will be provided via the east entrances at Chalmers Street.  |
| <b>Transfer to and from kiss-and-ride</b>                   | Easy access to and from existing kiss-and-ride zones will be provided via the west entrances at the Western Forecourt entrance to the Grand Concourse.  | No design provision is made for set-down areas at the north entry.   | No design provision is made for set-down areas at the east entry.   |



Enhancement to the Northern Concourse combined with the new 'Eastern Entry' Central Walk and Metro Concourse improves station access to the north and east along with addressing internal connectivity, accessibility, legibility, amenity and capacity functionality goals.



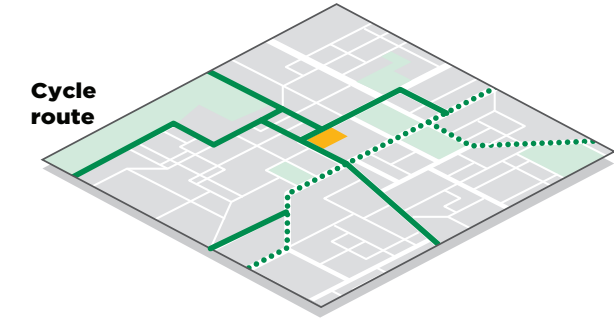


The new eastern station entrance promoting accessible paths of travel through to Central Walk and the new Metro Concourse, connecting platforms, and the recently installed Sydney Light Rail platforms in Chalmers Street. This new building structure provides a new pedestrian through link opportunity to Randle Lane. The project works also includes bicycle user facility enhancements to the recently upgraded Chalmers Street streetscape with the inclusion of additional bicycle parking spaces in the public domain. These new facilities are open to all customers and situated close to station entries and key cycle routes.

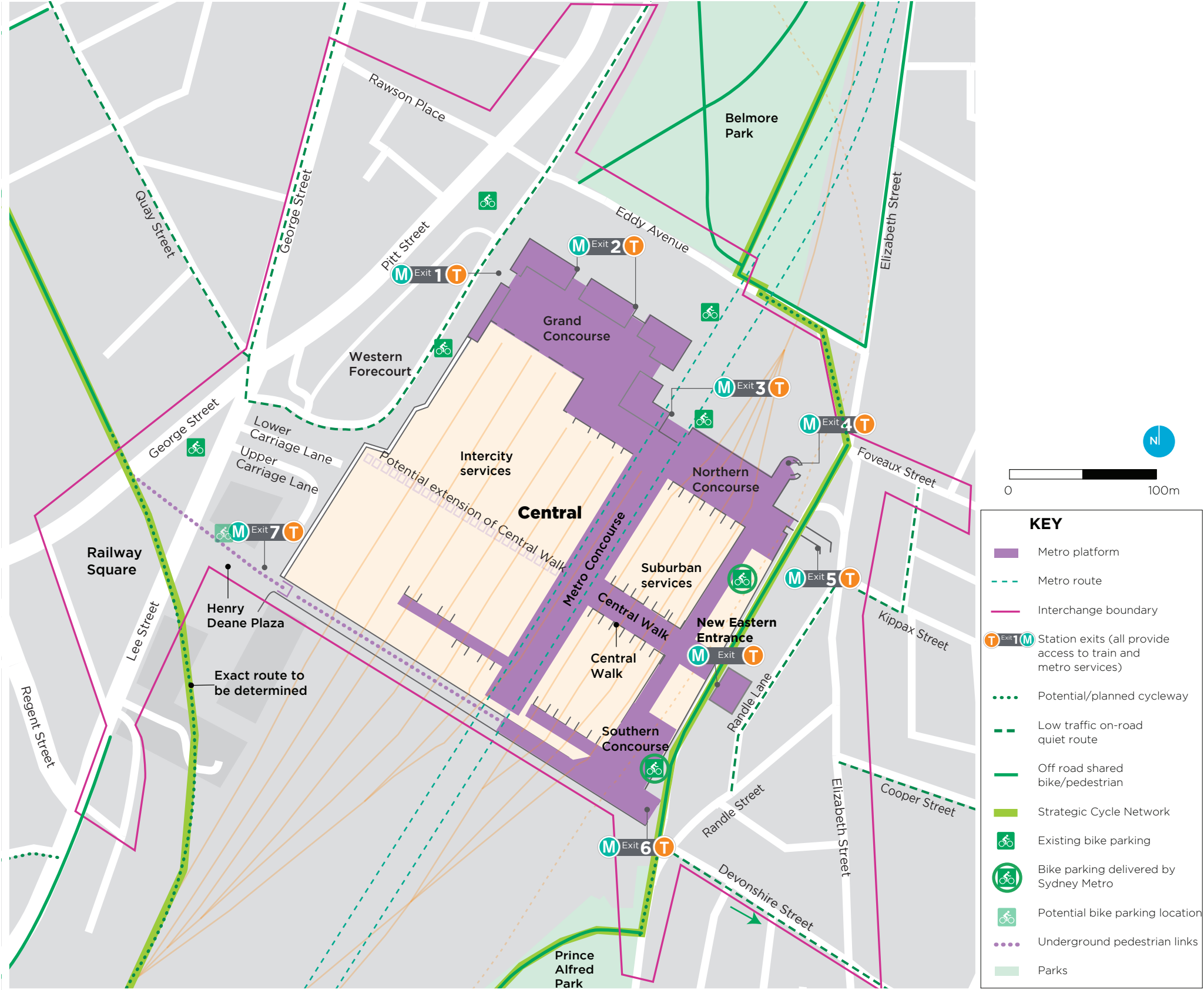




7.2 Central Station – cycling interchange and transfer requirements



Mode layer

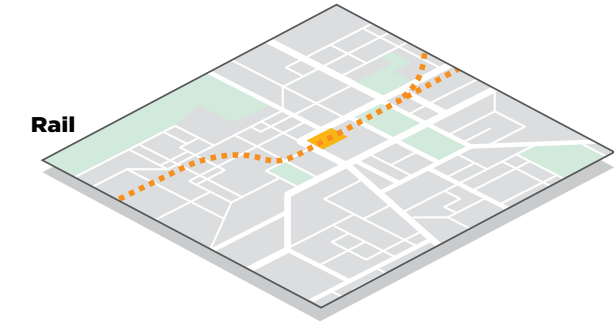


Central Station – cycling interchange and transfer requirements

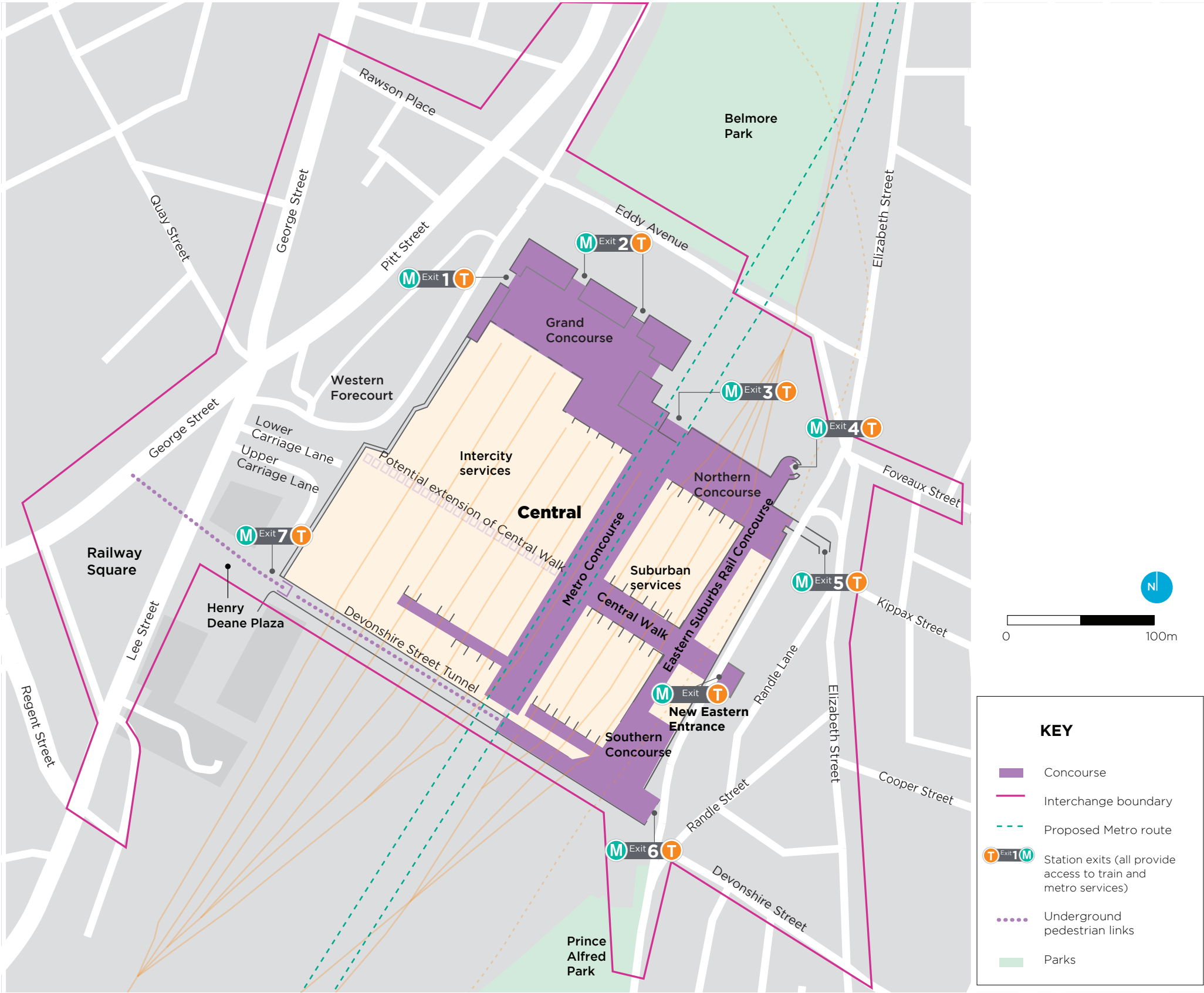
Central Station – cycling interchange and transfer requirements *continued*

| Item                                     | West entrances   | North entrances   | East entrances   |
|--|--|---|--|
| Current state                            |  |   |  |
| Current levels of access and service     | The Central Station precinct currently has a shared off-road cycle path through Prince Alfred Park to the south and Belmore Park to the north. There is a separated bi-directional cycle path on Castlereagh Street to the north, connecting to Elizabeth and Liverpool Streets and a similar new facility along Chalmers Street to the east. Bicycle parking is available at the Goulburn Street car park operated by the City of Sydney. There is a shared bike and pedestrian path on the eastern side of Regent and Cleveland Streets to Railway Square, providing access to Central Station, including Henry Deane Plaza for cyclists travelling from the west. |   |  |
| Integration                              |  |   |  |
| Bike parking location requirements       | <ul style="list-style-type: none"><li>A bicycle rider should be able to ride within 30 metres of the bike parking entrance.</li><li>Bike parking should be within 50 metres of the gateline, where feasible.</li></ul>   | <ul style="list-style-type: none"><li>Bike parking must be Opal accessible if enclosed</li><li>Bike facilities must be in accordance with Australian Standards and Austroads Guidelines</li></ul>   |  |
| Bike parking location principles         | <ul style="list-style-type: none"><li>Entry/access to bike parking must be at street level, convenient, easily visible and intuitive for customers</li><li>The bike parking facility should be at street level, where feasible and should not impede pedestrian customer flows to/from the station entry</li></ul>   | <ul style="list-style-type: none"><li>Bike parking and vehicle parking locations and access arrangements should be separated (that is, there should be no access through a loading dock)</li><li>Bike parking must be located on the main desire line of the cycle network, where feasible.</li><li>Bike parking should be located under existing awnings, colonnades and other building features, where they do not impede customer movement and access, where feasible.</li></ul> |  |
| Types and quantity of parking facilities | Sydney Metro will provide on-street bike rails (Class C) near the eastern entrance, opportunities for enclosed (Class B) bike parking provision will be further explored as part of a future precinct-wide cycling strategy.   |   |  |
| Safe transfer                            | Ensure the safety of bicycle riders and protect them from other road users by: <ul style="list-style-type: none"><li>Safe integration with existing networks.</li><li>Provision pf controlled (signalised) crossings or separated direct paths of travel along known cycling routes within low speed environments</li><li>Provision of Pedestrian crossing points accross the Chalmers Street cycleway for pedestrians transferring between the CBD and South East light Rail platformsand the Eastern Entrance.</li></ul>   |   |  |
| Closest cycling routes                   | The station is well located on Sydney’s strategic cycleway. The closest cycle routes to the station are: <ul style="list-style-type: none"><li>Mary Ann Street – on-road regional cycle route.</li><li>Jones Street – shared path</li><li>Lee Streets – shared path</li><li>West of the station, an extension of the Goods Line active transport link is under consideration.</li></ul>  | The station is well located on Sydney’s strategic cycleway. The closest cycle routes to the station are: <ul style="list-style-type: none"><li>Belmore Park shared paths.</li><li>Campbell Street – separated one-directional cycleway.</li><li>Castlereagh Street – bi-directional cycleway.</li></ul>   | The station is well located on Sydney’s strategic cycleway. The closest cycle routes to the station are: <ul style="list-style-type: none"><li>Prince Alfred Park shared path.</li><li>Chalmers Street section of the north-south strategic cycleway – bi-directional cycleway.</li><li>Devonshire Street east of the station – on-road with mixed traffic. Combined pedestrianised sections and light rail environment.</li></ul> |
| New cycle routes by Sydney Metro         | No additional connections to existing and proposed cycle routes are required.  |   |  |
| New cycle routes by others               | <ul style="list-style-type: none"><li>Chalmers Street is the main and the only strategic bicycle access route to the CBD from the south.</li><li>New or amended cycle connections to be investigated part of a future precinct-wide cycle strategy.</li></ul>  |   |  |

