



Crows Nest Sydney Metro Sites

Detailed Urban Design Study

We create amazing places



At SJB we believe that the future of the city is in generating a rich urban experience through the delivery of density and activity, facilitated by land uses, at various scales, designed for everyone.

Ref: 5848
Version: 04
Prepared by: AG, TH
Checked by: FL

Contact Details:

SJB Architects
Level 2, 490 Crown Street
Surry Hills NSW 2010
Australia

T. 61 2 9380 9911
architects@sjb.com.au
sjb.com.au

SJB Architecture (NSW) Pty Ltd
ABN 20 310 373 425
ACN 081 094 724
Adam Haddow 7188 John Pradel 7004

Contents



1	Introduction	4	4	Framework Plan	22
1.1	Purpose of this Report	5	4.1	The Draft Plan for St Leonards and Crows Nest	23
1.2	St Leonards and Crows Nest Area	6	4.2	Central Precinct	24
1.3	Site Photos - Wider Context	7	4.3	Design Considerations	25
1.4	The Site	8	4.4	Urban Design Framework	26
1.5	Site Photos - Local Context	9	4.5	Proposed Massing and Feasibility	29
2	Strategic Framework	10	5	Design Testing	30
2.1	Greater Sydney Region Plan	11	5.1	Shadow Analysis - 21 June	31
2.2	Catalyst for Change - Sydney Metro	13	5.2	View Impact Assessment	35
2.3	Local Projects	14	5.3	Solar Insolation Testing - View from North	38
2.4	St Leonards and Crows Nest 2036 Urban Design Study	15	5.4	Solar Insolation Testing - View from South	39
3	Vision and Principles	16	6	Recommendations	40
3.1	Vision Objectives	17	6.1	Recommendations and Conclusion	41
3.2	Design Framework Methodology	18			
3.3	Design Principles - Wider Context	19			
3.4	Design Concept - Local Context	20			

Introduction

1

Introduction

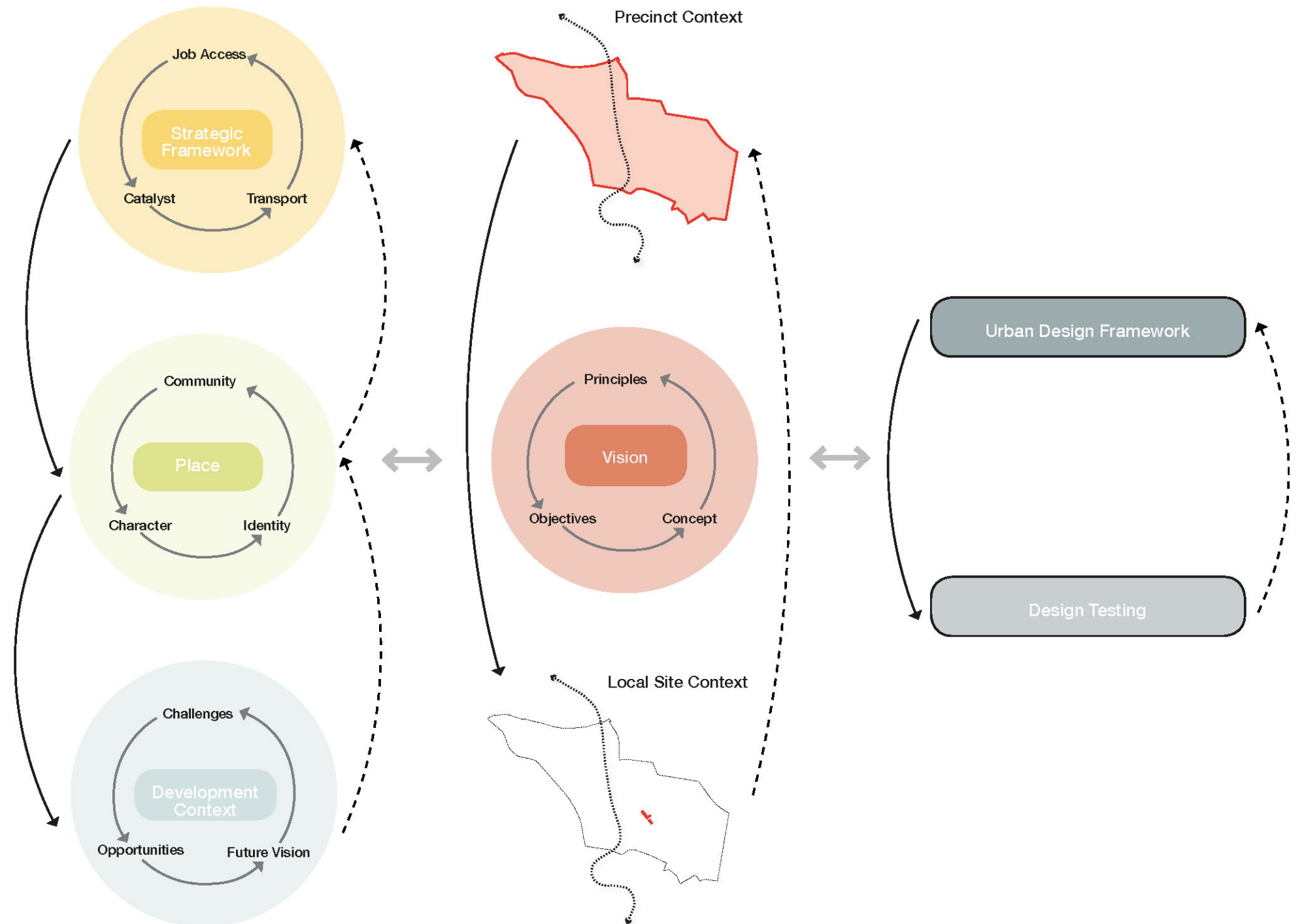
1.1 Purpose of this Report

This report provides a detailed urban design study for the proposed rezoning of the Crows Nest Sydney Metro sites.

SJB have been engaged by the Department of Planning and Environment (DPE) to establish appropriate built form parameters for the site, through overarching vision objectives for the immediate and wider context. A suite of site responsive built form recommendations have been informed by a set of design principles underpinned by a strategic framework, development context and place-making objectives.

This study is intended as a reference document to inform a rezoning proposal for the subject site. The design principles and approach outlined in this document provide guidance on key urban considerations and strategies that may inform the design and assessment process for future development within the St Leonards and Crows Nest Area.

The study is supported by the urban design analysis, visioning workshops and urban design framework completed as part of stages 1 and 2 of the urban design study for the St Leonards and Crows Nest Station Precinct. Other relevant strategic documents and local projects have also been considered in the development of an urban design framework for the subject site.



Introduction

1.2 St Leonards and Crows Nest Area

St Leonards and Crows Nest is located approximately 5 km north-west of the Sydney Central Business District (CBD). It overlaps three local government areas; Lane Cove Council, North Sydney Council and Willoughby Council.








The area provides a unique urban condition, comprising a variety of land uses, including low, medium and high density residential and commercial developments, retail, industrial, education, medical and sporting facilities. This variation in character, form and function contributes to the unique 'sense of place' that defines the local area.

The future Crows Nest Sydney Metro Station is located within the St Leonards and Crows Nest Area, to the south-east of St Leonards Train Station in the North Sydney LGA.

Some of the key features that start to define the area's character include:

- The Forum at St Leonards Station (1);
- Royal North Shore Hospital and Gore Hill Oval (9&3);
- Artarmon Employment (Industrial) Area (8);
- low-scale fine grain residential neighbourhoods in Naremburn and Crows Nest (7);
- steep topography along River Road and St Leonards South (11); and
- the vibrant retail and dining along Willoughby Road (6).

Legend

	Subject Site
	St Leonards and Crows Nest Area
	LGA Boundary
	Existing Train Line
	View Locations (see p.7)
	St Leonards Train Station
	Crows Nest Sydney Metro Station



Introduction

1.3 Site Photos - Wider Context



Location 1 - St Leonards Station and The Forum



Location 2 - Atchison Street, looking west from Mitchell Street



Location 3 - Royal North Shore Hospital



Location 4 - TAFE NSW



Location 5 - The Forum, looking east from Pacific Highway



Location 6 - Eat Streets of Willoughby Road



Location 7 - Naremburn Conservation Area



Location 8 - Reserve Road



Location 9 - Gore Hill Park, looking east towards St Leonards



Location 10 - Crows Nest, looking north from Pacific Highway Fiveways Intersection



Location 11 - Medium Density along Duntroon Avenue



Location 12 - Naremburn Park

Introduction

1.4 The Site







The Crows Nest Sydney Metro sites are located between the eastern side of the Pacific Highway, to the south of Oxley Street and Hume Street.

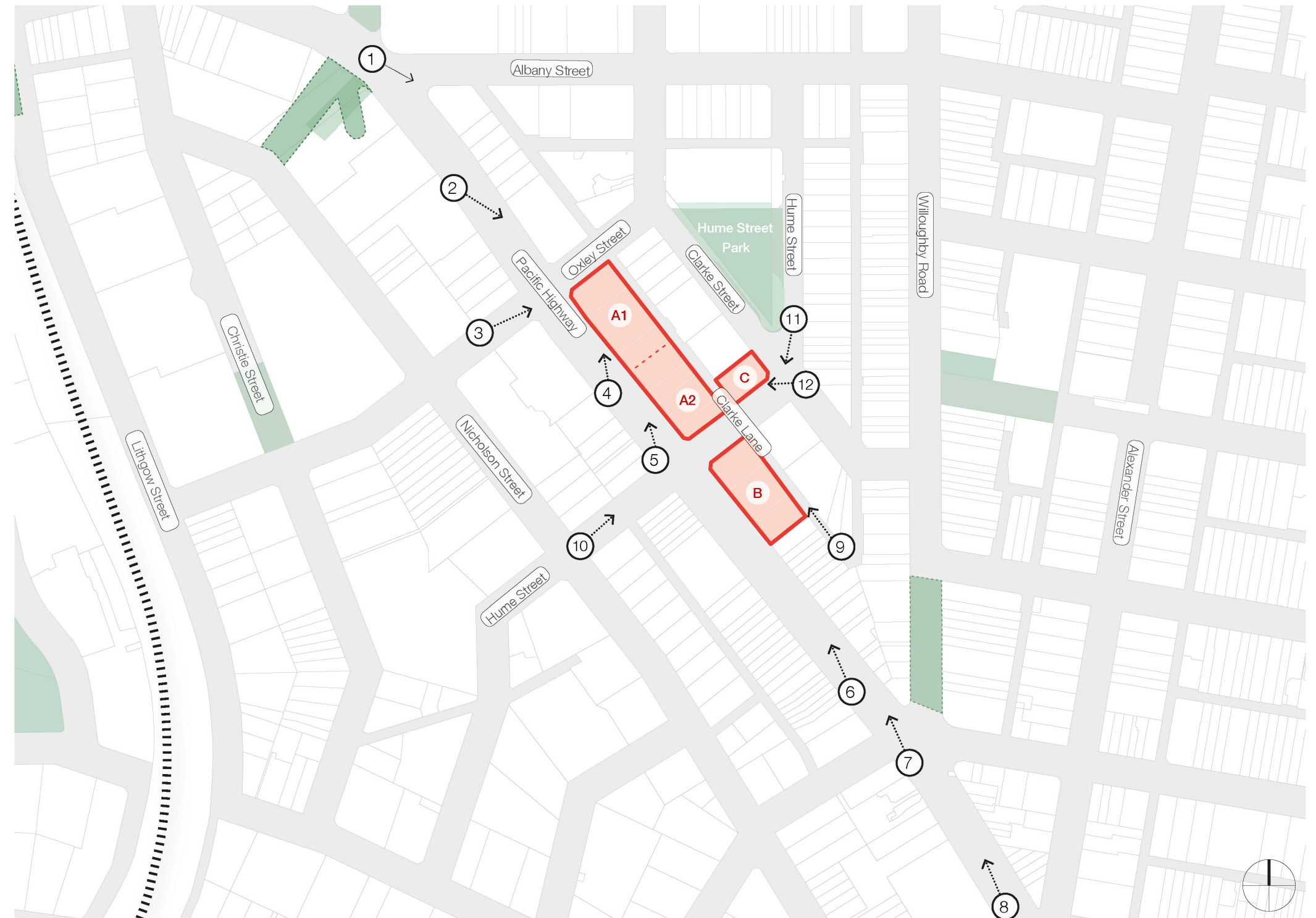
The subject site covers multiple blocks, identified as A, B and C on the diagram opposite.

Some key features within the immediate context include:

- The primary frontage is along the Pacific Highway, with secondary frontages along Oxley Street, Clarke Street and Hume Street.
- Clarke Lane runs adjacent to the site and is currently inactive and underutilised.
- The site is located in proximity to Willoughby Road, an active retail strip to the east.
- Hume Street Park is located directly to the north-east of the site and is proposed to be upgraded and expanded to provide a green pedestrian/cycle link to Willoughby Road.
- A number of smaller pocket parks and civic spaces are located within the immediate vicinity.

Legend

-  Subject Site
-  Development Blocks
-  Existing Train Line
-  View Locations (see p.9)
-  Existing Open Space
-  Proposed Open Space



Introduction

1.5 Site Photos - Local Context



Location 1 - From Pacific Highway at Albany Street looking south



Location 2 - From Pacific Highway looking south



Location 3 - From Oxley Street looking towards Pacific Highway



Location 4 - From Pacific Highway looking opposite



Location 5 - From Pacific Highway at Hume Street looking north



Location 6 - From Pacific Highway looking north



Location 7 - From Pacific Highway at Fiveways Intersection looking north



Location 8 - From Pacific Highway at Alexander Street looking north



Location 9 - From Clarke Lane looking north



Location 10 - From Hume Street at Nicholson Street Intersection



Location 11 - From Hume Street at Clarke Street Intersection



Location 12 - From Clarke Street at Hume Street Intersection

Strategic Framework

2

Strategic Framework

2.1 Greater Sydney Region Plan

St Leonards as a Strategic Centre - Greater Sydney Region Plan (GSC)

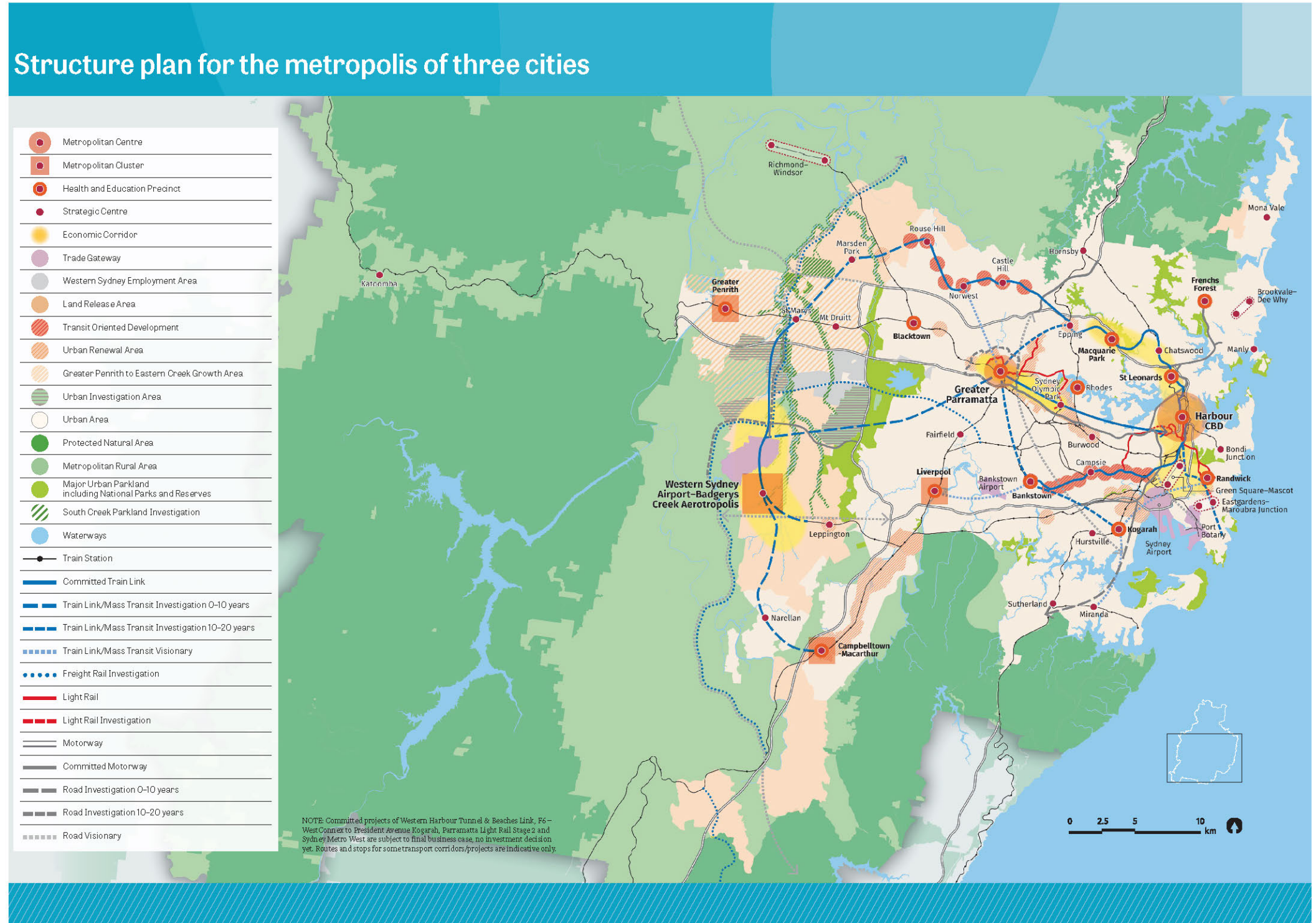
The final Greater Sydney Region Plan was released in March 2018 by the Greater Sydney Commission and outlines a vision to meet the needs of a changing population and transforming Greater Sydney into a metropolis of three cities.

The Plan identifies St Leonards as a Strategic Centre and Collaboration Area within 'Global Sydney' and more specifically, within the Harbour CBD and Eastern Economic Corridor, which extends from Macquarie Park to Sydney Airport.

St Leonards and Crows Nest is located between two other main employment centres within the corridor, North Sydney and Chatswood, which are connected to the Sydney CBD by road, and bus. It is noted as being one of Sydney's key office markets alongside Harbour CBD, Macquarie Park and Norwest. The Eastern Economic Corridor is of national significance and currently contains approximately 775,000 jobs.

The area supports:

- High density residential;
- Office-based employment hub, including high-rise office developments;
- Health and medical uses at the Royal North Shore Hospital, North Shore Private Hospital and Mater Hospital;
- Northern Sydney Institute of TAFE and technology industries; and
- Consolidated industrial sub-precinct in Artarmon providing essential urban services to the broader area.



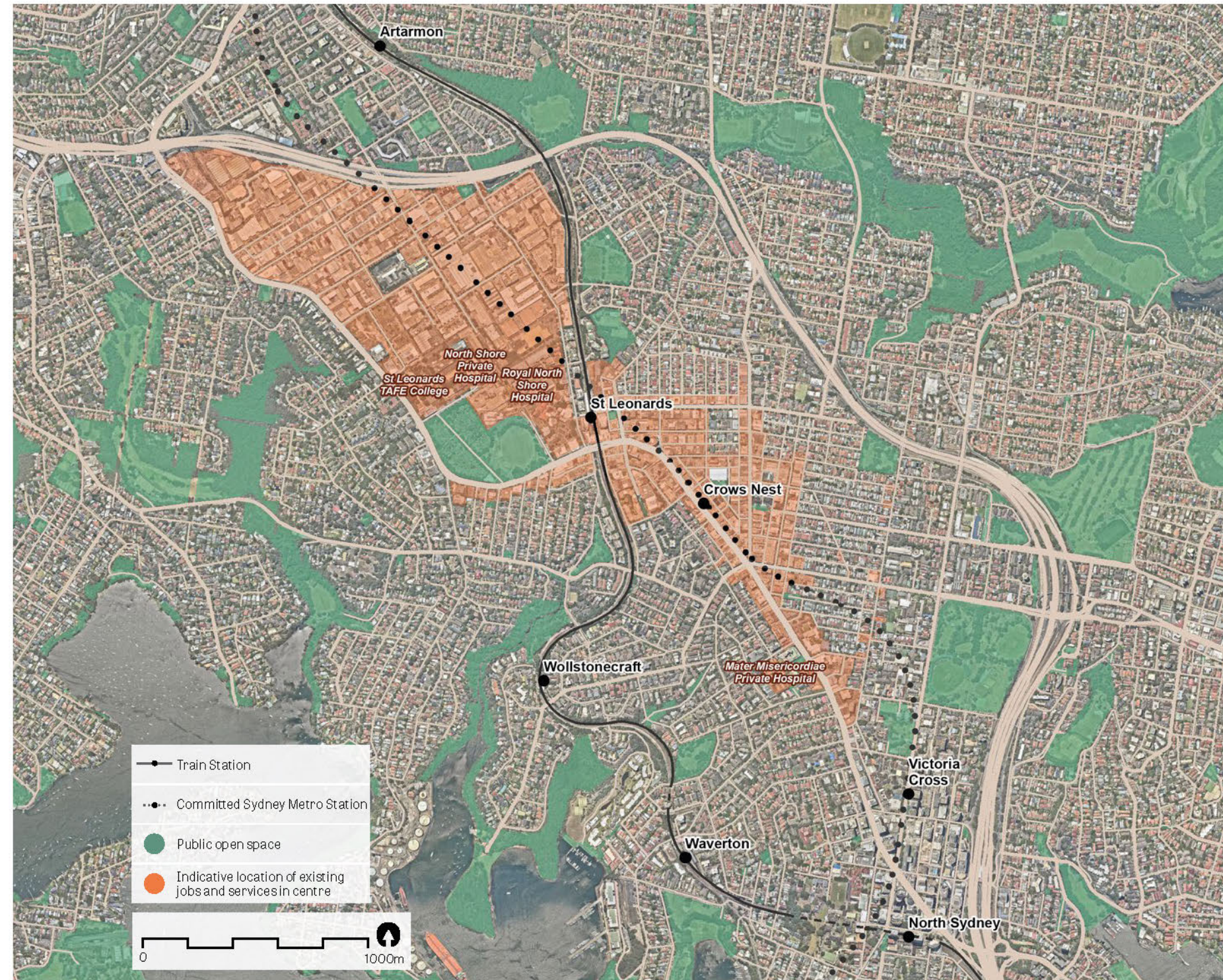
Strategic Framework

A Strategic Centre - North District Plan (GSC)

St Leonards is a mixed use centre with high rise offices, a major health and education precinct, high density residential development and good public transport. It is an attractive centre, bolstered by the restaurant village along Willoughby Road in Crows Nest and productive industrial employment area within Artarmon.

With a current estimate of approximately 47,000 jobs provided in St Leonards, the Plan proposes a jobs target of up to 63,500 jobs by 2036, meaning an additional 16,500 new jobs by 2036 to be provided within the Precinct. This will require considered planning for significant growth in commercial development within the area, along with supporting housing, transport infrastructure and other key services and amenities.

In order to meet these targets the intention is to leverage the potential of the Royal North Shore Public, North Shore Private Hospitals and the Mater Hospital to grow jobs in complementary health services and existing education facilities, a new Sydney Metro station at Crows Nest will further strengthen the centre's economic and employment functions.



Strategic Framework

2.2 Catalyst for Change - Sydney Metro

Sydney Metro (Northwest and City & Southwest)

Sydney Metro is Australia's largest transport project – a new standalone railway delivering 31 metro stations and 66 kilometres of new metro rail, revolutionising the way people in Australia's biggest city travel. It will have the ultimate capacity to operate 30 trains an hour through the CBD in each direction – a train every two minutes each way.

In November 2015, Crows Nest was announced as a metro station. In the Sydney Metro Secretary Environmental Assessment Requirements (SEARS) documents, two entrances are proposed along the Pacific Highway and at Clarke Street.

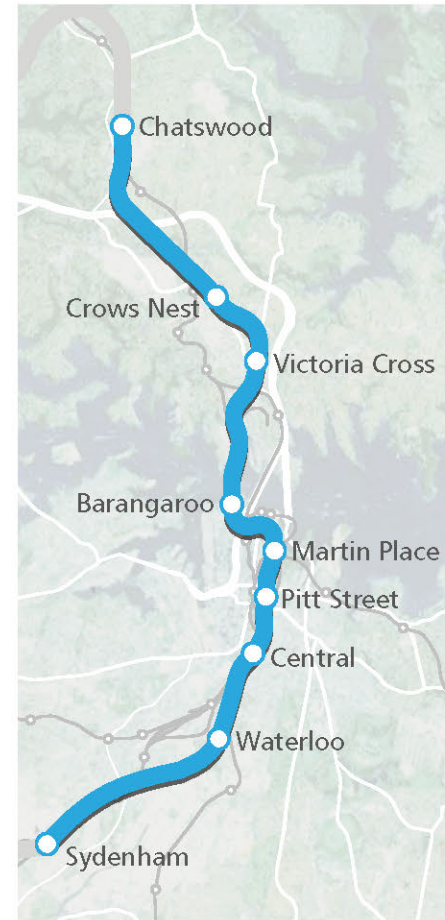
The addition of a station at Crows Nest will reinforce the role of the area between the two stations as the commercial and mixed use core. The new station will also change the way that people use and move through the public realm.

A pedestrian and cycle-friendly catchment will be centred around the new transport node, which will include upgrades to pedestrian crossings, cycle links and way-finding. The walk to a major station will be significantly reduced for patrons within the area on the south-western side of the Pacific Highway, as well as those to the east of Oxley Street. A small section of the study area also falls within the 800m catchment area for the Victoria Cross Metro station at North Sydney.