7.3 Central Station – train interchange and transfer requirements



Mode layer



Central Station – train interchange and transfer requirements



Central Station – train interchange and transfer requirements *continued*

| Item                                 | West entrances   | North entrances | East entrances |
|--------------------------------------|--|-----------------|----------------|
| Current state                        |  |                 |                |
| Current levels of access and service | Central Station provides direct access to intercity and regional train services, and all suburban lines except for the T5 Cumberland, T6 Carlingford and the T7 Olympic Park Lines. The inclusion of new Central Walk, Northern Concourse enhancements, and the new Metro Concourse enhances accessibility, capacity, convenience and connectivity for rail to rail transfers.   |                 |                |
| Integration                          |  |                 |                |
| Type of interchange                  | Direct connection within the paid areas of the station.  |                 |                |
| Transfer to and from rail            | <p>Sub-surface connection within the paid areas of the station.</p> <p>The following transfer arrangements will be provided between the Train services and Metro platfroms 26-27:</p> <ul style="list-style-type: none"><li>Central Walk will connect the Metro concourse providing an accessible connection between the suburban platforms 16-23 and the Metro platforms</li><li>The Metro Concourse will connect with the Southern Tunnel providing access between the Metro platforms to the intercity platforms 4-11 via stairs.</li><li>The Metro Concourse will connect with the Northern Concourse, connecting with the Grand Concourse providing an accessible connection between the Metro platforms and inter-city platforms 1-14.</li></ul> |                 |                |



Improved customer experience for rail to rail transfers, with enhancements to connectivity, accessibility, legibility, convenience and capacity.



New Central Walk



Highly functional space providing easy access between rail and Metro platforms.



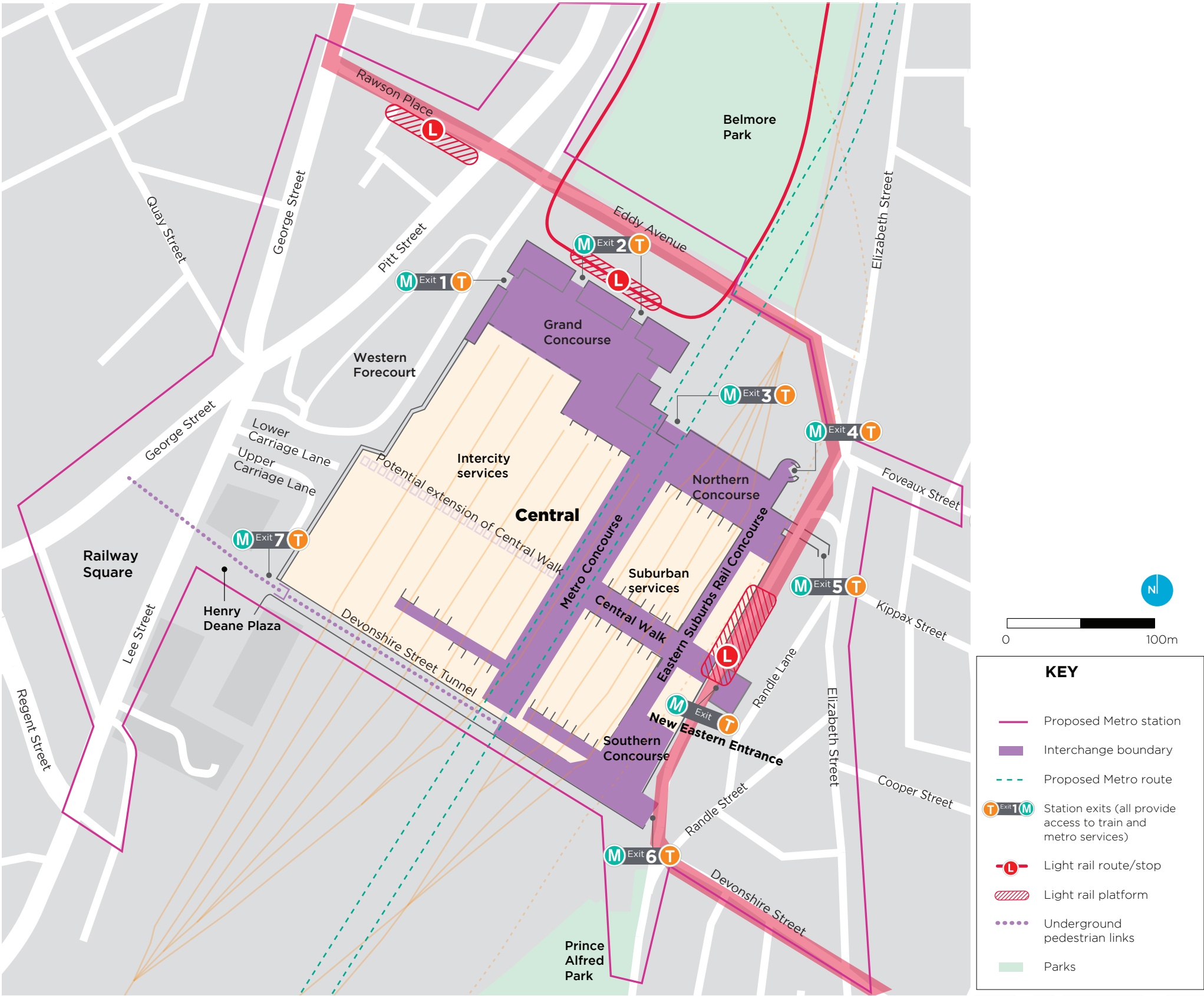
Northern Concourse enhancements



7.4 Central Station – light rail interchange and transfer requirements



Mode layer



Central Station – light rail interchange and transfer requirements

Central Station – light rail interchange and transfer requirements *continued*

| Item                                 | West entrances   | North entrances   | East entrances   |
|--------------------------------------|--|---|--|
| Current state                        |  |   |  |
| Current levels of access and service | There are no light rail stops on the west side of the interchange.   | The L1 Dulwich Hill light rail is accessed via the north entrance at the Porte Cochere, the Grand Concourse to the colonnade at the top of the Hay Street ramp, and from Eddy Avenue.   | The Central Stop of the L2 CBD and South East light rail will be accessed via the Eastern Entrance at Chalmers Street. |
| Integration                          |  |   |  |
| Closest light rail stops/routes      | There are no light rail stops on the west side of the interchange.   | <p>The light rail stop in the upper colonnade off the Grand Concourse services the L1 Dulwich Hill light rail and is:</p> <ul style="list-style-type: none"><li>• The Porte Cochere of the Grand Concourse – the terminus.</li></ul> <p>Some customers leaving from the Grand Concourse may transfer to the Rawson Place Stop to access northbound L2 CBD and South East light rail services.</p> | The L2 CBD and South East light rail stop within the east side is located on Chalmers Street.                          |
| Safe transfer                        | <p>Ensure the safety of pedestrians and protect them from other road users by providing:</p> <ul style="list-style-type: none"><li>• Pedestrian crossing points accross the Chalmers Street cycleway for pedestrians transferring between the CBD and South East light Rail platformsand the Eastern Entrance.</li></ul> |   |  |
| Transfer to and from light rail      | Customers will be able to transfer between light rail stops and Metro and Train services at Central Station using existing footpaths. Where necessary, improvements will be made to signage and wayfinding to ensure an easy customer transfer through improved provision of information.                                |   |  |

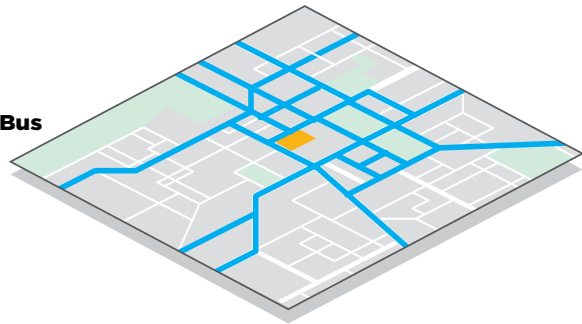




**The new eastern entrance offers an accessible, high capacity, direct and easy connection for customers traveling between Metro, suburban services and light rail.**