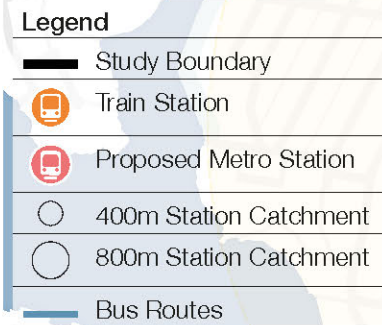
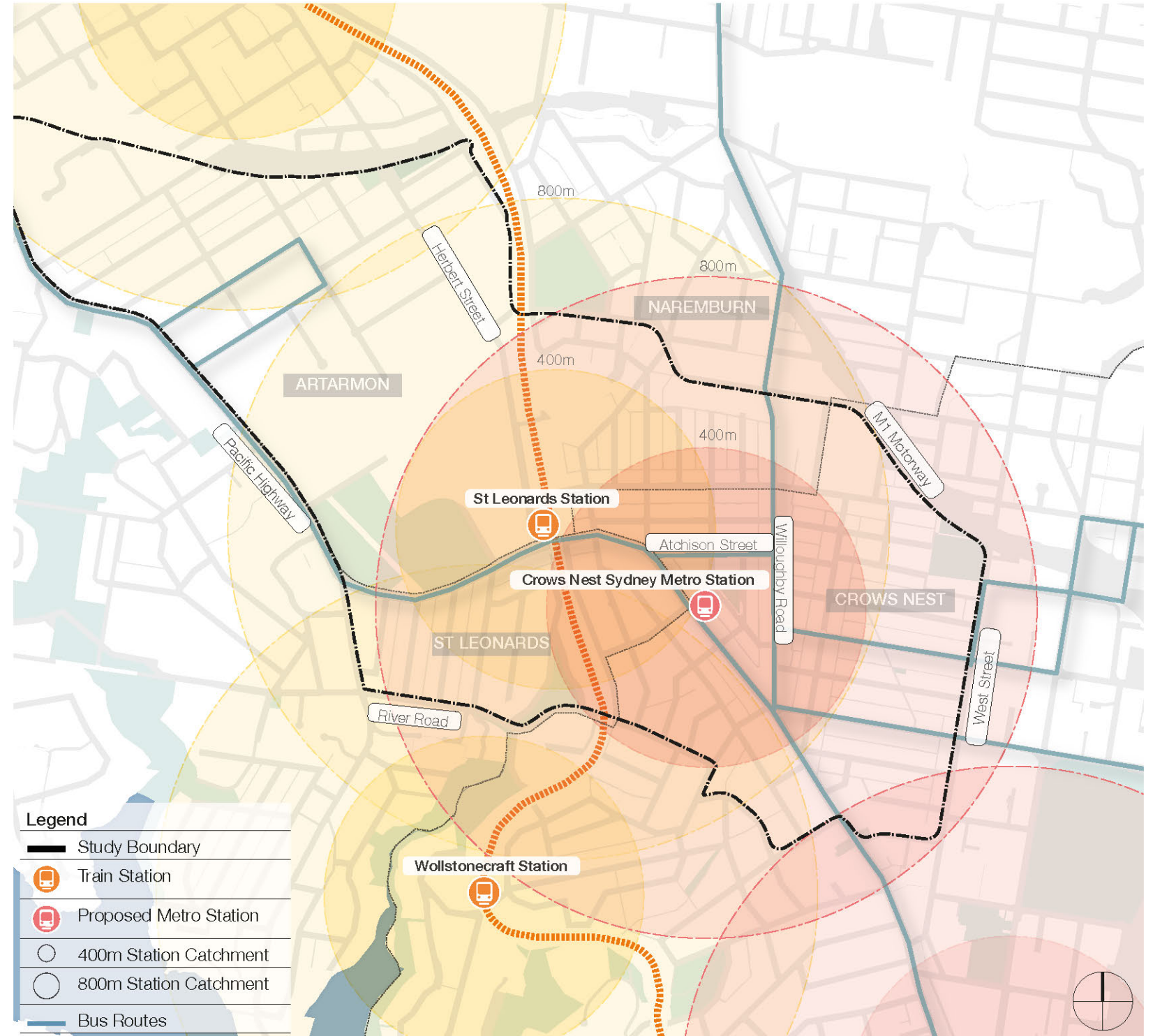
The travel experience for commuters to and from the centre will also be improved with travel times estimated at 11 minutes to Central station and 7 minutes to Martin Place Metro Station (from 2024).

Given the increased accessibility in this area, further investigations into commercial and residential densities have formed a large component of this study. The new station will facilitate the sustainable growth of the area through improved connectivity and a focus on active and public transport modes. A decrease in car reliance will also be facilitated by an improved public domain, pedestrian experience and improved active transport links.

The station will improve access to the Crows Nest residential area, as well as the St Leonards southern gateway to commercial and mixed-use activities. This will not only bring jobs closer to residents but will also open up new opportunities for office and health based commercial uses, with an increased population available to the area.



Metro Alignment



Strategic Framework

2.3 Local Projects

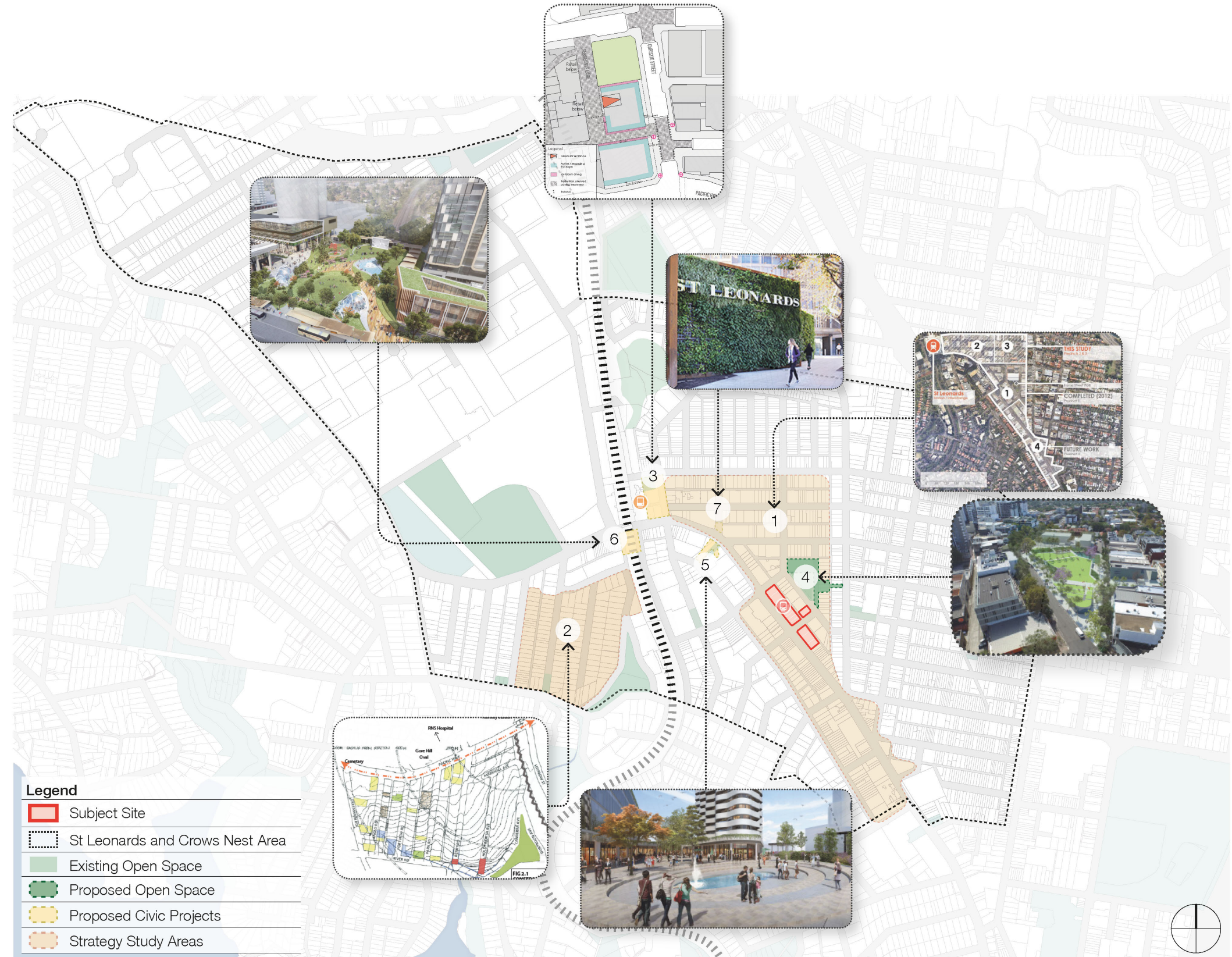
In addition to the wider strategic documents, a number of local strategies, civic projects and proposed developments are shaping the future of St Leonards and Crows Nest.

Local Strategic Documents/Masterplans

1. **St Leonards Crows Nest Planning Study**
 - Adopted by North Sydney Council (2011, 2012, 2015)
 - Study area focused within along the Pacific Highway within the central precinct.
 - Investigates potential for sustainable development growth along the corridor.
2. **St Leonards South Planning Proposal**
 - Planning Proposal lodged by Lane Cove Council (2014).
 - Investigates opportunities for increased residential density alongside improved amenity.
3. **Christie Street Master Plan**
 - Christie Street Master Plan Guidelines endorsed by North Sydney Council on 16 May 2016.
 - The master plan includes the upgrade of Christie Street Park and built form guidance for the development of nearby sites on Christie Street and Pacific Highway.

Major Civic projects:

4. **Hume Street Park**
 - North Sydney Council
 - Approved at Gateway with RPA for implementation.
 - Proposal to upgrade and potentially expand existing park, to provide better facilities and connections for the surrounding urban areas as they develop.
5. **Friedlander Place Pedestrian Plaza**
 - Lane Cove Council
 - Subject to Development Application.
 - An upgraded pedestrian plaza proposed as part of the Charter Hall and Leighton Properties Development at 472-520 Pacific Highway and 69 Christie Street.
6. **Civic Plaza & Bus/Rail Interchange**
 - Lane Cove Council
 - Proposed in the 2006 St Leonards Strategy as an integrated public plaza and transport interchange located over the rail corridor, on the south side of the Pacific Highway.
7. **Mitchell Street Plaza**
 - Completed public domain project, endorsed by North Sydney Council.
 - The upgrade includes green walls, a shared pedestrian zone and footpath upgrades along the Pacific Highway.



Strategic Framework

2.4 St Leonards and Crows Nest 2036 Urban Design Study

The *St Leonards and Crows Nest 2036 Urban Design Study* was prepared by SJB in collaboration with various consultants, on behalf of the NSW Department of Planning and Environment. The document forms part of the second stage of the urban design study for the St Leonards and Crows Nest Station area. Stage 2 builds on the analysis and conceptual framework presented in the Stage 1 report, layering in additional inputs, strategic drivers and place making factors to provide a suite of Structure Plans for the Precinct.

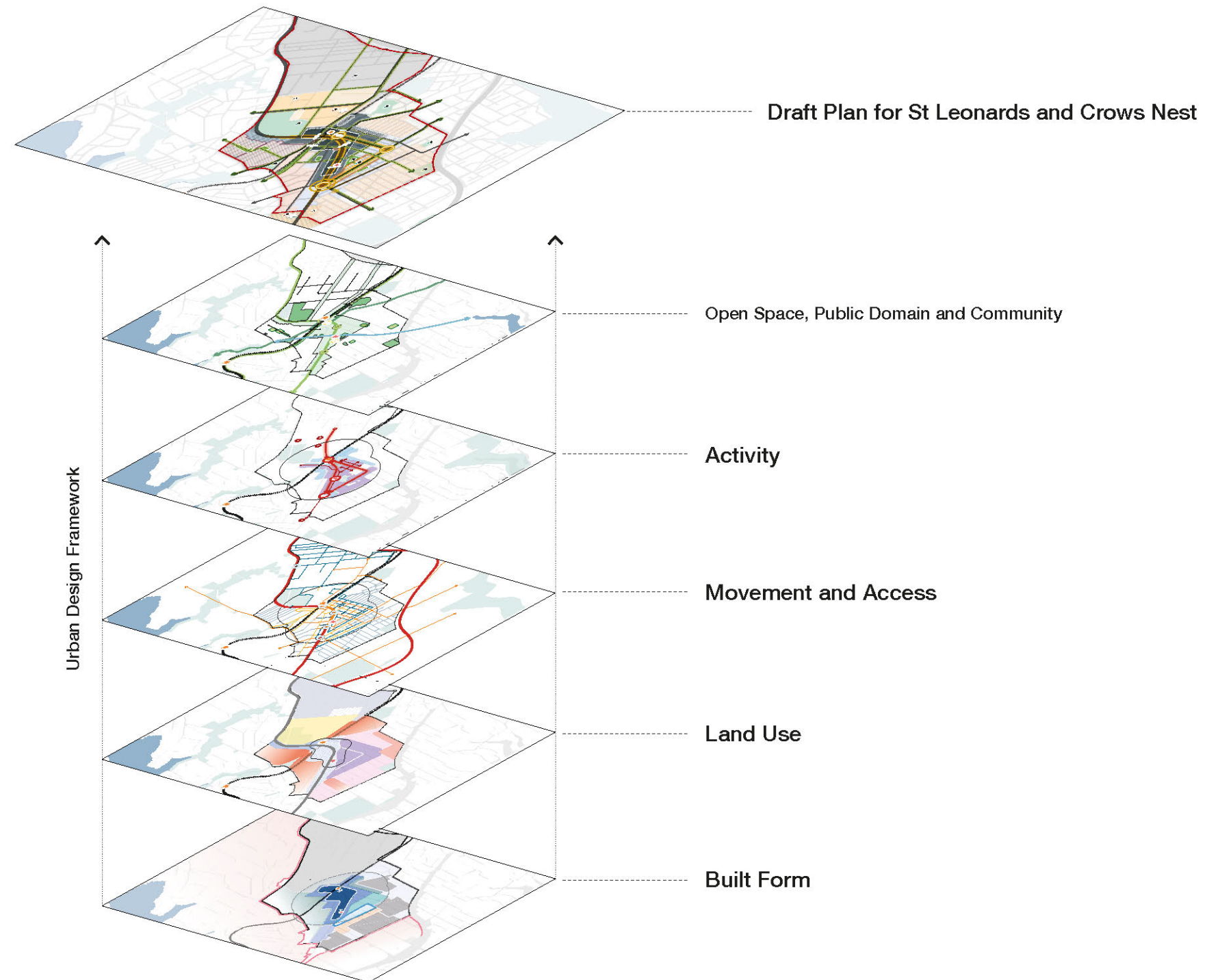
The resulting Draft Plan for St Leonards and Crows Nest combines and distils the actions and directions identified in a series of Framework Plans, which cover a number of key themes (listed opposite).

The Plan focuses on improving connectivity across and between the identified character areas through a network of green streets, activity areas and public spaces.

The greatest focus of development will be within St Leonards Centre and along Pacific Highway to the Crows Nest Sydney Metro sites. Sites in these locations can embrace the close proximity to public transport and existing density to provide additional commercial and residential floor space, enhance the quality of the streetscape and support activation of the centre.

Existing residential neighbourhoods and conservation areas of Naremburn and Crows Nest will be protected, undergoing no change as a result of this Plan. Land in St Leonards South will transition from Canberra Avenue to Park Road ensuring solar access is maintained to surrounding low scale residential areas and to Newlands Park. The Artarmon Industrial Area in the north-west will be preserved for employment opportunities, continuing to provide essential urban services in line with the current zoning controls. Industrial jobs will be facilitated east of Herbert Street and South of Fredrick Street also.

Consequently, public domain improvements will be focused on enhancing the functionality and accessibility of the areas immediately surrounding the two stations, and the integration with existing open spaces.



Vision and Principles

3

Vision and Principles

3.1 Vision Objectives

The following are a number of high-level objectives that have informed the vision for the future Crows Nest and St Leonards area. These objectives have been taken from the draft *Stage 02 St Leonards and Crows Nest 2036 Urban Design Study* (2018), that were developed from the visioning workshops and interim statement developed as part of stage 1 of the project.

A set of principles relating to public domain, open space and community; movement and access; land use and activity; and built form, were developed to guide the delivery of the vision objectives.

While these objectives have been developed at a precinct-wide scale, any future development must consider their implication and ways of delivery at a site-specific level.



1. Leverage world-class health and education uses to provide opportunities for training and employment growth into the future.



2. Protect and strengthen the area's commercial role supported by complementary uses to capitalise on renewed confidence in the commercial market and potential softening of the residential market.



3. Create future employment opportunities leveraging off the increased transport capacity of the new metro station.



4. Protect and enhance opportunities in the Artarmon employment area to fulfil the important urban service needs of the wider North District.



5. Create a network of new and existing use-able, public open spaces which prioritise walking, cycling and access to transport, promote a healthier urban environment and encourage social interaction.



6. Incorporate opportunities for transit oriented development including commercial and mixed use development that takes advantage of existing and future transport.



7. Develop high quality and diverse residential areas that create sustainable and liveable communities.



8. Preserve, strengthen and enhance the existing diverse character areas.

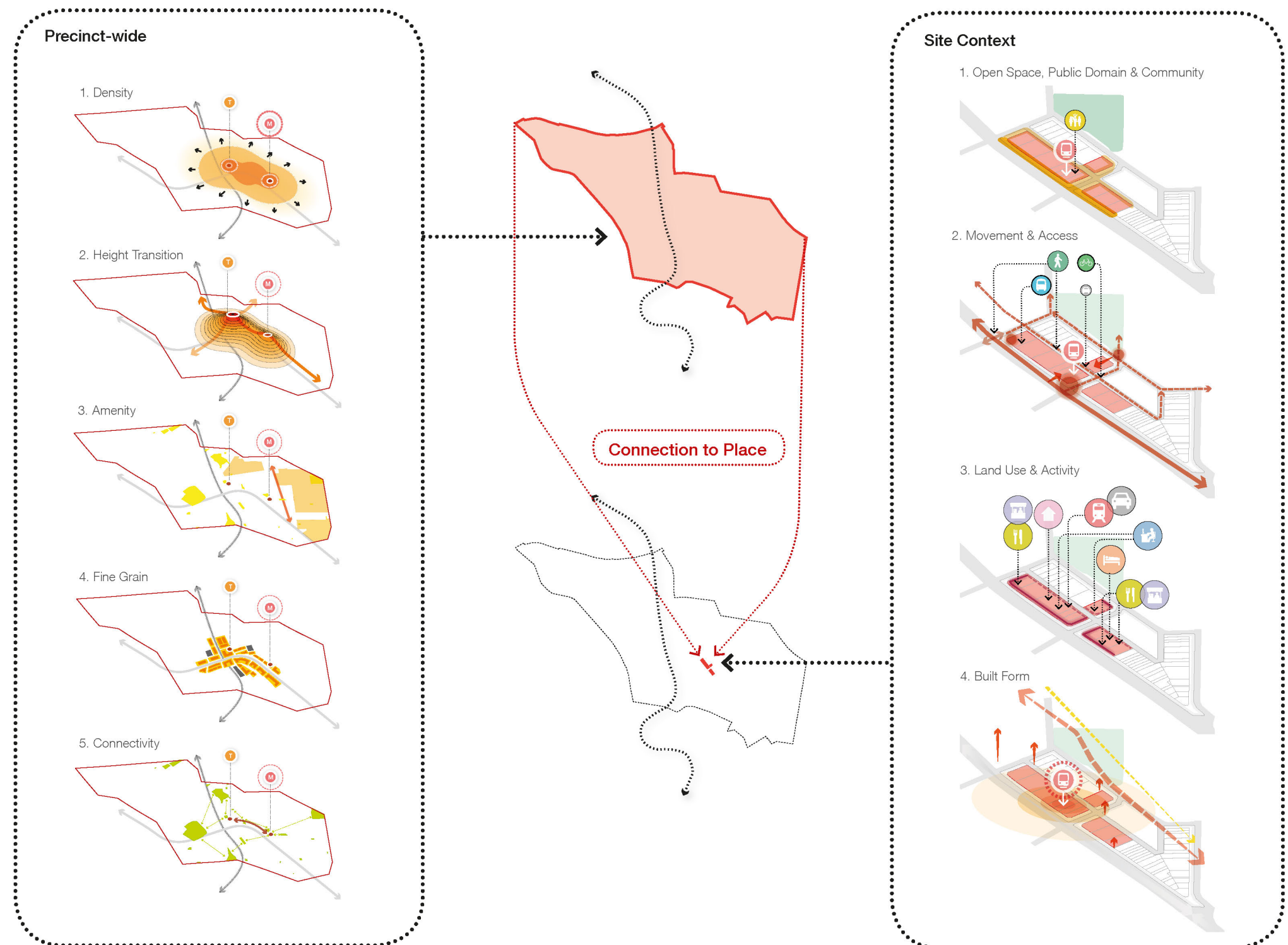
Vision and Principles

3.2 Design Framework Methodology

The urban design framework for the Crows Nest Sydney Metro sites has been formed through consideration of the site's position within both its wider and local context.

The concept diagrams opposite illustrate key design principles for the proposed development. The conceptual framework outlines the site's strategic position within the wider Precinct, which is then investigated in greater detail within the immediate context. These principles are presented as a series of parameters and opportunities that are unique to the site, ensuring a place-based design approach is taken for the development.

Conceptual Framework

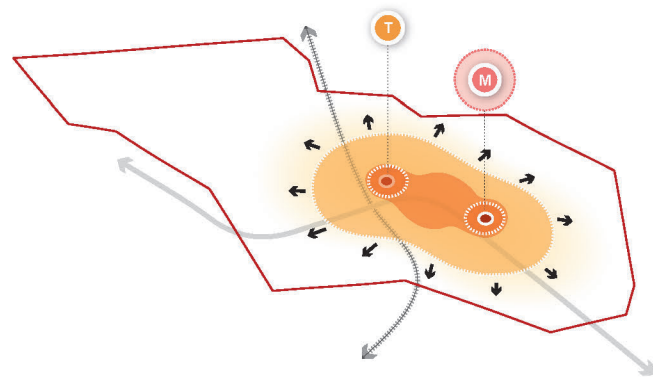


Vision and Principles

3.3 Design Principles - Wider Context

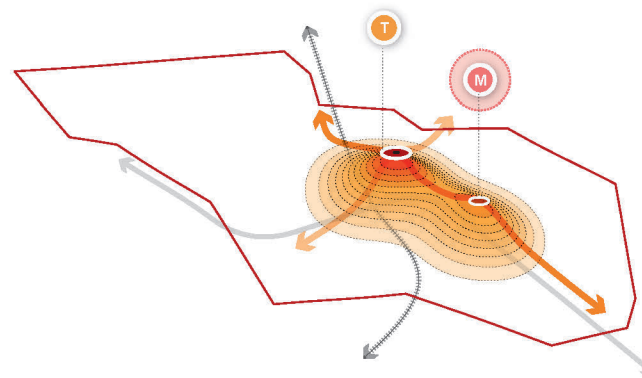
The following diagrams outline the key design principles that will ensure a good urban design outcome for the future growth and development within the St Leonards and Crow Nest Study Area. These concepts have been adapted from the draft *Stage 02 St Leonards and Crows Nest 2036 Urban Design Study (2018)*.

1. Density in Proximity to Stations



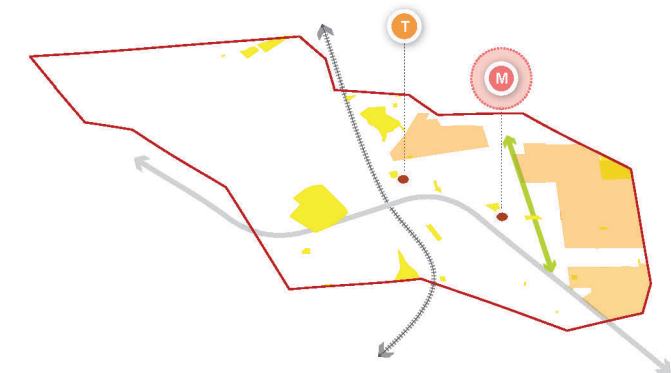
- Proposed Crows Nest Sydney Metro sites facilitate Transit Oriented Development (TOD).
- Density is to be focused on and around the two transport hubs.
- The proposed metro station will serve as a destination point for Crows Nest Village denoted through a density of mixed uses, which provides opportunity for a focus of activity and amenity.

2. Centre & Height Transition from Stations



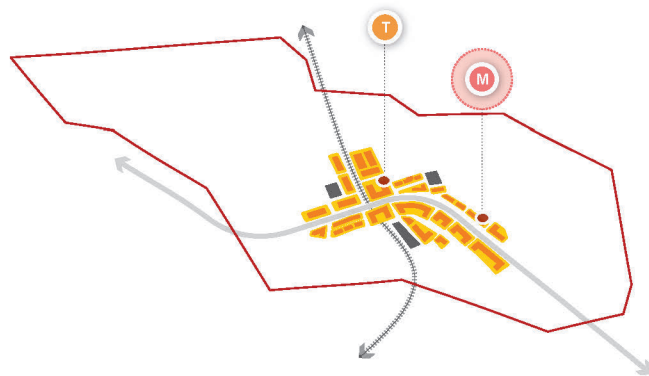
- Reinforce the role of the two stations as anchors within the St Leonards and Crows Nest Station character area, through a focus of height and bulk.
- Large developments are to be located around St Leonards Train Station and Crows Nest Sydney Metro Station along the Pacific Highway with a transition in height, bulk and scale from the highway to the surrounding neighbourhood areas. This focus of height as referred as the 'knuckle' area within St Leonard's and mixed use commercial core.

3. Retain High Amenity for Key Streets, Open Spaces and Heritage Conservation Areas



- Ensure future development has minimal impact on the overshadowing and visual amenity for all areas of the public realm, especially key streets, open spaces and heritage conservation areas.

4. Fine Grain Approach



- Proposed development should consider its relationship to surrounding context and urban grain while seeking to provide improved accessibility.
- This may include appropriate frontage treatment and articulation of form, as well as the provision of arcades, laneways and enhanced public domain.
- Fine grain character may also be created through the provision of a mix of uses and activity at the ground plane.