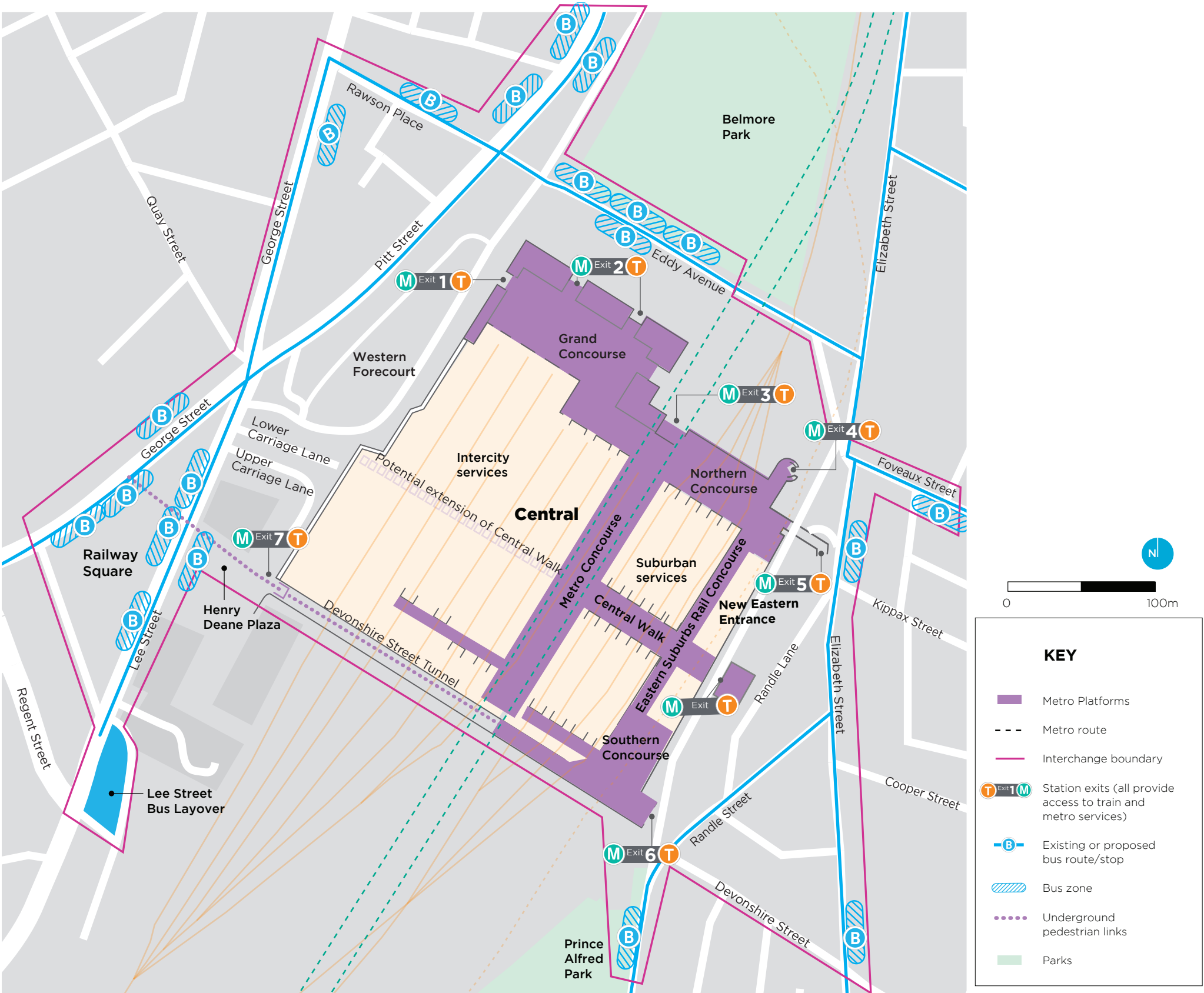


7.5 Central Station – bus interchange and transfer requirements



Bus

Mode layer



Central Station – bus interchange and transfer requirements

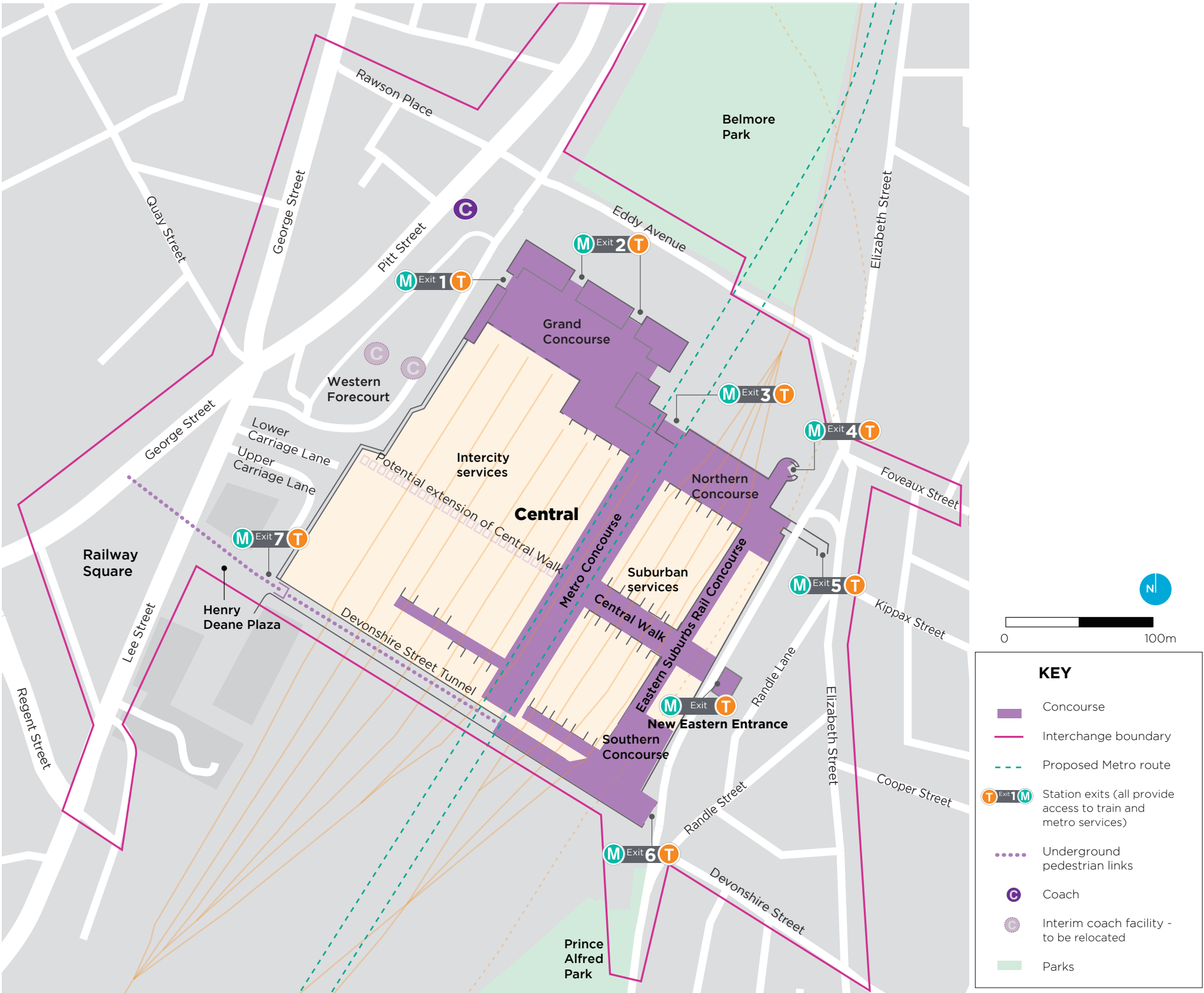
Central Station – bus interchange and transfer requirements *continued*

| Item                                 | West entrances  | North entrances  | East entrances  |
|--------------------------------------|---|--|---|
| Current state                        |   |  |   |
| Current levels of access and service | A number of bus routes operate to the west of Central Station, providing opportunities for transfer to other modes at Railway Square and Rawson Place. These routes primarily serve the CBD, the inner west and the inner south-west. Regional and interstate coaches operate from Pitt Street.   | A number of bus routes operate to the north of Central Station, providing opportunities for transfer to other modes at Rawson Place, Eddy Avenue and Pitt Street. These routes primarily serve the inner south.  | A number of bus routes operate to the east of Central Station, providing opportunities for transfer to other modes at Chalmers and Elizabeth Streets. These routes primarily serve the CBD, the inner south and the eastern suburbs.  |
| Integration                          |   |  |   |
| Closest bus stops/routes             | The primary bus stops within the west side of the interchange are: <ul style="list-style-type: none"><li>• Railway Square – a bus zone, southbound and northbound, on both sides of Broadway.</li><li>• Lee Street – a bus zone, southbound and northbound, on both sides.</li></ul>  | The primary bus stops within the north side of the interchange are: <ul style="list-style-type: none"><li>• Eddy Avenue – an eastbound and westbound bus zones, on the north side between Pitt and Elizabeth Streets.</li><li>• Rawson Place – an extended bus zone, eastbound, on north side between George and Pitt Streets.</li></ul> | The primary bus stops within the east side of the interchange are: <ul style="list-style-type: none"><li>• Elizabeth Street – a bus stop, southbound, on the east side between Foveaux and Kippax Streets.</li><li>• Foveaux Street – a bus stop, westbound, on the south side between Mary and Commonwealth Streets.</li></ul> |
| Potential changes to bus stops/route | There are no changes to the bus stops or routes for scheduled bus services due to the project.  |  |   |
| Safe transfer                        | Ensure the safety of pedestrians and protect them from other road users by providing: <ul style="list-style-type: none"><li>• Safe integration with existing networks.</li><li>• Controlled (signalised), direct paths of travel along pedestrian desire lines within low speed environments.</li><li>• Underground pedestrian connections, where feasible.</li></ul> |  |   |
| Transfer to and from bus             | Customers will be able to transfer between bus stops at metro station entries using existing footpaths. Where necessary, improvements will be made to signage and wayfinding to ensure an easy customer transfer through improved provision of information.   |  |   |
| Bus bays                             | Bus bays provided or modified by the project shall meet NSW state and Commonwealth guidelines for size and layout. Where a conflict exists, the Commonwealth standard will apply. Where the Commonwealth standard cannot practically apply, the highest practical standard should be provided in excess of NSW state standards and guidelines.                        |  |   |
| Bus stop location                    | Bus services shall be easily and visibly accessible from the station entrance, located as close as feasible to the gateline and should not be more than 100 metres away, where achievable.  |  |   |

■ “Enhancements to the Northern Concourse offers improved access options between Eddy Avenue bus interchange and all station platforms.”



7.6 Central Station – coach interchange and transfer requirements



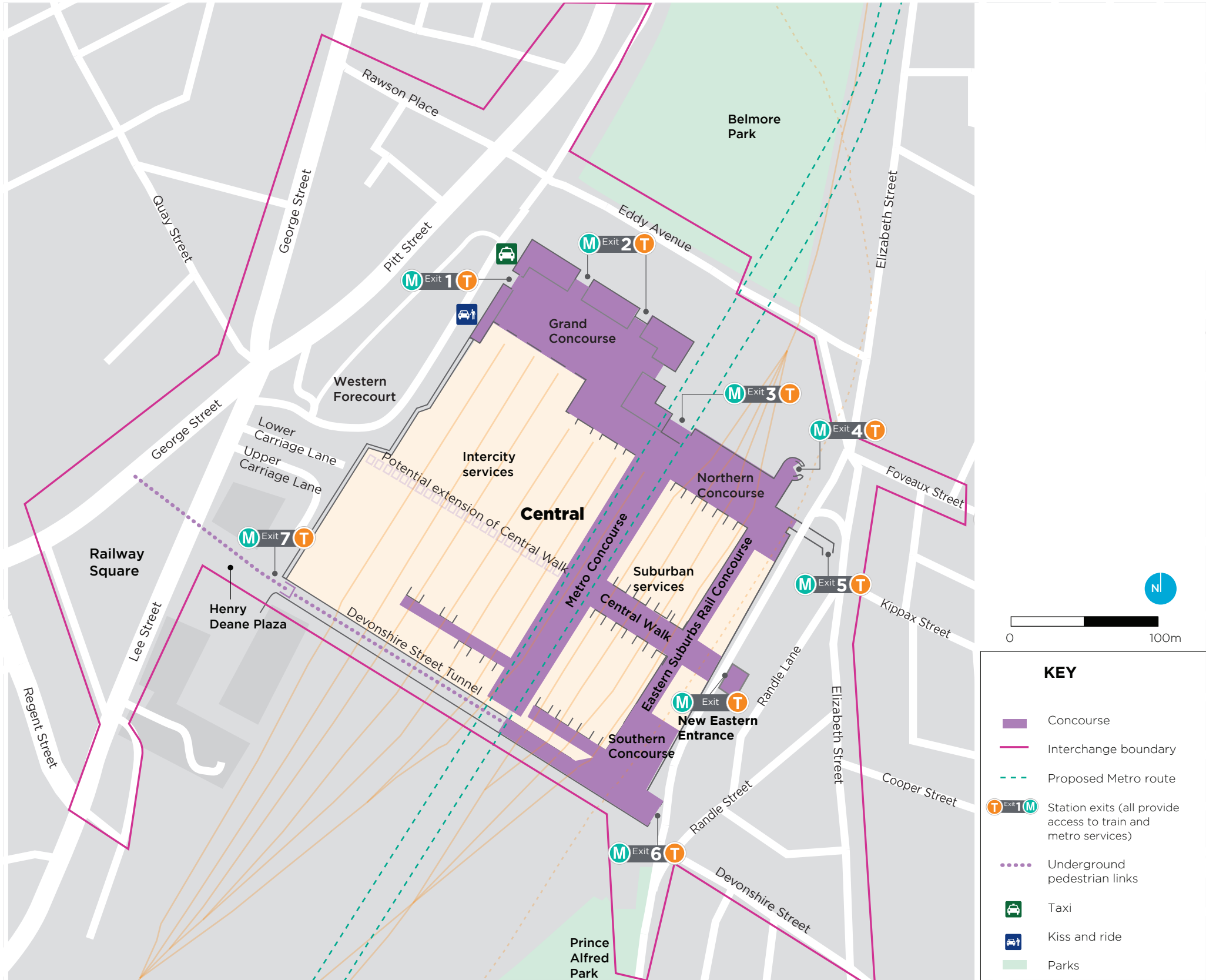
Central Station – coach interchange and transfer requirements