5. Create green connections and facilitate movement and access

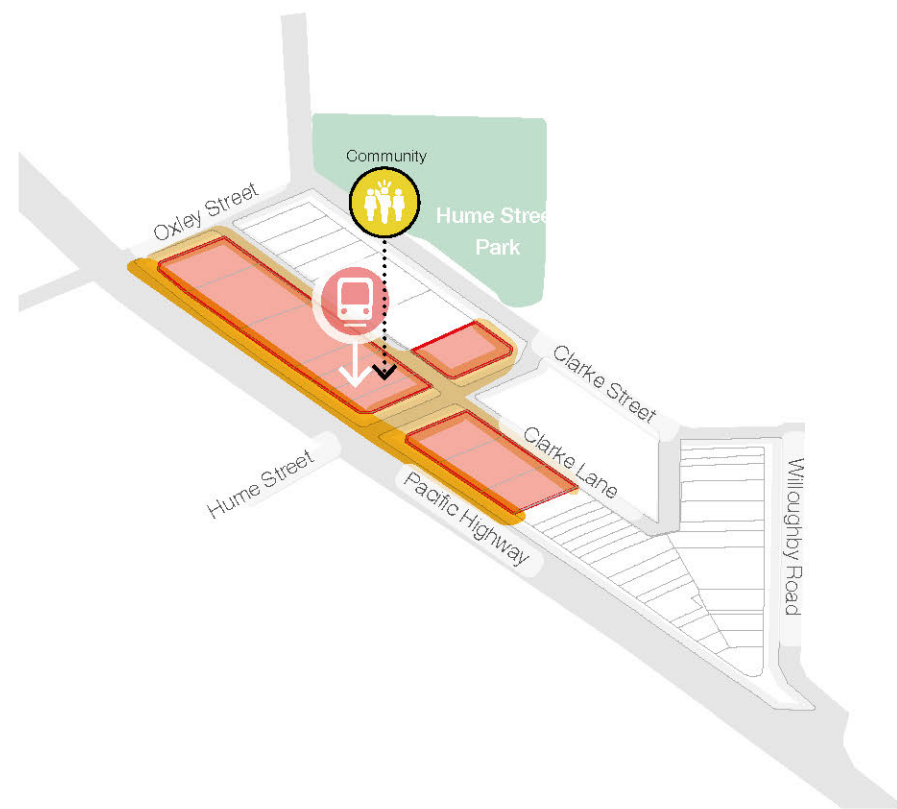


- Strengthen connectivity between existing train station and future metro station via laneways and green links.
- Future development should facilitate and enhance connections between existing and proposed open spaces and other civic areas within the public realm.

Vision and Principles

3.4 Design Concept - Local Context

1. Open Space, Public Domain & Community



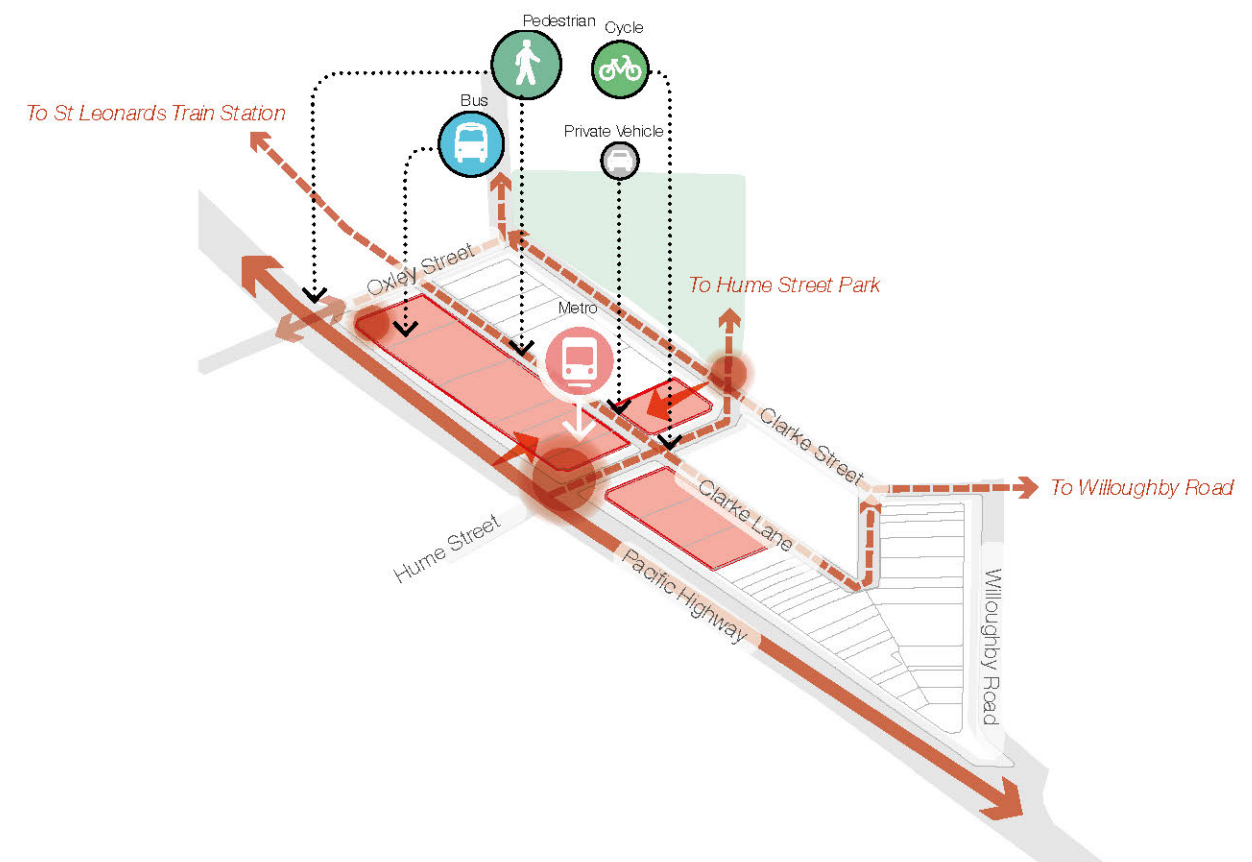
Key Principles

- Preserve high level of amenity for Hume Street Park.
- Consider the built form interface with the public domain through good amenity and activation at the ground plane.
- Potential to provide community services and infrastructure within the development.

Legend

	Subject Site
	Future Hume Street Park
	Public Domain Interface - Primary
	Public Domain Interface - Secondary

2. Movement and Access



Key Principles

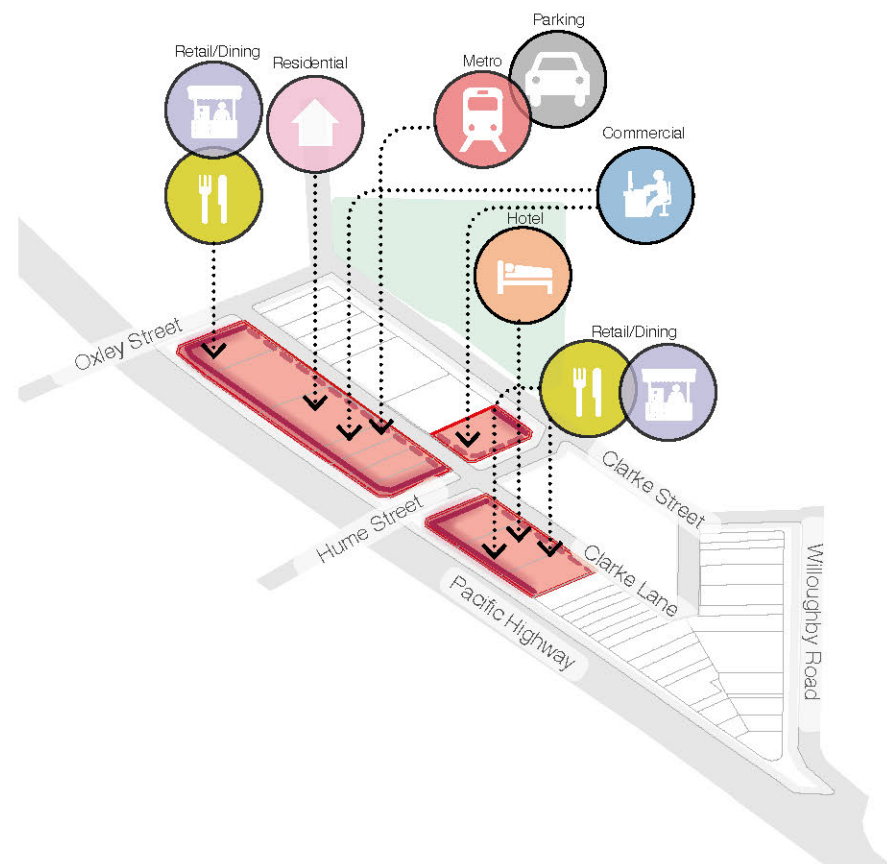
- Potential to improve pedestrian access across Pacific Highway.
- Facilitate access to wide range of public and active transport options on and around the site.
- Ensure accessibility through site for the varied uses and users.
- Support cycling through improved bike paths and end of trip facilities.
- Any vehicle access should be provided via Clarke Lane.
- Facilitate pedestrian access and wayfinding to key local destinations such as Hume Street Park, Willoughby Road and St Leonards Train Station.

Legend

	Subject Site
	Future Hume Street Park
	Major Vehicular Connection
	Key Pedestrian Links
	Improved Pedestrian Connection across Pacific Highway
	Activity Node
	Potential Metro Station Access

Vision and Principles

3. Land use and Activity



4. Built Form and Solar Access



Key Principles

- Provide for a variety of uses across the site to create a vibrant, mixed-use development.
- Activate key frontages through built form articulation, high accessibility and active ground floor uses.
- Promote role of site as a primary anchor for activity and development surrounding the Crows Nest Sydney Metro Station.
- Provide a mix of non-residential uses to contribute to jobs growth and support the future employment aspirations outlined by the Greater Sydney Commission's North District Plan.

Legend

	Subject Site
	Future Hume Street Park
	Primary Active Frontages
	Secondary Active Frontages
	Proposed Land Use

Key Principles

- Promote role as transit-oriented development, focusing height and density on and around the future metro station.
- Transition height down along the Pacific Highway from the station and commercial core.
- Ensure bulk and scale of built form does not cause significant overshadowing impact to Willoughby Road between 11:30am-2:30pm.
- Podium heights should respond to scale of existing buildings, particularly key street wall heights, within immediate context.
- Built form scale and activation to respond to undulating topography along Pacific Highway.
- Highlight location of metro station through built form scale, articulation and wayfinding strategies.

Legend

	Subject Site
	Future Hume Street Park
	Height Transition
	Density Focus
	Solar Access to Willoughby Road
↑	Existing datum /street wall heights
←	Topography (Highest-lowest)
	Focal Point

Framework Plan

4

Framework Plan

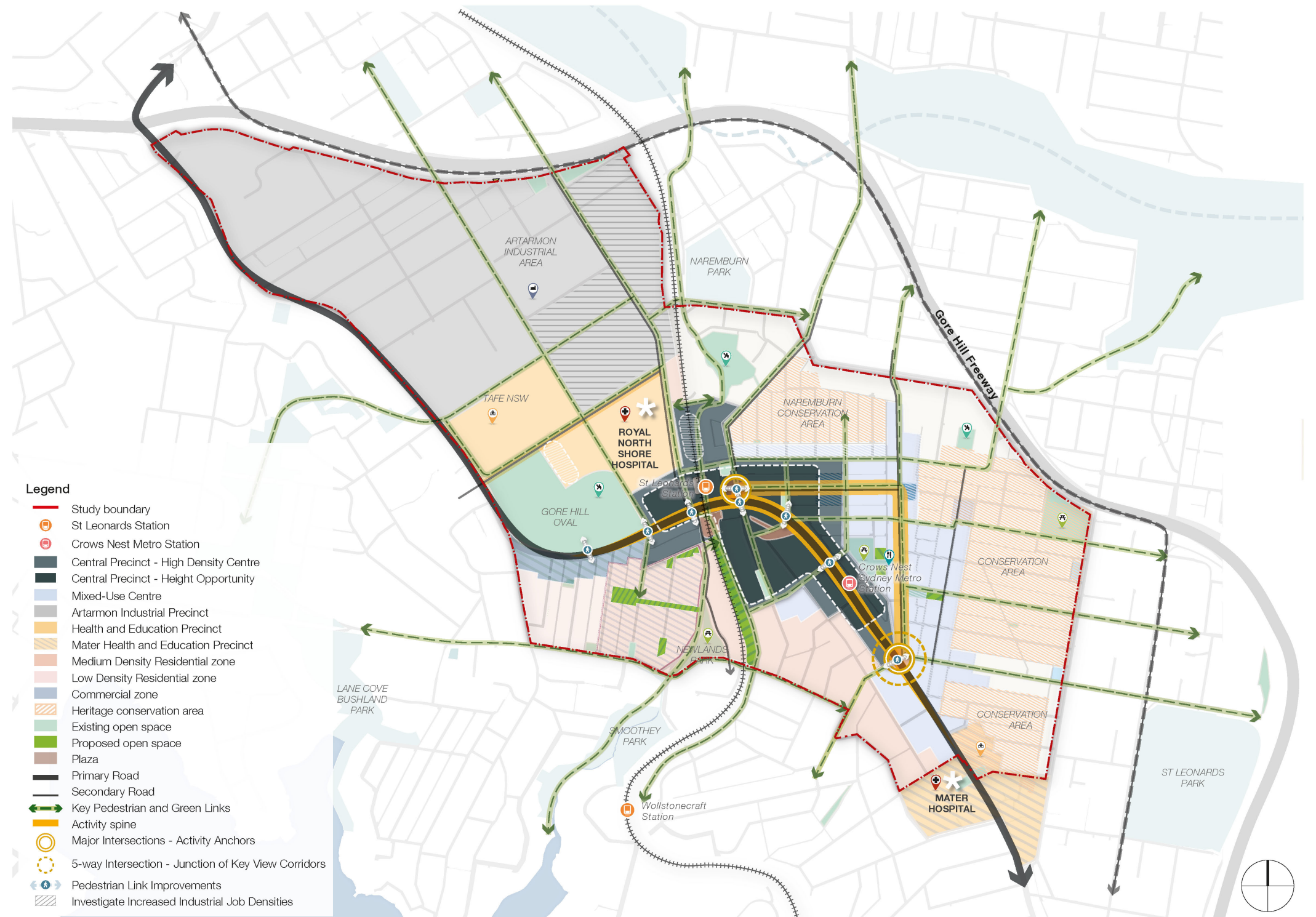
4.1 The Draft Plan for St Leonards and Crows Nest

The Draft Plan for St Leonards and Crows Nest is taken from the draft *Stage 02 St Leonards and Crows Nest 2036 Urban Design Study*. The Plan illustrates a unified and over-arching framework for the St Leonards and Crows Nest Area.

The Plan recognises that St Leonards and Crows Nest is made up of a number of adjoining activity areas, each with unique characteristics. Consequently, the primary concept is to establish a series of focal points that are connected by an expanded green network of open spaces, active frontages and vibrant environments.

The draft Plan for St Leonards and Crows Nest Land Use is based upon 9 key priorities and actions for the area:

1. Increase the amount of open space and plazas.
2. Improve pedestrian and cycle connectivity.
3. Preserve the character of Willoughby Road.
4. Improve activity offering within the core including a mix of retail, restaurants and services, anchored at the two major intersections along the 'activity spine'.
5. Expand mixed-use development along Pacific Highway around and between St Leonards Station and Metro.
6. Encourage expansion of RNSH sub-precinct with preparation of an integrated strategy and provide for some expansion of health/medical uses into the fringe of the Artarmon Industrial Precinct.
7. Consolidate commercial development between St Leonards and Crows Nest Station.
8. Retain Artarmon industrial sub-precinct (per the North District Plan (GSC). Encourage industrial, urban services, advanced technology uses and innovation industries in the Herbert and Frederick Street area.
9. Protect the heritage character of Naremburn Conservation Area and Holtermann Estate Conservation Area and individual items throughout the precinct.



Framework Plan

4.2 Central Precinct

The following diagram has been adapted from the draft *Stage 02 St Leonards and Crows Nest 2036 Urban Design Study* and summarises the key priorities for the Central Precinct.

The proposed Centre will be defined by Chandos Street to the north, Oxley Street and the Crows Nest Sydney Metro sites to the east and Oxley Street south of the Pacific Highway to the south, anchored by St Leonards Station in the north-western corner. This Central Precinct will serve as a new heart for the area connecting to the surrounding character areas. This precinct will encapsulate the areas of greatest development uplift, activation and public domain improvements.

Specifically, this plan relates to a number of public domain, movement and open space improvements that should be investigated for implementation.

Legend

	Study Boundary
	Core Employment Area
	Proposed Open Space
	Existing Open Space
	Green Connections
	Asymmetric Streets
	Pedestrian/Laneway Connections
	Proposed Cycleway
	Opportunity for Height (Primary)
	Opportunity for Height (Secondary)
	New/Improved Pedestrian Crossings
	Location for Community Facilities
	Location for Library
	Key Activity Streets
	High Density Centre
	Potential Hospital Expansion Zone
	Active Frontages
	Active Laneway
	Wiloughby Road Precinct

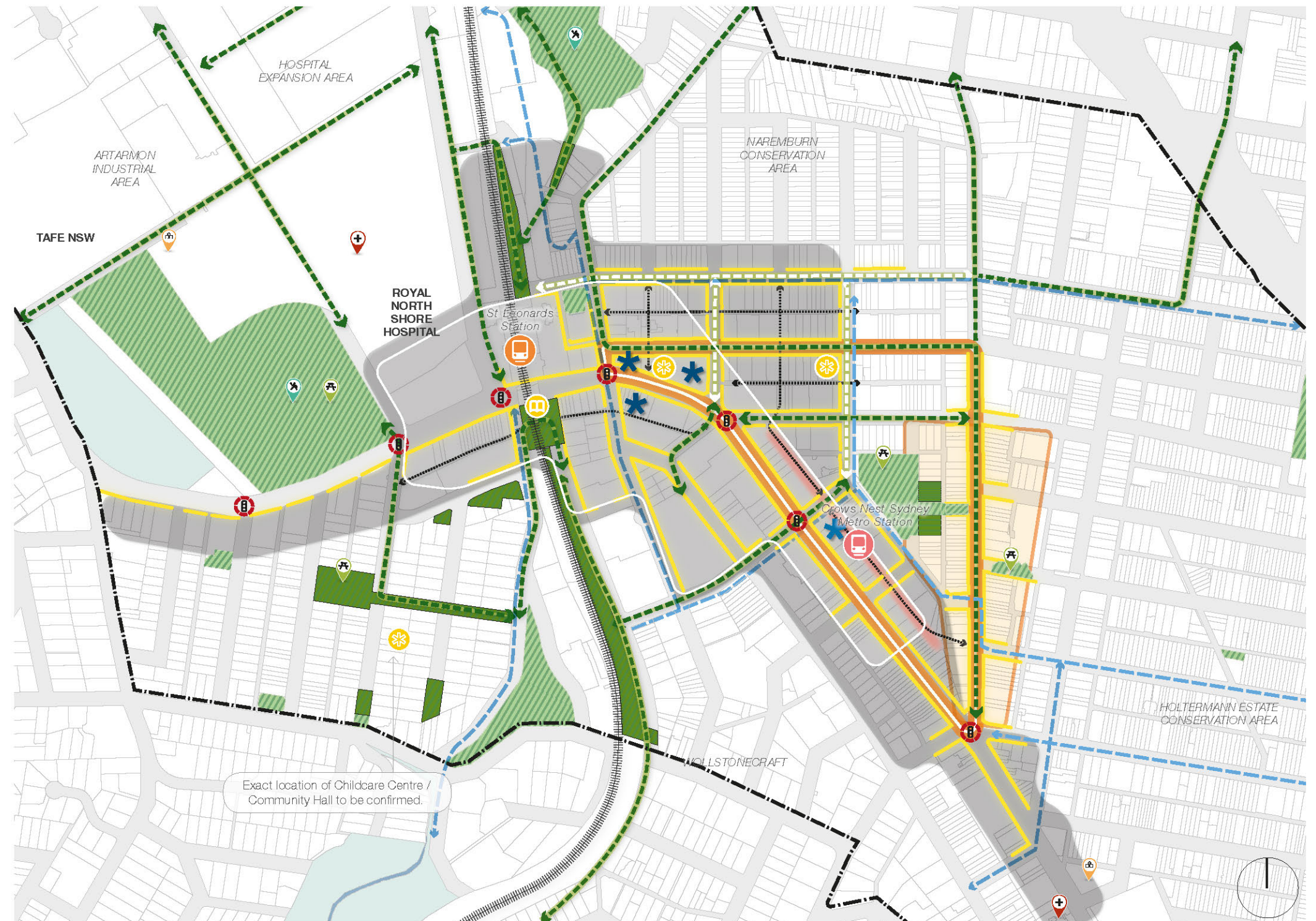


Figure 1.1.1 Central Precinct Plan

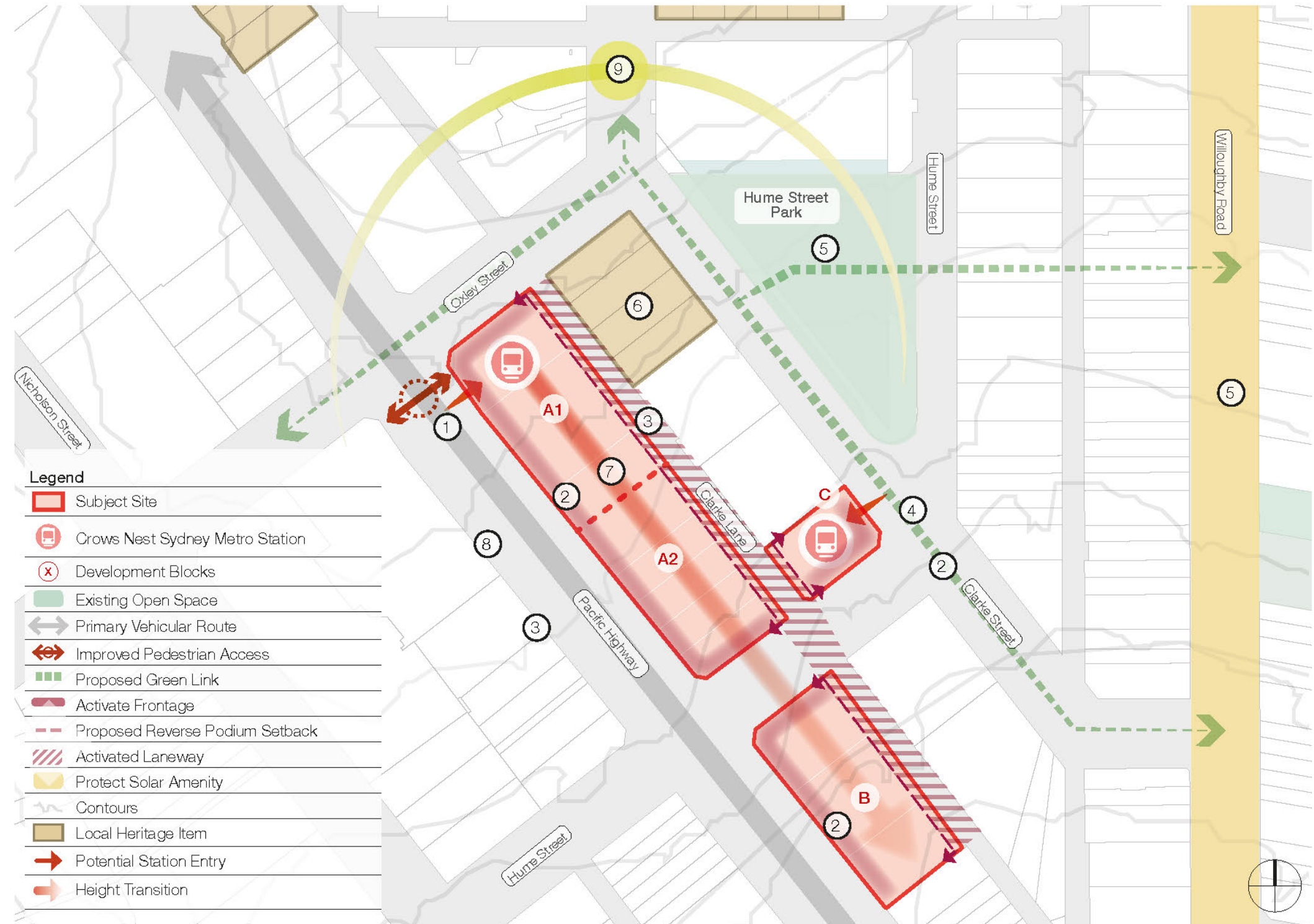
Framework Plan

4.3 Design Considerations

The design principles from Chapter 3 have been distilled into a number of key design considerations, which have informed the design moves presented over the following pages.

The considerations, shown opposite and listed below, can be read as a set of design parameters that are specific to the constraints and opportunities presented by the site.

1. Consider interface with Pacific Highway, including impact of traffic noise and accessibility.
2. Activate key frontages, particularly at the ground plane along the Pacific Highway and Clarke Street.
3. Activate Clarke Lane - Opportunity to create shared path with expanded width through reverse podium setbacks.
4. Facilitate proposed green connection to Hume Street Park and beyond.
5. Minimise overshadowing impact to Willoughby Road between 11:30am-2:30pm and Hume Street Park between 10am-3pm.
6. Minimise impact on existing heritage item, located on the corner of Oxley and Clarke Street, through a considered design response.
7. Height transitions down from St Leonards Central Precinct and Station and towards Willoughby Road and Crows Nest residential area.
8. Podium height should respond to existing street wall heights of adjacent buildings and varied character of different street interfaces.
9. Ensure future development demonstrates design excellence through good solar access, articulation of built form and a high quality finish.



Framework Plan

4.4 Urban Design Framework

The following pages provide an urban design framework as a set of key design moves and considerations for the future redevelopment of the subject site.