Central Station – coach interchange and transfer requirements *continued*

| Item                                   | West entrances   | North entrances   | East entrances  |
|--|--|---|---|
| Current state                          |  |   |   |
| Current levels of access and service   | Regional and interstate coaches operate from Pitt Street   | Regional and interstate coaches operate from the Western Forecourt, and are served by a terminal office within the Grand Concourse. This interim solution has been put in place to facilitate light rail construction and operation in Eddy Avenue. | Regional and interstate coaches operate from the Western Forecourt, and are served by a terminal office within the Grand Concourse. This interim solution has been put in place to facilitate light rail construction and operation in Chalmers Street. . |
| Integration                            |  |   |   |
| Closest coach stops/routes             | The primary coach stop within the west side of the interchange is: <ul style="list-style-type: none"><li>• The upper access road to the western side of the Grand Concourse.</li><li>• Pitt Street, near Eddy Avenue.</li></ul>  | There are no coach stops on the north side of the interchange.  | There are no coach stops on the east side of the interchange.   |
| Potential changes to coach stops/route | The current coach operations on the Western Forecourt are an interim measure to facilitate construction of the CBD and South East Light Rail. A new permanent location is to be determined by the Transport Cluster.   |   |   |
| Safe transfer                          | Ensure the safety of pedestrians and protect them from other road users by providing: <ul style="list-style-type: none"><li>• Safe integration with existing networks.</li><li>• Controlled (signalised), direct paths of travel along pedestrian desire lines within low speed environments.</li></ul>  |   |   |
| Transfer to and from coach             | Customers will be able to transfer between coach stops at metro station entries using existing footpaths. Where necessary, improvements will be made to signage and wayfinding to ensure an easy customer transfer through improved provision of information.  |   |   |
| Coach bays                             | Coach bays provided or modified by the project shall meet NSW state and Commonwealth guidelines for size and layout. Where a conflict exists, the Commonwealth standard will apply. Where the Commonwealth standard cannot practically apply, the highest practical standard should be provided in excess of NSW state standards and guidelines. |   |   |



7.7 Central Station – vehicle drop-off interchange and transfer requirements



Central Station – vehicle drop-off interchange and transfer requirements

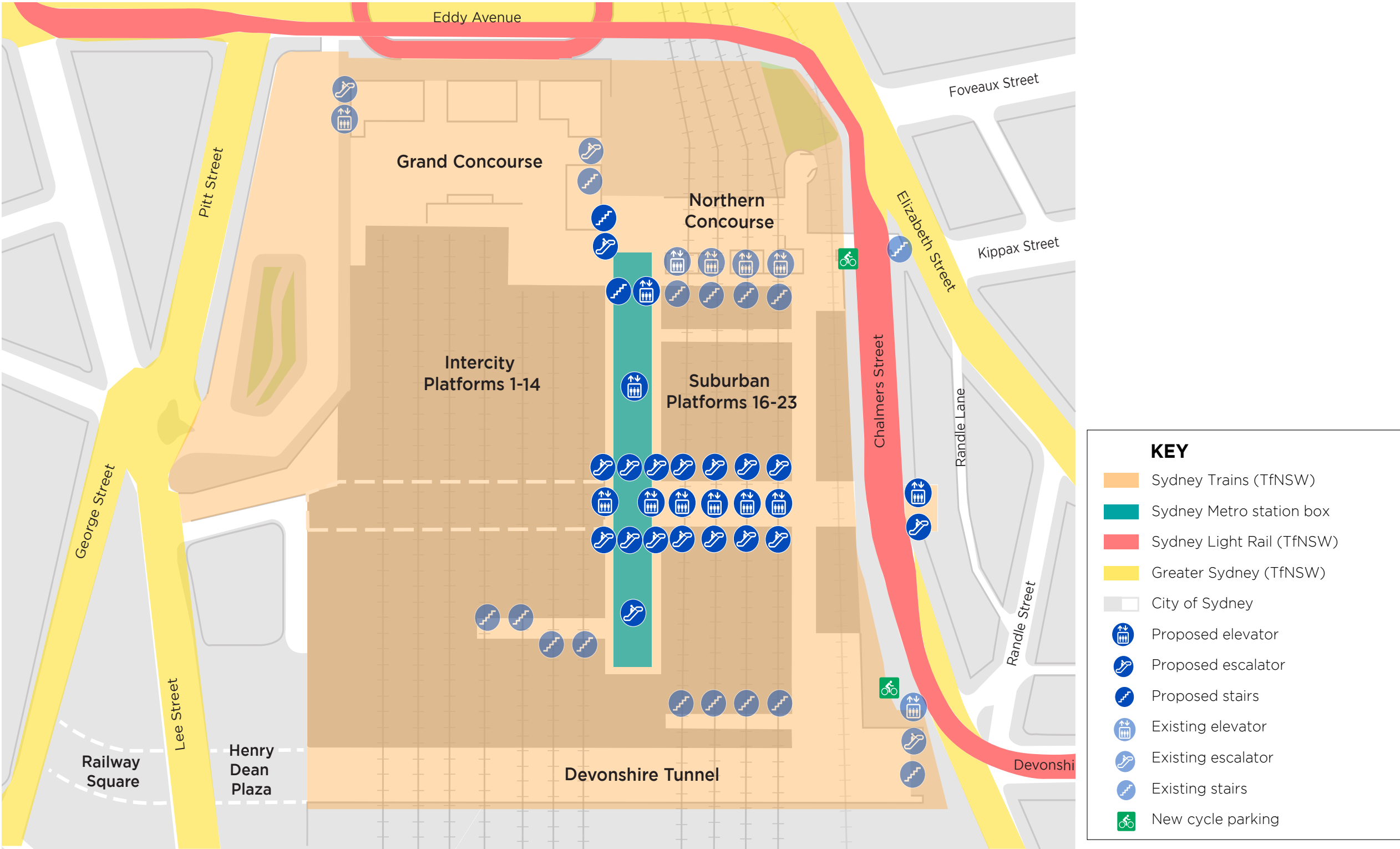
Central Station – vehicle drop-off interchange and transfer requirements *continued*

| Item                                 | West entrances  | North entrances  | East entrances   |
|--------------------------------------|---|--|--|
| Current state                        |   |  |  |
| Current levels of access and service | Existing taxi ranks are at: <ul style="list-style-type: none"><li>West of the western entrance to the Grand Concourse.</li></ul> Existing kiss-and-ride facilities are at: <ul style="list-style-type: none"><li>West of the western entrance to the Grand Concourse.</li></ul> There are no existing park-and-ride facilities. | There are no existing taxi ranks, or kiss-and-ride or park-and-ride facilities north of the station. | There are no existing kiss-and-ride or park-and-ride facilities east of the station. |
| Integration                          |   |  |  |
| Safe transfer                        | Ensure the safety of pedestrians and protect them from other road users by providing: <ul style="list-style-type: none"><li>Safe integration with existing networks.</li><li>Controlled (signalised), direct paths of travel along pedestrian desire lines within low speed environments.</li></ul>                             |  |  |
| Transfer to and from taxi            | Customers will be able to access existing taxi zones along existing access routes and footpaths.  |  |  |
| Transfer to and from kiss-and-ride   | Customers will be able to access the existing kiss-and-ride zone at the Western Forecourt along existing and improved access routes and footpaths.  |  |  |
| Taxi rank locations                  | Multi-purpose ranks that service local centres as well as stations are supported as long as they are located within 100 metres of the station access point.   |  |  |
| Kiss-and-ride zone design            | The dimensions of kiss-and-ride spaces shall comply with TfNSW and Australian Standards and Guidelines.   |  |  |



# 8.0 Central Station – operations, maintenance and management provisions

## 8.1 Asset ownership, responsibilities and new vertical transport enhancements

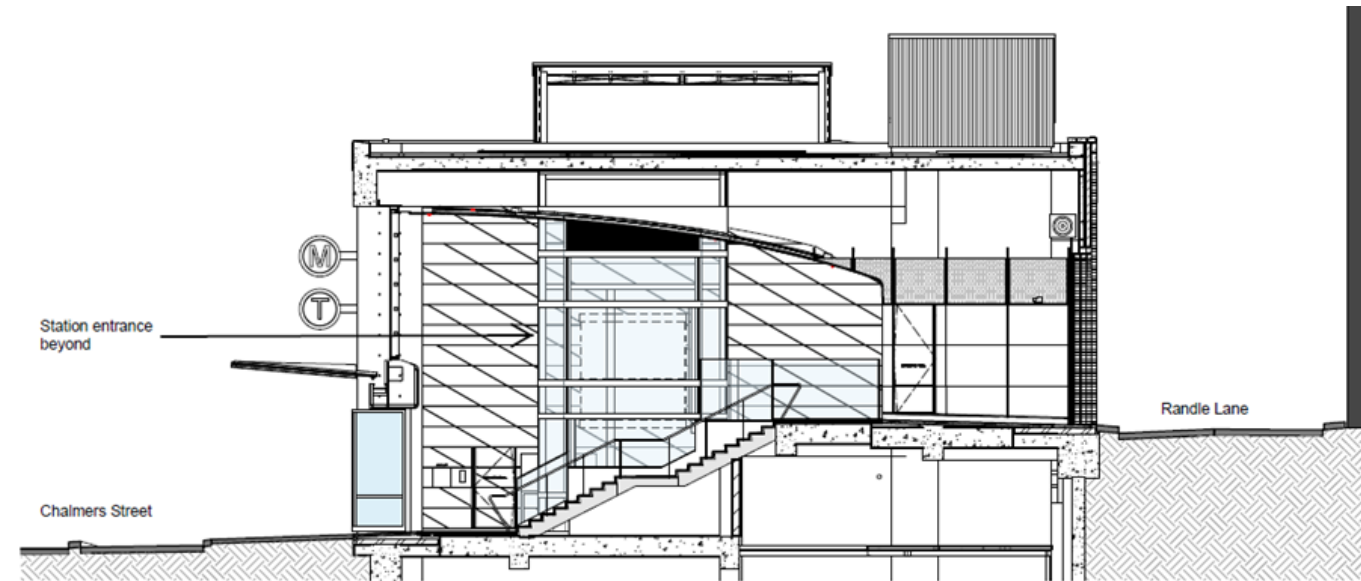


‘Graphical illustration of station layout, the project boundaries, vertical transport provisions and asset ownership, operational and maintenance responsibilities’

New facilities include platforms, concourses, entrances, vertical transport (escalators and lifts), and bike parking. The adjacent graphic provides a spatial illustration of asset responsibilities including operation and maintenance for new assets that will be delivered by the new project. In the case of Central Station the majority of new facilities will be transferred to TfNSW (Sydney Trains), however items such as new underground Metro platforms and lifts and escalators between the platform and new Metro concourse are planned to be operated and maintained under a TfNSW Sydney Metro operations contract.