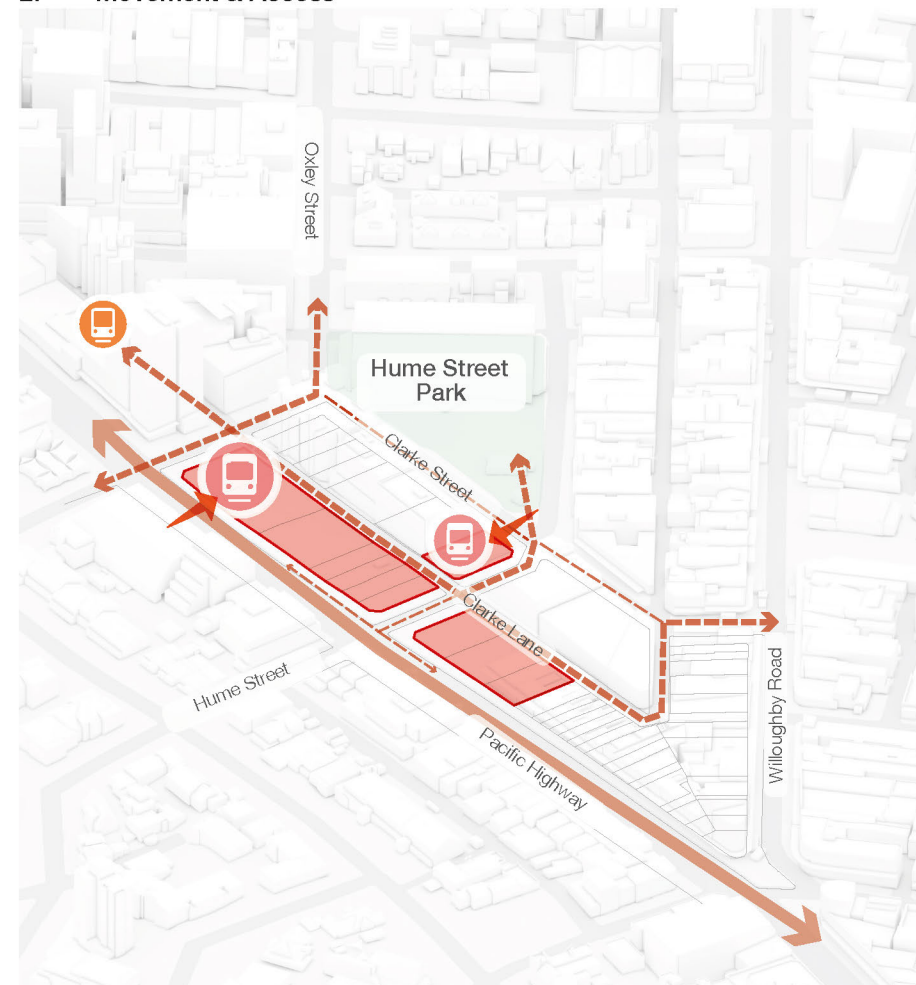
Ground Plane

1. Public Domain & Landscape



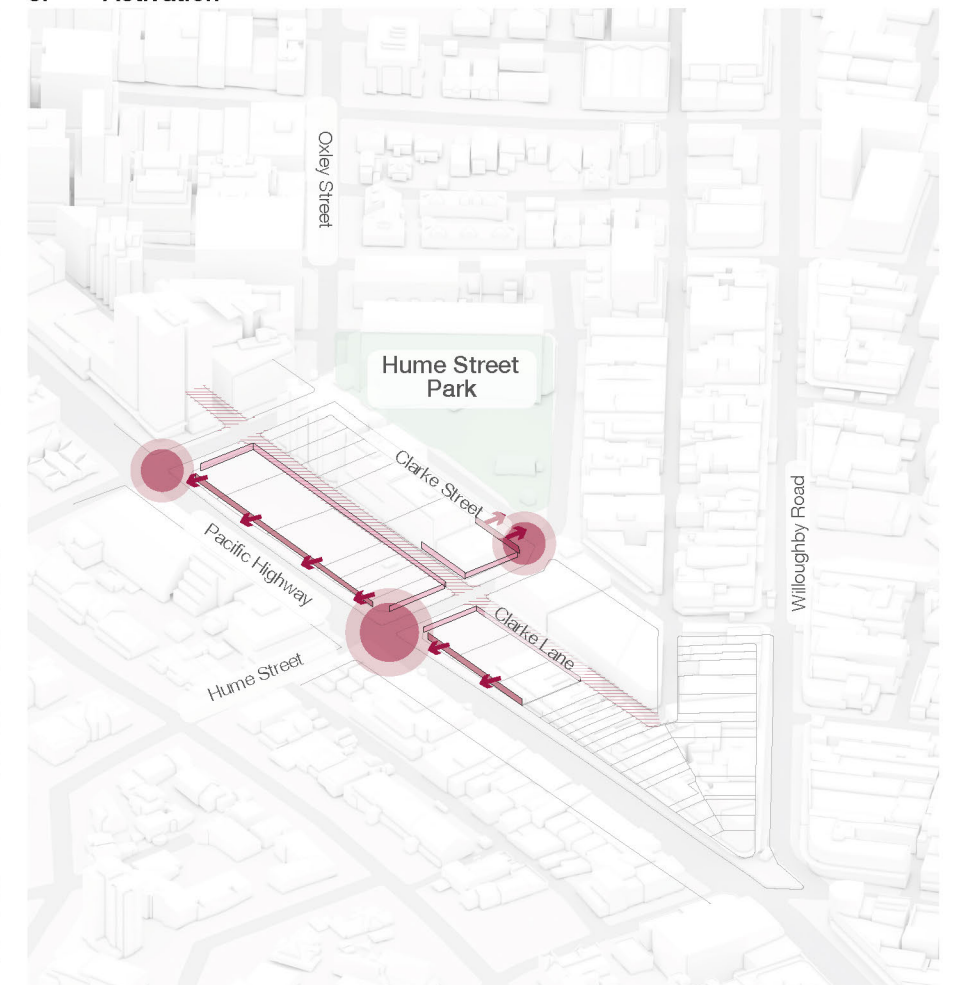
- Facilitate tree planting on Pacific Highway and Oxley Street to provide amenity to the pedestrian environment.
- Extend the proposed green spine along Oxley Street.
- Shared road surface along Clarke Lane facilitating a better environment for the connection of St Leonards Station through to Crows Nest Sydney Metro.
- Oxley Street is highlighted as an asymmetric 'greener street', with planting focused along the western side.
- Investigate opportunity to provide publicly accessible and communal open or civic spaces within the development.

2. Movement & Access



- Facilitate connections to key local destinations, including St Leonards Train Station, Hume Street Park and Willoughby Road.
- Provide good access and wayfinding to metro station, providing entry from primary interfaces with Pacific Highway and Clarke Street.
- Across the site, align entrances with key nodes and pedestrian/cycle routes.

3. Activation

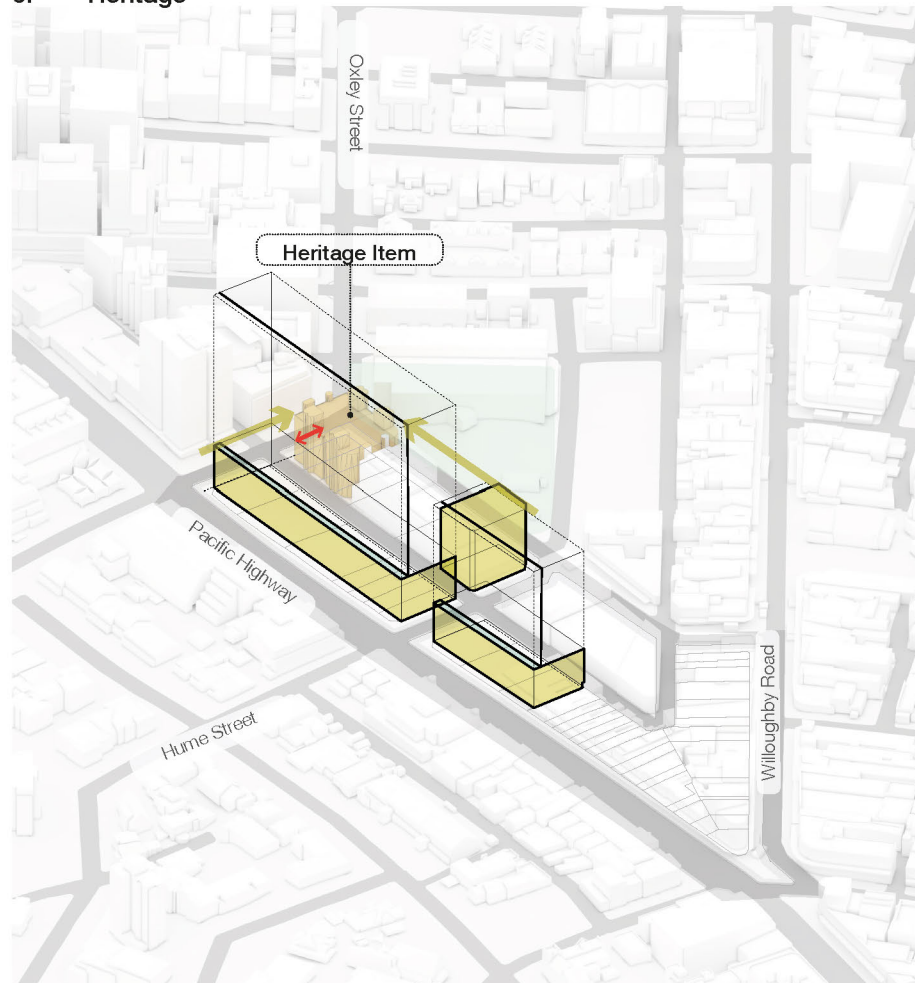


- Along the Pacific Highway activation will respond to its setting along a major road, with convenience and service uses clustered around the Metro Station and Bus Stop.
- Future connection utilising Clarke Lane will be activated to provide passive surveillance and allow for services and retail uses to be located where amenity can best be provided.
- Opportunity to activate Oxley and Hume Street with outdoor dining.