## Central Station – operations, maintenance and management provisions *continued*

### 8.2 New Eastern Entrance and Randle Lane link

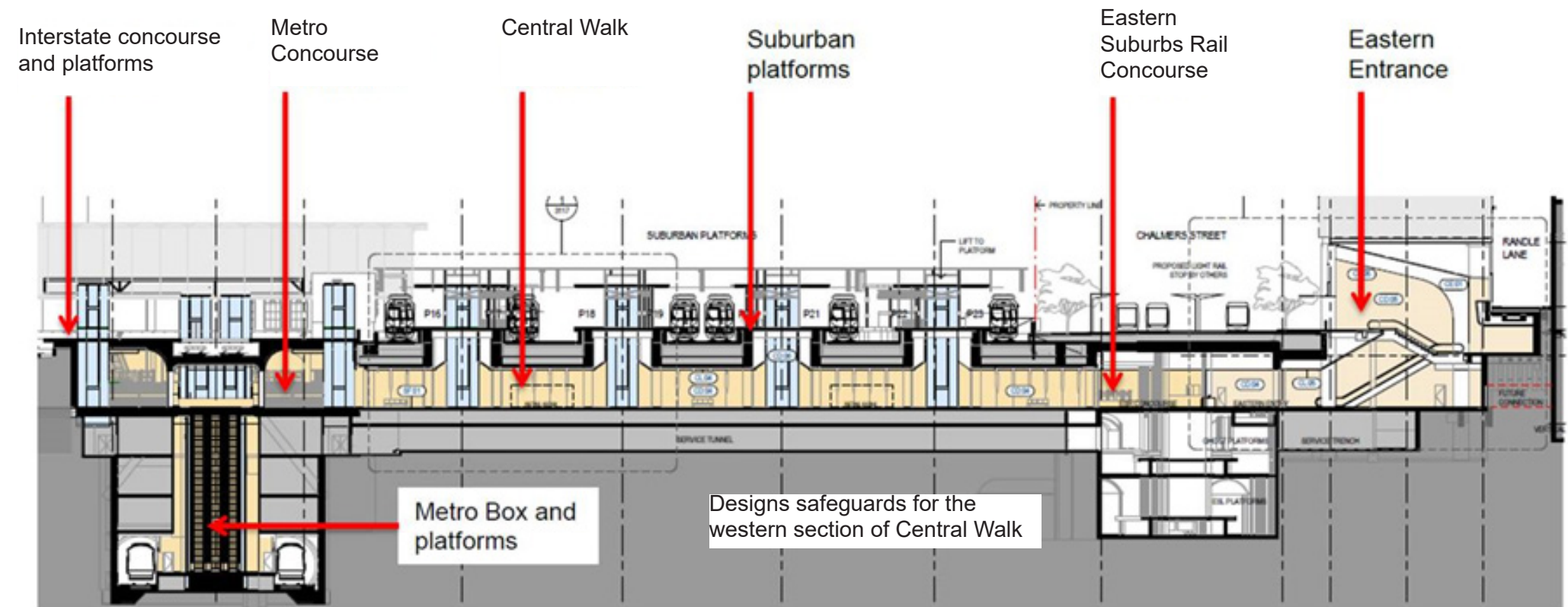


Eastern entrance and through link to Randle Lane

The design incorporates a link which connects the station, Chalmers Street and Randle Lane. The Randle Lane connection will be enabled by the project and once opened and combined with other planned treatments to Randle Lane would offer customers with an alternative, safe path of travel out of the station to the east. This design also safeguards an underground connection, which could enable customers to travel to Elizabeth Street or beyond. This future link would be dependent on the future planning of surrounding sites.



Artist impression of Randle Lane entrance



Graphical illustration of proposed Central Walk and planned connections to the new Metro Concourse and platform, the new Eastern Entrance, and existing platforms, concourses and Randle Lane'



Central Station – operations, maintenance and management provisions *continued*

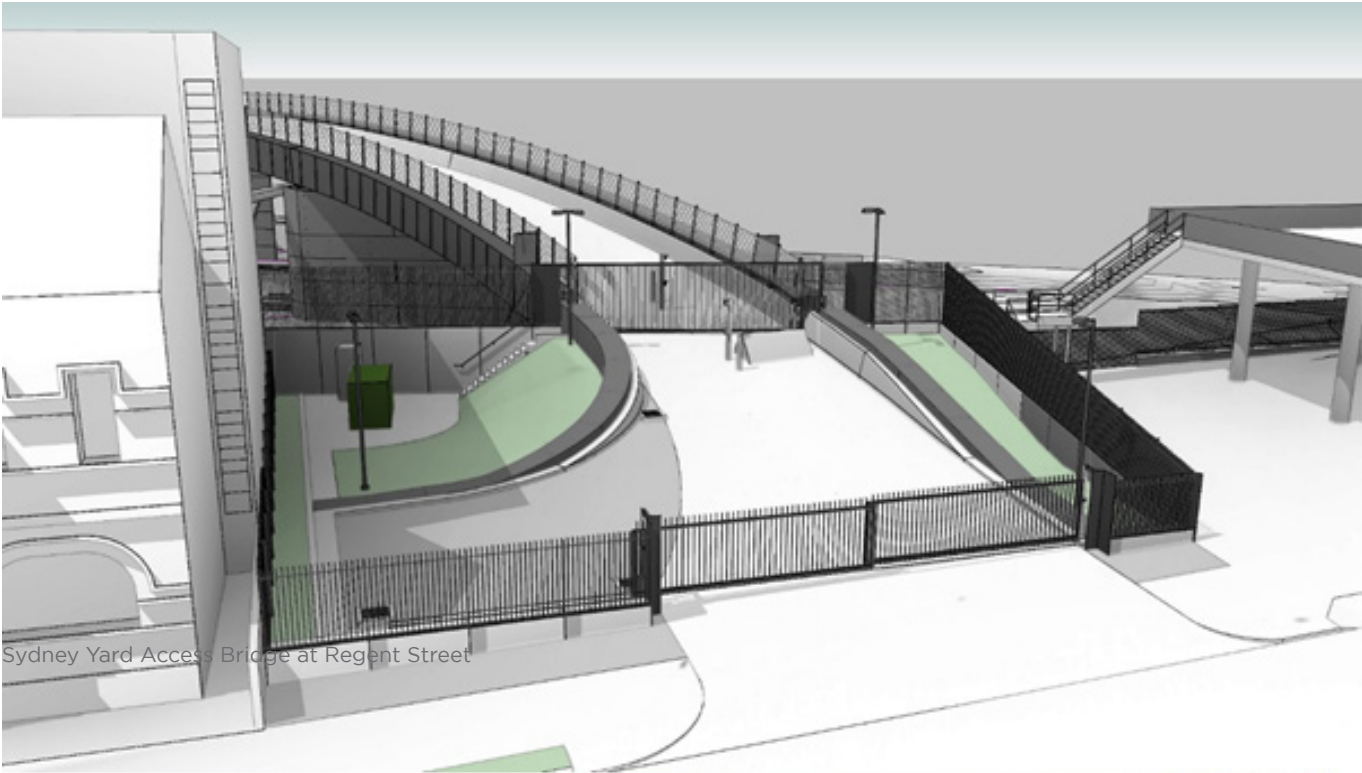
8.3 Sydney Yard Access Bridge

Operational and maintenance enhancements to Central Station are obtained through the delivery of a new Sydney Yard Access Bridge. This additional link from Recent Street enables both project and legacy

outcomes by providing secure and improved access for materials, plant and trucks into a restricting and complex rail environment without requiring line closures or impacting timetabled services.



Sydney Yard Access Bridge looking towards Regent Street



Sydney Yard Access Bridge at Regent Street



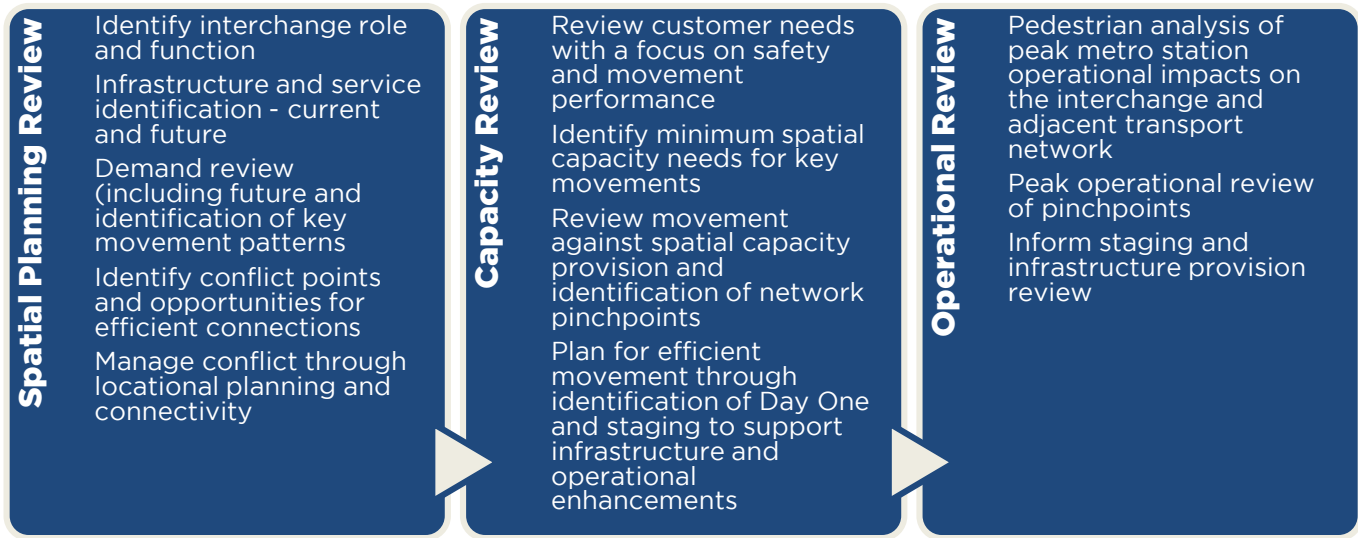
Central Station – operations, maintenance and management provisions *continued*

8.4 Reviews and assessment process

A performance review of the station facilities, vertical transport provision, footpaths and intersections has been undertaken using both pedestrian and traffic static analytical and simulation modelling tools. The outputs from the models have been used to understand the operating performance of the interchange, points

of conflict and potential deficiencies, and to inform the design development process.

An overview of the process for assessing the proposed interchange design is provided in the below figure.



8.5 Facility testing

The performance of the design was tested through the application of the following assessment techniques.

| Demand Profile            | Design Testing                            | Measure                | Review Type            |
|---------------------------|---|------------------------|------------------------|
| Peak hour                 | Infrastructure and spatial provision      | Level of Service (LoS) | Design capacity        |
| Peak 15 minutes (average) | Peak infrastructure and spatial provision | LoS                    | Peak design capacity   |
| Peak minute (surge)       | Customer experience                       | LoS & duration         | Operational experience |

The above three levels of testing enables a design to be reviewed against both standard peak capacity applications and to understand how infrastructure performs under more short term demand surges relating to the operation of the system or the surrounding transport network.

An assessment against the peak 15 minute period provides a measure to determine required infrastructure to accommodate forecast peak demand. While assessment of the peak minute demand provides further insight into customer experience during peak surges from train arrivals and similar events associated with network operations.

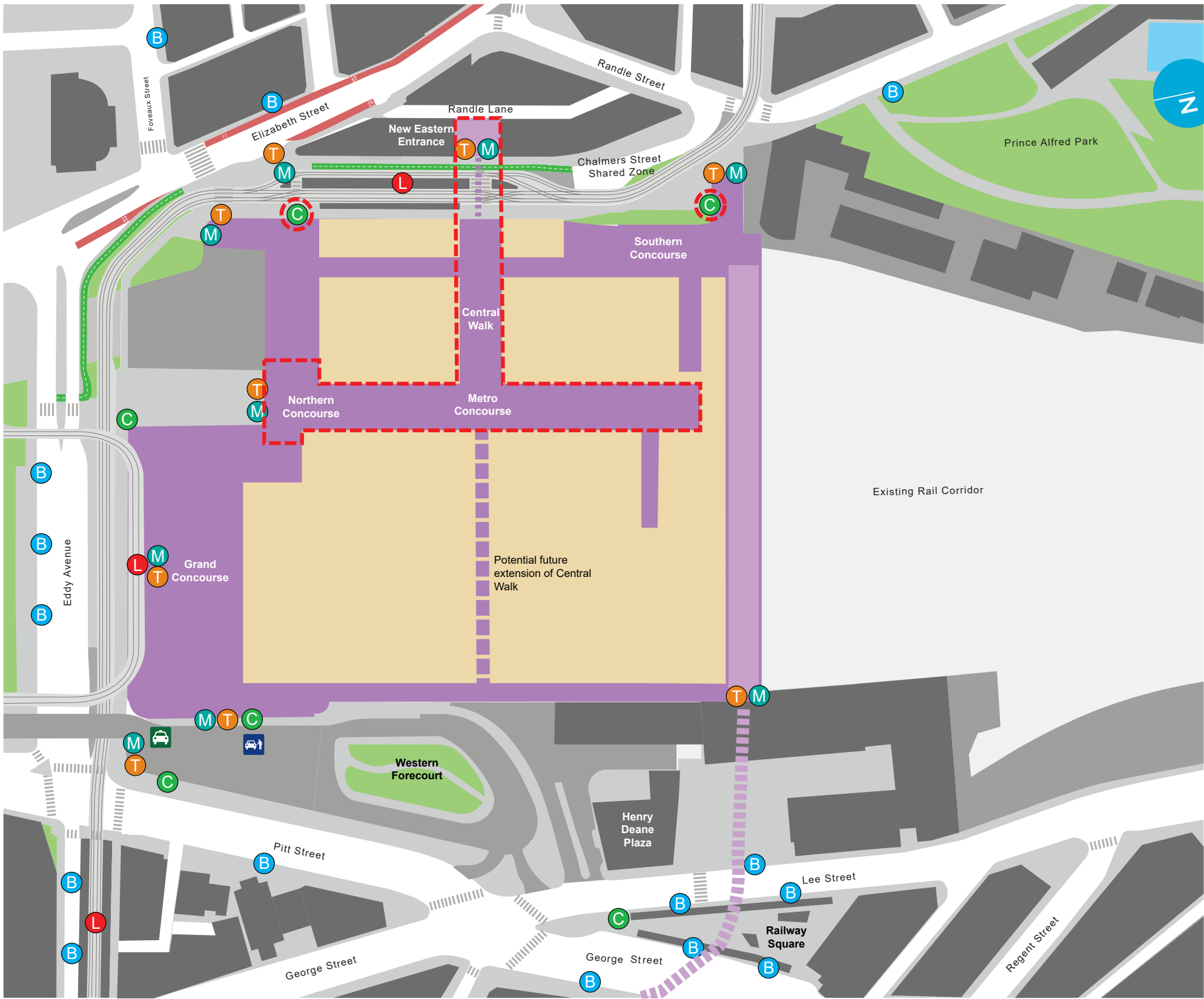
8.6 Interchange operational provisions

| Item  | West entrances  | North entrances  | East entrances   |
|---|---|--|--|
| Integration                                       |   |  |  |
| Safe access                                       | Ensure the safety of: <ul style="list-style-type: none"><li>Maintenance workers and staff, and protect them from other road users by providing safe exclusion zones.</li><li>Pedestrians, and protect them from service vehicles and working equipment.</li></ul>                                     |  |  |
| Emergency vehicle access                          | Kerbside parking in the vicinity of the station should be managed to accommodate emergency vehicles.  |  |  |
| Servicing and maintenance access (day-to-day)     | Service and maintenance access is from the Western Forecourt, Upper Carriage Lane (NSW Trains) or Pitt Street (Sydney Trains). Sydney Yard Access Bridge provides a new grade separated access route for vehicles entering the Sydney Rail Yard and removes the potential for rail and road conflict. |  |  |
| Servicing and maintenance access (major)          | Servicing and maintenance access is from Upper Carriage Lane.   |  |  |
| Rail replacement bus service access               | Sydney Trains, NSW Trains, Sydney Metro and light rail replacement buses will use the southern side of the Western Forecourt.   | No rail replacement buses will operate from the northern entrances.  | Rail replacement buses will use the western side of Prince Alfred Park.  |
| Delivery access (retail and operational)          | Delivery access is from Upper Carriage Lane and Ambulance Road.   |  |  |
| Mail zone (Australia Post) requirements           | Mail zones will be maintained at: <ul style="list-style-type: none"><li>Railway Square – Regent Street near Broadway.</li><li>Quay Street – between Thomas and George Streets.</li></ul>  | Mail zones will be maintained at: <ul style="list-style-type: none"><li>Eddy Avenue – Eddy Avenue Plaza, between Pitt and Elizabeth Streets.</li></ul> | Mail zones will be maintained at: <ul style="list-style-type: none"><li>Foveaux Street – at the corner of Foveaux and Elizabeth Streets.</li><li>Chalmers Street – between Devonshire and Foveaux Streets.</li><li>Elizabeth Street – at the corner of Elizabeth and Devonshire Streets.</li></ul> |
| Interchange Operation and Maintenance Plan (IOMP) | The IOMP documents the assets within the interchange and which organisation is responsible for their operation and maintenance, including staff car parking.  |  |  |



Central Station – operations, maintenance and management provisions *continued*

8.7 Spatial Layout Plan



Graphical illustration of existing station layout, the project boundaries and key modal features

**Legend**

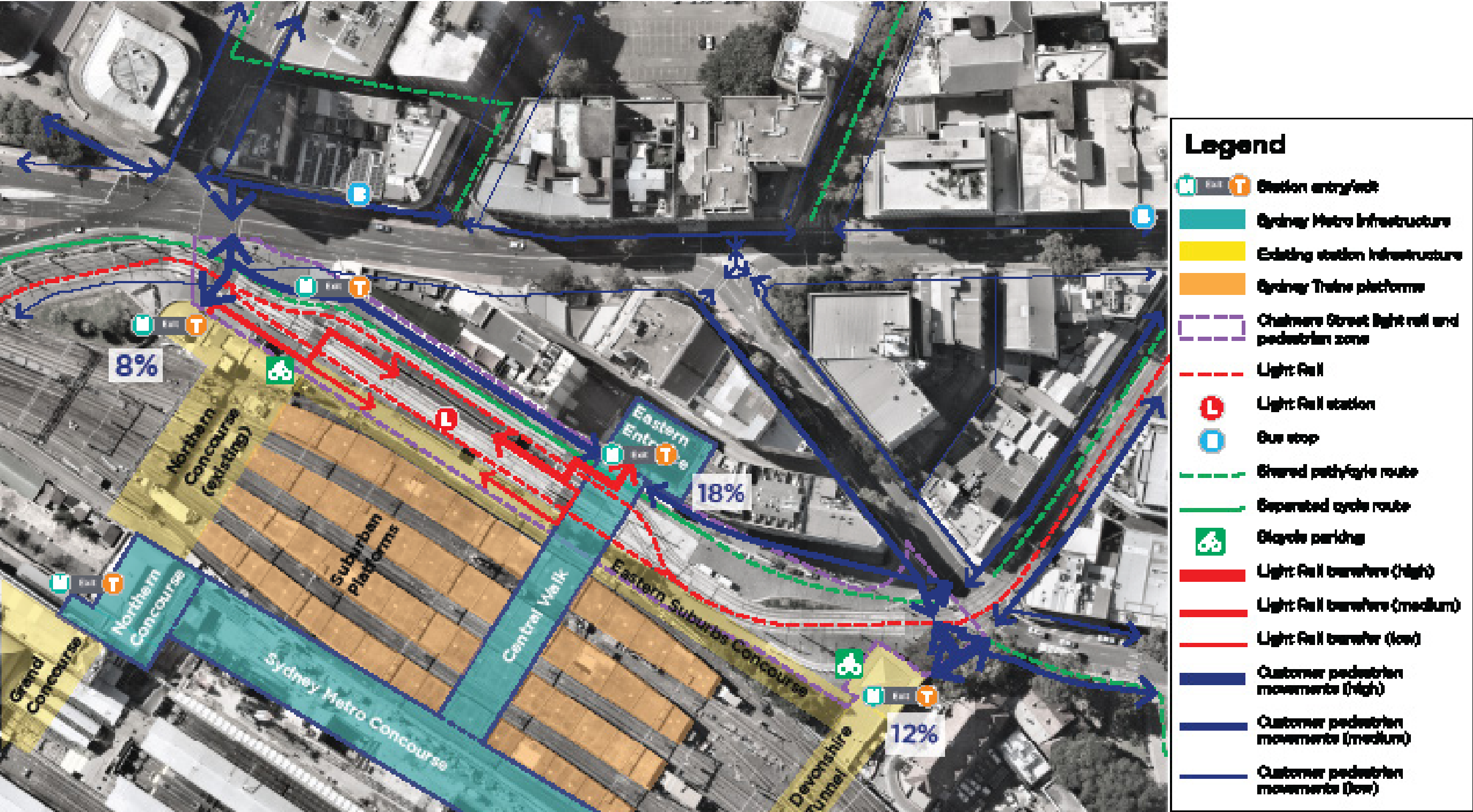
- Metro and railway entry/exit
- Light rail stop
- Bus stop
- Bike parking
- Bike path
- Bus lane
- Pedestrian crossing
- Taxi zone
- Kiss and ride zone
- Underground pedestrian link
- Project scope

The spatial plan of the Central station and interchange provides a broad understanding of the existing station infrastructure and interchange facilities and its interfaces and integration with the proposed changes planned by the Sydney Metro project. The changes and interfaces include new and existing platforms, concourses and entrances, and the safeguarding for future station connections and entrances.

Central Station – operations, maintenance and management provisions *continued*

8.8 Interchange Functionality and Performance Outcomes

The planning of the interchange and its surroundings is generated from a review of existing and future land use, estimated growth and the likely changes in origin and destination movement patterns due to the proposed changes to the existing station arrangements. These estimated movement patterns and key desire lines from the proposed design and resulting functional changes to Central Station are illustrated in the below graphic.



Customer movement and interchange functionality diagram



Central Station – operations, maintenance and management provisions *continued*

A review with stakeholders of changes to the movement and access patterns and the functionality needs at Central Station was undertaken. This indicated that the new internal station enhancements and entrance together with the recently implemented Sydney Light Rail facilities and streetscape enhancements in Chalmers Street and Devonshire Street complement and support amenity needs, access and growth. Plan changes to Central together with other ongoing CBD project activities by TfNSW and the City of Sydney enable the vision of an integrated precinct plan that can be implemented through a number of different projects and staged enhancements. These staged enhancements are captured in the Action Plan in Section 10.0 and Appendix A and B.

Spatial, capacity and operational analysis undertaken as part of the design development and validation processes of the project are summarised as follows:

- As highlighted in section 6.5, demand generated by Metro service boardings and alightings are similar during peak periods.
- Some of the demand for Metro services represents additional customers on the network and at Central Station, and a proportion is redistributed patronage from other major transport nodes or other services that already pass through Central Station.
- The relationship with modal transfers between different public transport services is recognised to be a core functional requirement for Sydney Metro customers at Central with approximately 50% of total demand estimated to be linked to internal station transfers between rail and Metro, and approximately 20% occurring in the interchange between Metro and light rail or bus services.
- These demand profiles are complemented by the additional rail capacity created by the new Metro service and the planned Central station enhancements, which as highlighted in the adjacent graphic, and offers approximately 80% additional internal customer circulation area in the eastern proportion of the station.
- This Metro customer transfer profile between

station platforms and other interchange facilities is supported by additional vertical transport capacity provisions, in the form of over 40 new lifts and escalators aiding faster, easy and safe customer access and enhancing station operating conditions.

- These provisions serve both Metro, as well as existing suburban and some interstate platforms, along with enhanced and new concourses and entrances.
- Over 30% of customers using Metro services at Central Station will walk and the majority of this will walk after alighting a service in the AM peak, and then travel to a nearby destination in the AM peak.
- Movement to the west for walking will be the dominant movement overall followed by north and east. Planned internal and external capacity and amenity enhancements that form part of the project works support this forecast movement pattern, which includes both enhanced access arrangements to the Northern Entrance, vertical transport capacity improvements to the Grand Concourse and interstate platforms, and the new Central Walk and Metro concourse along with a new eastern station entrance on Chalmers Street.
- The installation of Sydney Light Rail, operation of high frequency light rail services and changes to CBD bus network services is forecasted to shift customer transfer activity to the east and reduce activity to the north.
- These broader station movements will increase over time and are supported by external intersection works planned by other projects, geared to support place and manage conflict.
- The adjacent movement diagram provide an understanding of the key external movements at the eastern side of the station, which is estimated to accommodate approximately 40% of all external interchange and walking activity associated with Central Station, and 20% of total Metro customer movement during peaks.
- A high proportion of Metro customers will use station entrances to the east and transfer between

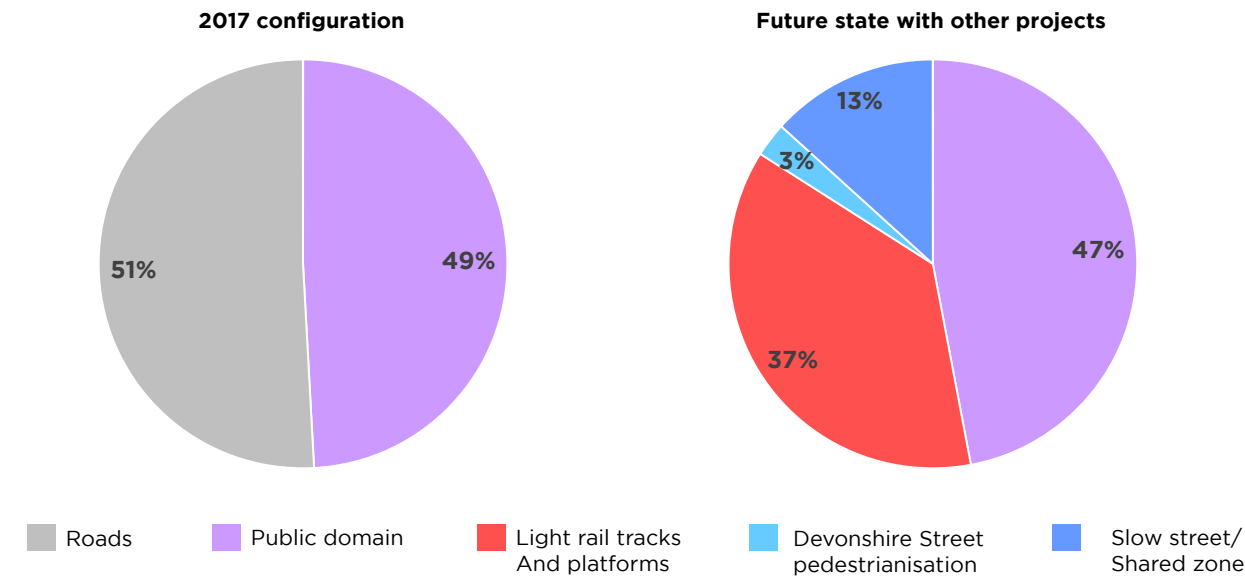
public transport services with approximately 40% of this represented by two way transfers between Metro and light rail services, and 20% between Metro and bus services.

These station design and operating features together with recent enhancements to the public domain and interchange were modelled to ensure that safe and reliable operating conditions can be achieved.

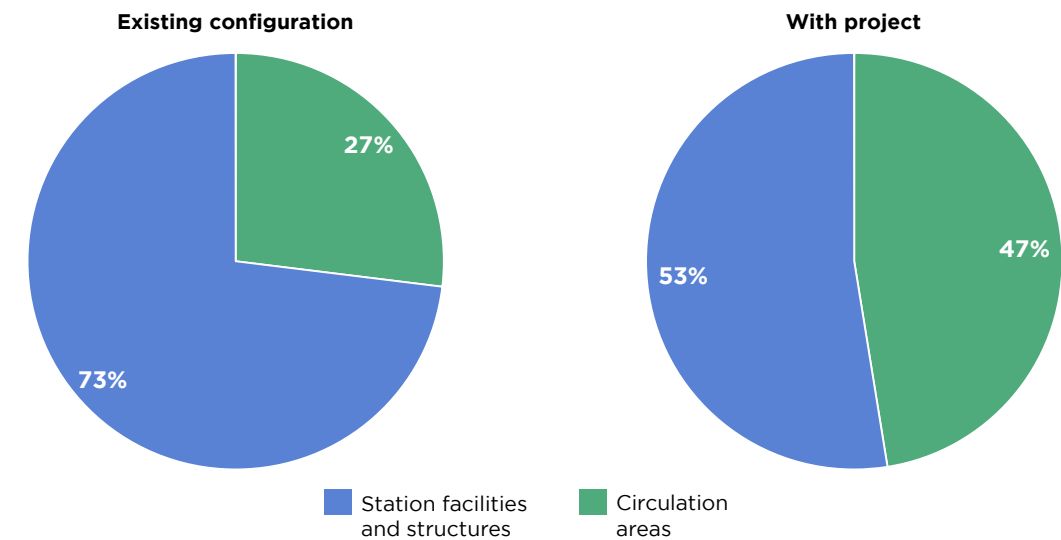
The modelling outputs and other detailed investigations

have highlighted that the performance of the interchange was not impacted from the introduction of the new Metro services or station reconfiguration. In most situations the performance improved, which can be attributed to both the Metro project and physical and service changes applied by other projects, such as Sydney Light Rail. In all situations the performance of new infrastructure was observed to be satisfactory under forecast peak operational conditions.

Allocation of space changes; Central Station East and surrounding street network



Allocation of space changes; Central Station East – internal station area



## 9.0 Interchange access hierarchy review

The interchange has been designed to prioritise access through adopting the transport modal hierarchy design principles. The adoption and focus on these principles in the design of Central Station environment will help manage existing conflict, provide safer and

efficient access, improve amenity and connectivity for customers moving through the interchange, with an aim of supporting continued growth. The interchange access enhancements and the modal access hierarchy provision for Central Station are listed in the table

| Mode       | Provision   | Consideration and Benefit   |
|------------|---|---|
| Pedestrian | *New Eastern Entry on Chalmers Street and new 19m wide east-west station concourse known as Central Walk.   | The project design primarily improves capacity and amenity throughout the eastern segment area of Central Station for customers walking between modes or accessing the station from the north, east or west.  |
|            | New vertical transport provision from Suburban Platforms to Central Walk  | The additional provisions are particular focused on Concourse and internal connections, entrances, and vertical transport with an aim of freeing up existing space through offering direct, easy to navigate and fully accessible alternative routes.   |
|            | New north-south station concourse known as Metro concourse.   | The design is highly intuitive enabling customers to easily transfer between modes, and connect and move through Central in a safe and efficient manner.  |
|            | New vertical transport provision from interstate and Metro Platforms to Metro Concourse.  | Targeted spatial capacity increases of approximately 50% within the station at points with queuing, conflict and amenity implications offers significant operational and amenity benefits.  |
|            | Capacity and amenity enhancements to the Northern Concourse.  | The design also helps to optimise access, increase the potential catchment size and complement recent public domain changes, such as Sydney Light Rail works on Chalmers Street and Devonshire Street.  |
|            | New and additional vertical transport provision from Northern Concourse to the Grand Concourse.   | All of the above attributes demonstrate that the design aligns with the interchange modal hierarchy principles for supporting, promoting and improving active transport and public transport as primary modes of access. Refer to sections 7.1 and 9.0 for a further understanding of planned pedestrian facility improvements. |
|            | Safeguarding for an eastern underground link under Randle Lane from the new Eastern Entry, a Randle Lane entrance, and a western section of Central Walk. |   |

| Mode       | Provision   | Consideration and Benefit   |
|------------|---|---|
| Bike       | The project will deliver 44 additional bike parking spaces to support day one of metro operations and located in the public domain near to Chalmers Street and exiting station entrances. | <p>The provision at Central Station forms part of a linewide CBD bike strategy, which accounts for locations for planned bike parking hubs on the edge of the CBD. Bike parking provision at Central meets the estimated mode share demand.</p> <p>Planned facilities are acknowledged to complement and connect with the broader bike network and identified to align with current station entries and bike parking provisions.</p> <p>Access by bicycle is easily achieved via the Chalmers Street cycleway, which is supported by other on road routes along slow and low trafficked surrounding streets, a planned Randle Lane shared zone and will be further enhanced from the planned extension of the cycleway between Prince Alfred Park and Randle Lane.</p> <p>All of the above attributes demonstrate that the design aligns with the interchange modal hierarchy principles for supporting, promoting and improving active transport and public transport as primary modes of access. Refer to section 7.2 for further information relating to the planning and review of bike facilities.</p> |
| Heavy Rail | Refer to walking section for details of proposed works that support Metro to Heavy Rail access  | <p>The additional provisions are particular focused on Concourse and internal connections, and vertical transport with an aim of freeing up existing space through offering direct, easy to navigate and fully accessible alternative routes for transferring between Metro and Sydney or NSW Trains platforms.</p> <p>This is demonstrated through the creation of new convenient internally fully accessible connections between Suburban, interstate and Metro platforms and to the Northern and Grand concourses. The design is highly intuitive, convenient and enables customers to easily transfer through Central in a safe and efficient manner.</p> <p>All of the above attributes demonstrate that the design aligns with the interchange modal hierarchy principles for supporting and promoting public transport as the primary mode of access. Refer to the pedestrian section.</p>   |



9.0 Interchange access hierarchy review *continued*

| Mode          | Provision   | Consideration and Beneift  |
|---------------|---|--|
|               |   | and section 7.3 and 9.0 for further information relating to proposed station transfer and access enhancements.   |
| Light Rail    | Refer to walking section for details of proposed works that support Metro to Light Rail access      | <p>Additional connections and spatial provisions are particular focused on improving access to the east and complementing public domain works already completed in Chalmers Street. Central Walk combined with the new eastern entrance and additional vertical transport provision freeing up internal station capacity and offer direct, easy to navigate and fully accessible alternative routes for transferring between Metro, Suburban or Interstate platforms and Sydney Light Rail.</p> <p>The design is highly intuitive, convenient and enables customers to easily transfer between modes, and connect and move through Central in a safe and efficient manner.</p> <p>All of the above attributes demonstrate that the design aligns with the interchange modal hierarchy principles for supporting and promoting public transport as the primary mode of access. Refer to the pedestrian section and Section 7.4 for further information relating to proposed station transfer and access enhancements.</p>   |
| Bus and Coach | Retain provision at Railway Square, Pitt Street, Eddy Avenue, Elizabeth Street and Chalmers Street. | <p>The existing Central Station bus and coach interchange facilities are comprehensive offering access to all routes that travel via Central Station and beyond that is not currently served by the rail network.</p> <p>Similar to light rail internal station changes will help to enhance and improve customers travelling north-south or east-west through the station between connecting rail and bus and coach services. The highly intuitive design features offer a convenient and fully accessible internal station route that will enable customers to easily transfer between modes, and connect and move through Central in a safe and efficient manner.</p> <p>All of the above attributes demonstrate that the design aligns with the interchange modal hierarchy principles for supporting and promoting public transport as the primary mode of access. Refer to the pedestrian section and section 7.5 and 7.6 for further information relating to proposed station transfer and access enhancements.</p> |

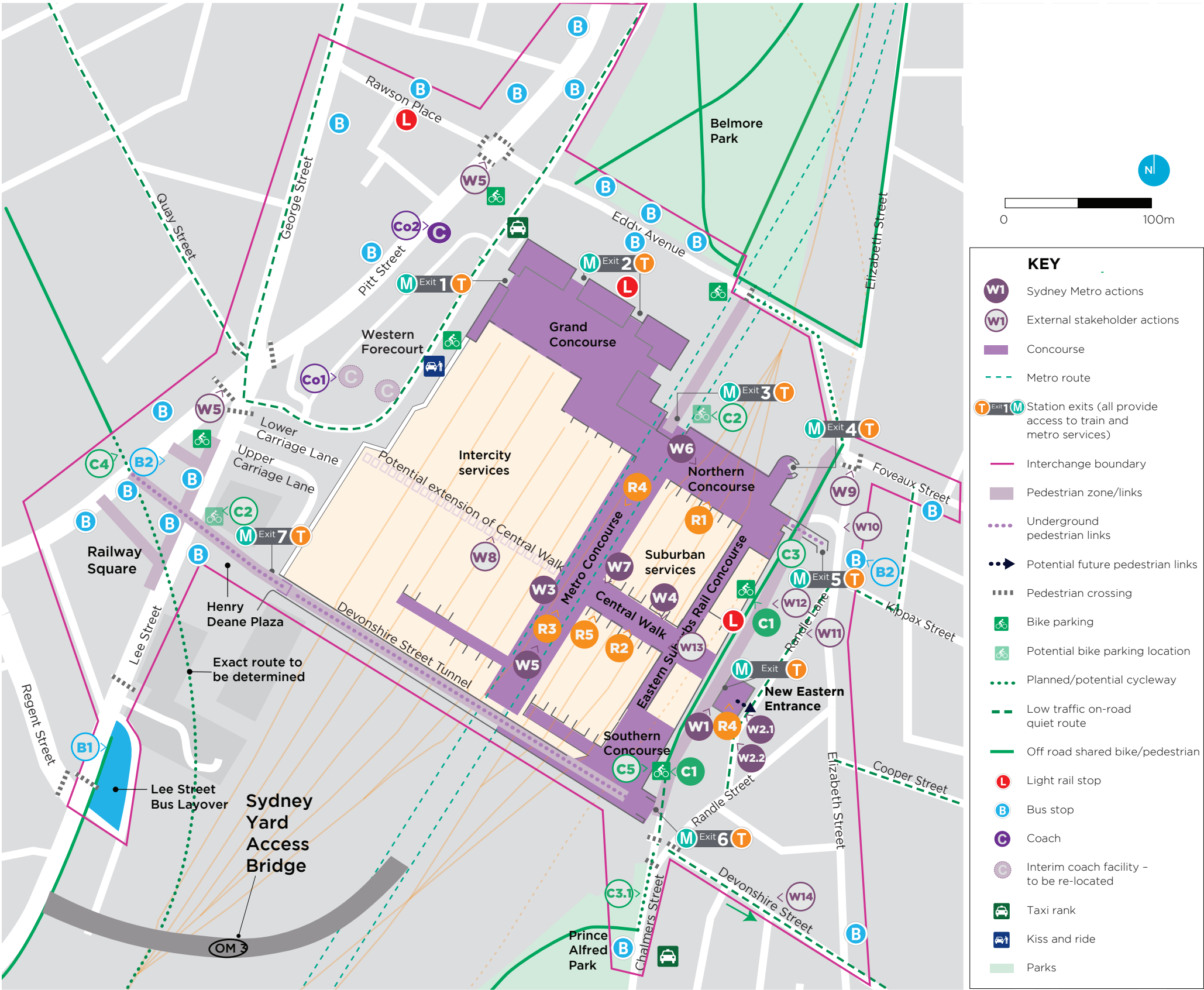
| Mode                                   | Provision   | Consideration and Beneift  |
|--|---|--|
| Taxi, Point to Point and Kiss and Ride | Retain provision on Western Forecourt   | <p>Due to the high service frequency levels and public transport network coverage at Central Station, it is noted that Metro customers are unlikely to generate significant additional taxi, point to point or kiss and ride facility demand or provision need beyond what is already offered.</p> <p>Provision for this interchange facility function is located within the western concourse and improvements are delivered by the project to ensure that a direct fully accessible path of travel from all station platforms can be achieved.</p> <p>Existing kerbside provision is situated in close proximity of the interstate platforms, which is appropriate given this is the point that is the point where services begin or determinate and the likely the source of demand.</p> <p>All of the above attributes demonstrate that the design aligns with the interchange modal hierarchy principles for supporting and promoting appropriate levels of travel choices for access to public transport. Refer to the pedestrian section above and section xx for further information relating to proposed station transfer and access enhancements</p> |
| Parking                                | Retain provision on Western Forecourt   | Not required to support Sydney Metro operations at this location in the network.   |
| Loading and servicing                  | New Sydney Yard Access Bridge on Lee Street. Retain all other access provision on Chalmers Street, Western Forecourt, Eddy Avenue, Chalmers Street and Pitt Street. Refer to section 8.0 for details. | Service vehicle access points from the road network is planned to minimise conflict with key pedestrian and customer movement or rail services. It is located away from station entrances and bus interchanges, and linked to the main road network and identified heavy vehicle routes. Planning of vehicle access routes and the access needs of customers ensures that movement and conflict is minimised and effectively aligns with the mode access hierarchy. Refer to section 8.3 for further details,  |

Central Station is an existing primary transport hub with fully functional interchanges to the north, east and west. The interchange modal hierarchy can be achieved with or without the Sydney Metro project, however its design and new facility provisions are targeted to ensure that enhancements are delivered to support modal access priorities and align with the continuous staged improvement of the precinct and station interchange.

# 10.0 Central Station – actions

The action plan provides an integrated planning response by capturing both Sydney Metro planned project commitments that help to enhance Central Station along with recognising other project commitments and investigations. Together these actions plan together with information contained in Appendix A and B, provides a comprehensive understanding of the continuous planning and staged changes to Central Station, and how the Sydney Metro project contributes and enables improved amenity, connectivity, choices and an easy, safe and seamless customer journey.

Appendix A and B detail the committed changes and enhancements to the station and interchange facilities, and this is split into two to clearly identify the implementation plan and activities completed by the Sydney Metro City and Southwest project at Central Station and the works carried out by others. Appendix A contains the committed implementation plan for Sydney Metro City and Southwest project at Central Station, and Appendix B recognises the implementation plans and opportunities that are also recognised to help enhance and complement the planned works in Appendix A.





Appendix A - Central Station – City & Southwest Delivery & Implementation Program

This Interchange Access Plan sets out the design and operating outcomes required for customers to achieve an easy, safe and seamless transfer between modes at Central Station. A number of actions have been identified for Sydney Metro to deliver in order to achieve these outcomes, and are summarised below.

| Sydney Metro Delivery Action Plan |   | Delivered by | Timing (Start-Finish) |
|-----------------------------------|---|--------------|-----------------------|
| Walking                           |   |              |                       |
| W1                                | Deliver the new Eastern Entrance  | Sydney Metro | 2022-2024             |
| W2.1                              | Safeguard an entrance to Randle lane as part of the design for the new eastern entrance.  | Sydney Metro | 2019-2024             |
| W2.2                              | Safeguard a grade-separated connection below Randle Lane as part of the design of the new eastern entrance.   | Sydney Metro | 2019-2024             |
| W3                                | Safeguard the western extension of Central Walk   | Sydney Metro | 2019-2024             |
| W4                                | New east-west concourse running under Suburban platforms known as Central Walk includes improved connectivity to Eastern Suburbs Rail Concourse and suburban platforms.   | Sydney Metro | 2019-2024             |
| W5                                | New north-south concourse running above New Metro island platform between the northern concourse and Central Walk known as the Metro concourse includes improved connectivity to suburban and interstate platforms. | Sydney Metro | 2019-2024             |
| W6                                | Modify and enhance the western section of the Northern Concourse including station entrance and connectivity to the Grand Concourse.  | Sydney Metro | 2019-2024             |
| W7                                | Provision of new lifts and escalators for all new features delivered by the Sydney Metro project to help meet accessibility and efficient transfers requirements for all customers.                                 | Sydney Metro | 2019-2024             |
| Cycling                           |   |              |                       |
| C1                                | Deliver a minimum of 44 on-street bike parking spaces to bike parking within the Central Station precinct. (Chalmers st Public Domain).   | Sydney Metro | 2019-2024             |
| C3                                | Retain Chalmers Street bi-directional cycleway  | Sydney Metro | 2019-2024             |
| C5                                | Retain ll existing bike parking spaces and safeguard proposed shared bike zone.   | Sydney Metro | 2019-2024             |
| Rail                              |   |              |                       |
| R1                                | Provide a better customer environment for transferring between trains, through delivering improvements to the Northern Concourse.   | Sydney Metro | 2019-2024             |

| Sydney Metro Delivery Action Plan |   | Delivered by                    | Timing (Start-Finish) |
|-----------------------------------|---|---------------------------------|-----------------------|
| R2                                | Provide a high capacity grade separated thoroughfare to all suburban platforms and the Metro Concourse in the form of Central Walk.   | Sydney Metro                    | 2019-2024             |
| R3                                | Provide a new Metro Concourse, operating as a high capacity thoroughfare connecting Central Walk with the Northern Concourse , together with the Metro platforms and some intercity platforms.  | Sydney Metro                    | 2019-2024             |
| R4                                | Provide new escalators and elevators along Central Walk, the Metro Concourse, and the new eastern entrance.   | Sydney Metro                    | 2019-2024             |
| R5                                | Additional VT capacity and improvements to platform access with the provision of additional escalators and changes to existing platform configurations and portals.   | Sydney Metro                    | 2019-2024             |
| Management and maintenance        |   |                                 |                       |
| OM1                               | Prepare an Interchange Operations and Maintenance Plan (IOMP) in accordance to the Interchange Operations and Maintenance Framework to allocate clear responsibility for all aspects of day-to-day running of the interchange, and to ensure that nominated infrastructure and assets in the interchange are monitored and maintained to a high standard. | Transport Cluster, Sydney Metro | 2024                  |
| OM3                               | The construction and operation of a new Sydney Yards Access Bridge removing conflict and impact on road access and rail operations.   | Sydney Metro                    | 2018                  |

# Appendix B - Central Station – Other Implementation Plans

A number of items are to be delivered by stakeholders as part of other projects or have been identified for further investigation as a means to achieve further improvements to an easy, safe and seamless transfer beyond the Sydney Metro City and Southwest project at Central Station.

These investigation items will inform delivery programs carried out by these stakeholders as part of other projects and will enable the progressive improvement of the wider Central Station precinct. These items are complementary and their delivery is not required for the operation of Sydney Metro at Central Station.

Due to their proximity to Central Station, the complementary items and investigations are listed in the table below to help understand their contribution and integration with wider area planning goals.

| Other Actions |  | Delivered by                             | Timing (Start-Finish) |
|---------------|--|--|-----------------------|
| Walking       |  |  |                       |
| W8            | Improve access and station capacity to the west through investigating a feasible staging method for the delivery of the western component of Central Walk  | Infrastructure and Place                 | 2019-2025             |
| W9            | Investigate short term design/operational solutions for pedestrian priority improvements at: <ul style="list-style-type: none"><li>Eddy Avenue, Pitt Street, Rawson Place, George Street and Ultimo Road.</li><li>Elizabeth Street and Foveaux Street</li><li>George Street/Pitt Street/Lee Street</li></ul> | Greater Sydney Division, City of Sydney  | 2019-2024             |
| W10           | Investigate long term design/operational solutions including sub-surface connections   | Infrastructure and Place                 | 2019-2025             |
| W11           | Investigate opportunities to improve place-making in areas with constrained footpaths and high pedestrian flows  | Greater Sydney Division, City of Sydney  | 2019-2024             |
| W12           | Investigate shared lane-way treatments on Randle Lane to support pedestrian access for the safeguarded Randle Lane entrance  | Greater Sydney Division, City of Sydney  | 2019-2024             |
| W13           | Pedestrianise Chalmers Street between Randell Street and Elizabeth Street (allowing local access only).  | Infrastructure and Place                 | 2019                  |
| W14           | Investigate opportunities for pedestrianising Devonshire Street between Chalmers Street and Elizabeth Street   | Greater Sydney Division, City of Sydney  | 2019-2021             |
| Cycling       |  |  |                       |
| C2            | Through a future precinct-wide cycling strategy, investigate needs and options for providing additional bike parking and improved cycle connectivity to support station access.  | Infrastructure and Place, City of Sydney | 2019-2024             |

| Other Actions              |   | Delivered by                            | Timing (Start-Finish)  |
|----------------------------|---|---|------------------------|
| C3                         | Deliver a designated bi-directional cycleway on Chalmers Street between Elizabeth Street and Chalmers Street.   | Infrastructure and Place                | 2019                   |
| C3.1                       | Deliver cycle lane connectivity improvements at Chalmers Street   | Greater Sydney Division                 | 2019-2024              |
| C4                         | Investigate extending the existing Goods Line cycleway east to connect with Central Station   | Infrastructure and Place City of Sydney | 2020-2026              |
| C5                         | Implement a shared bike parking zone.   | Greater Sydney Division                 | 2019-2024              |
| Bus                        |   |   |                        |
| B1                         | Deliver functionality improvements to the bus layover to support service reliability.   | Infrastructure and Place                | 2019-2024              |
| B2                         | Investigate improvements to customer amenity at Railway Square, potentially including improvements to: <ul style="list-style-type: none"><li>lighting</li><li>ancillary facilities</li><li>customer information</li></ul> | Greater Sydney Division, City of Sydney | 2019-2024              |
| B3                         | Optimise bus services through the introduction of: <ul style="list-style-type: none"><li>the Light Rail Integrated Services Plan</li><li>Sydney Metro City &amp; Southwest Integrated Services Plan</li></ul>             | Greater Sydney Division                 | 2019-2020<br>2019-2024 |
| B4                         | Develop an operational plan for managing major events in relation to bus, light rail and metro operations   | Greater Sydney Division                 | 2019-2024              |
| Coach                      |   |   |                        |
| Co1                        | Develop a plan that improves and consolidates coach facility operations through the introduction of technology solutions at the Western Forecourt..   | Infrastructure and Place                | 2019-2026              |
| Co2                        | Undertake a Sydney wide review of coach parking needs and regional service connectivity opportunities to inform decision making.  | Transport Cluster                       | 2019-2026              |
| Management and maintenance |   |   |                        |

<sup>1</sup>The Transport Cluster comprises Transport for NSW, Sydney Trains and Sydney Metro