Framework Plan

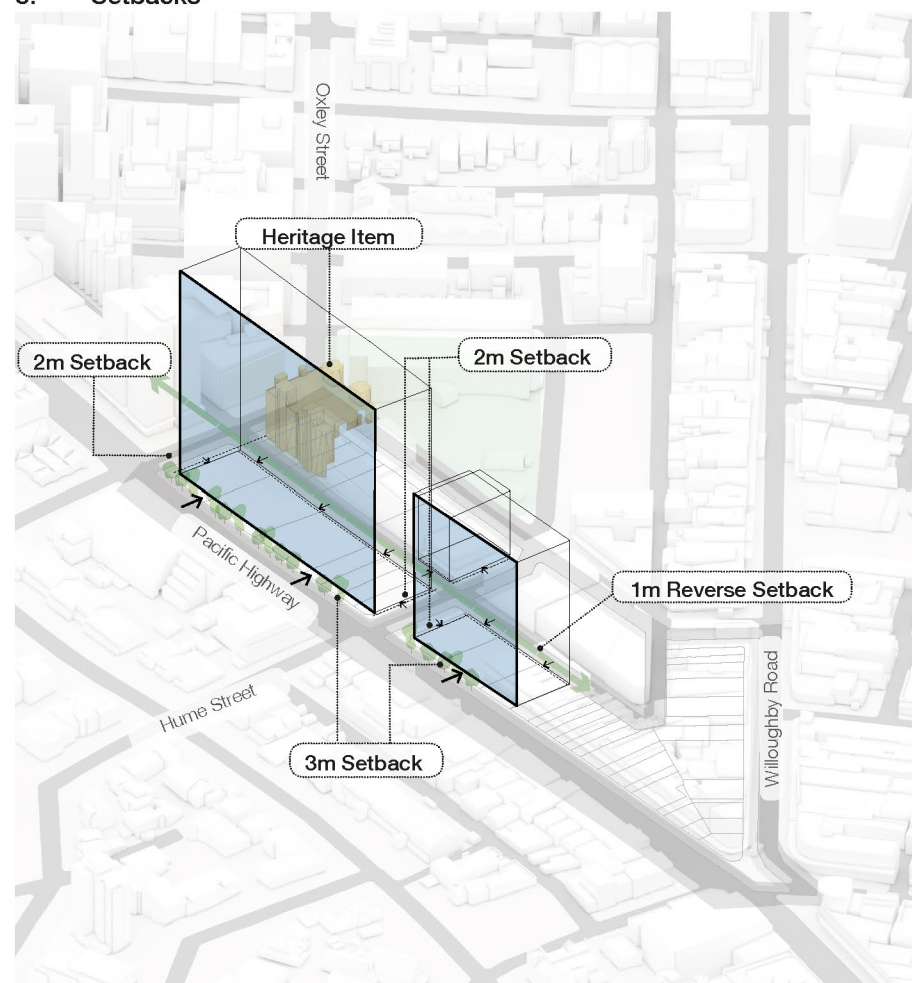
Podium

6. Heritage



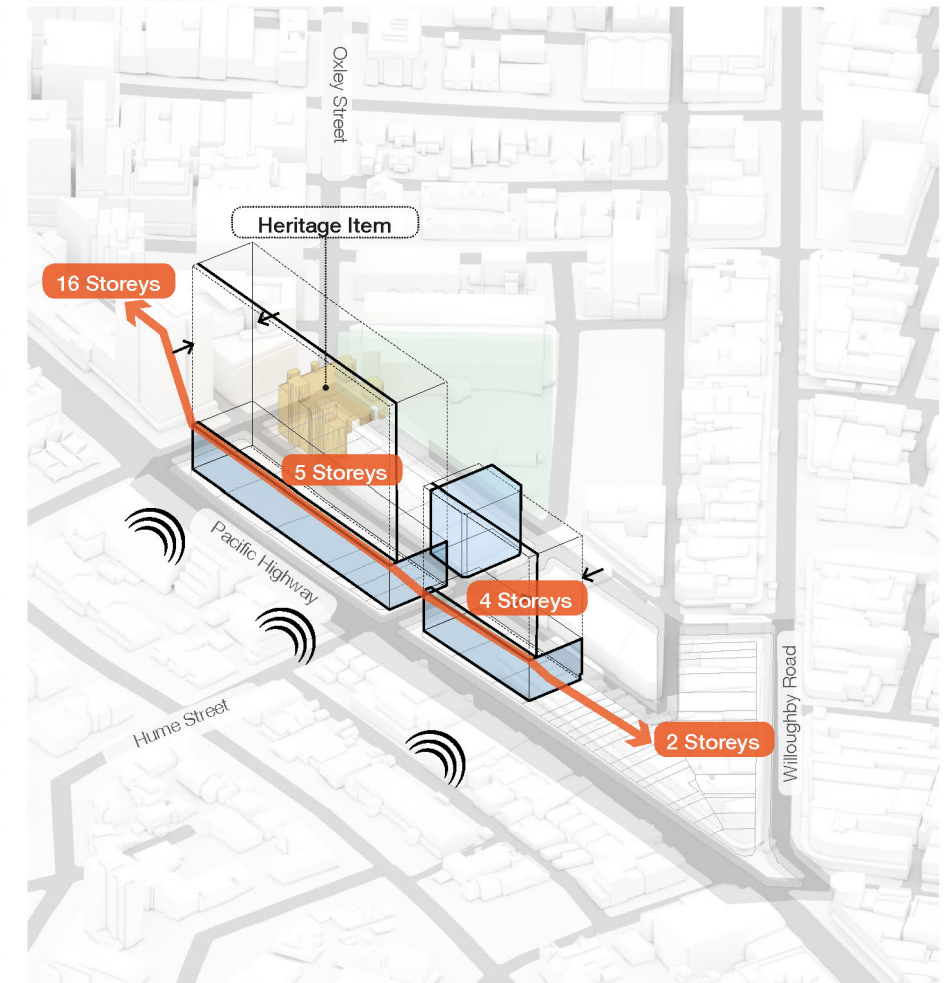
- Podium height should respond to scale of existing heritage item, located on the corner of Oxley and Clarke Street. Align top of podium with the top of the parapet of existing building and setback towers above.
- Minimise visual impact of development on heritage item, including views to and from building.
- Setback built form along Oxley Street to respond to heritage item.
- Ensure the heritage item retains its prominence within the local context by providing adequate separation between the building and development site across Clarke Lane.
- Potential for proposal to reference its proximity to the heritage building in innovative ways, through articulation and detailing of architecture.

5. Setbacks



- 3m setback to Pacific Highway which facilitates proposed avenue planting along its length.
- 1m reverse setbacks are indicated along each side of Clarke Lane to provide more public domain and facilitate connectivity between St Leonards Station and Crows Next Metro.
- Provide a 2m setback along Oxley Street to align with bulk of heritage building opposite and reveal protruding plinth and columns.
- Provide a 2m setback along Hume Street Interfaces to allow for footpath widening, to cater for anticipated increased pedestrian activity.

7. Streetwall

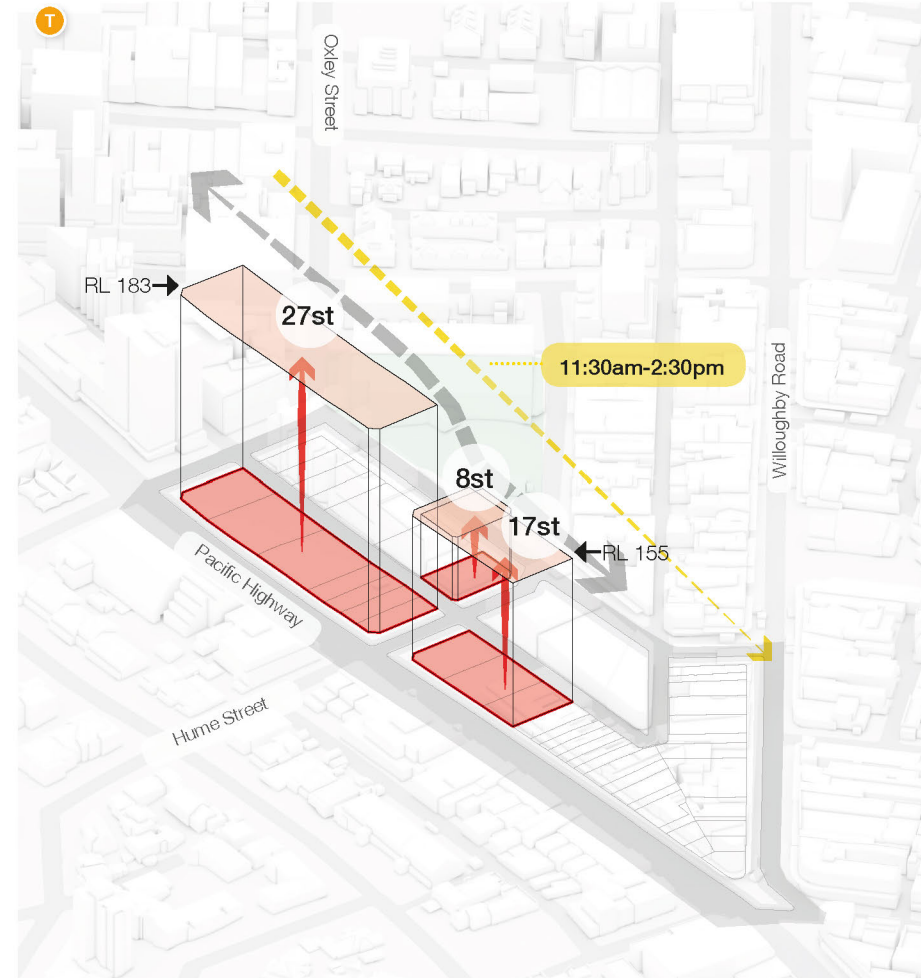


- Articulate the podium to define a predominant street wall and break down the bulk of the built form.
- Set back towers above to reduce wind impact on public domain and distance any residential uses from traffic noise from Pacific Highway.

Framework Plan

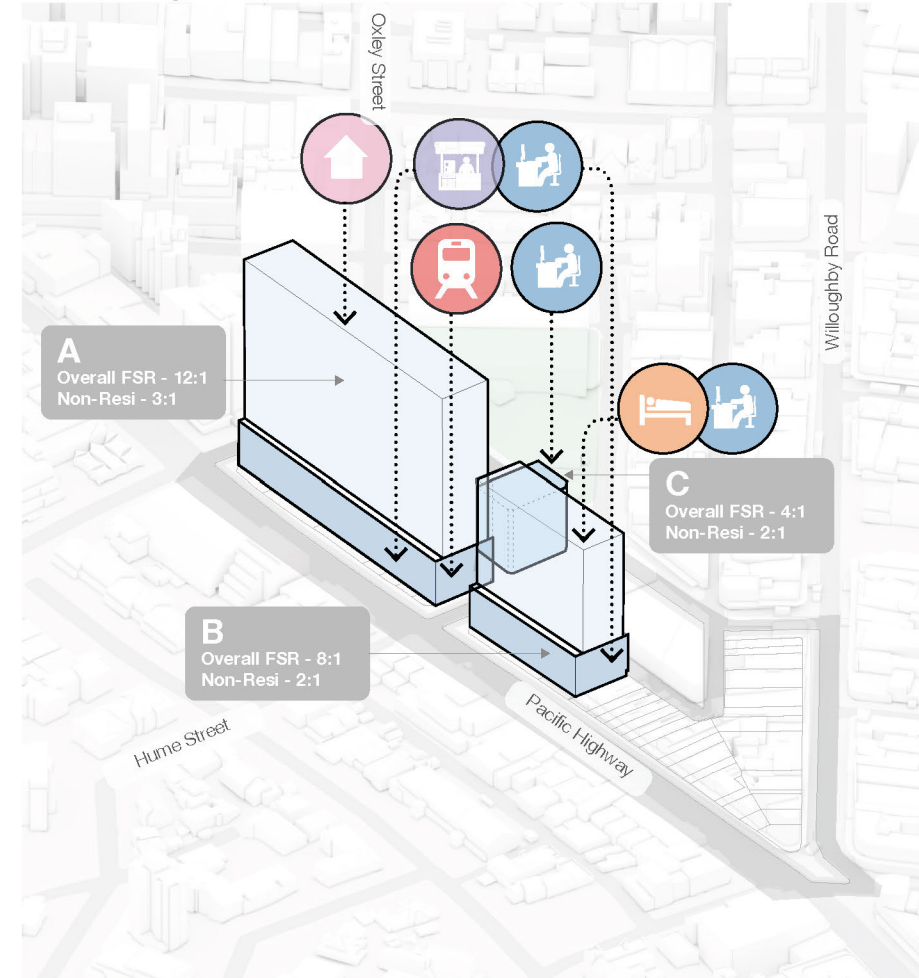
Overall Development

8. Maximum Height



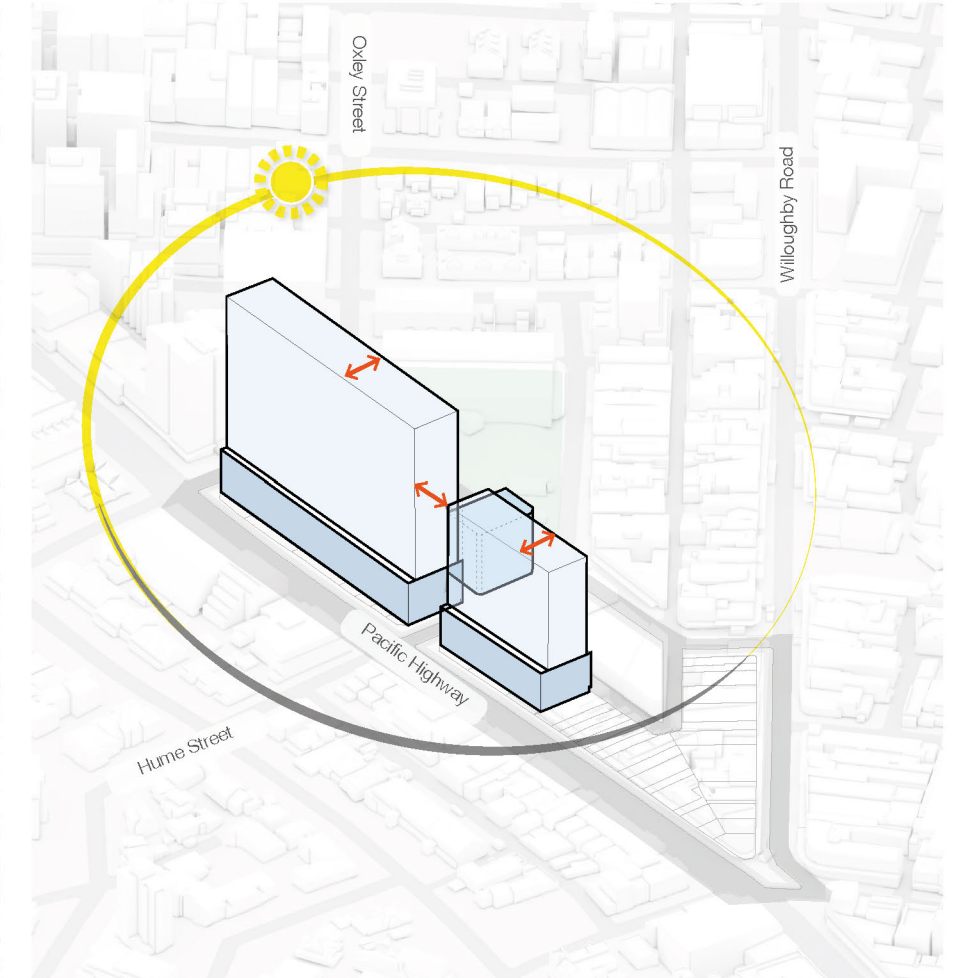
- Height is clustered around St Leonards Train Station and Crows Nest Sydney Metro. This height transitions down towards Willoughby Road and at the interface with Hume Street Park.
- Transition height to minimise overshadowing of Willoughby Road between 11:30am and 2:30pm.
- Minimise overshadowing to adjacent properties, especially those located on the western side of the Pacific Highway. Any proposed development should be sensitive to these impacts especially on residential uses in this area.
- Any proposed development should have consideration of the maximum height of 156m AHD, prescribed by the Obstacle Limitation Surfaces (OLS) and is restricted by the PANS-OPS 335m height control for the area.

9. Density and Land Use Mix



- Provide a balance of residential and on-residential uses, including ground floor retail, commercial podium and a combination of residential and commercial/hotel uses above.
- Each site has a total FSR and non-residential FSR to provide for employment and locate land uses resilient to noise and vibration adjacent to Pacific Highway.

10. Design Excellence



- Ensure future development demonstrates design excellence by employing best practice design principles. This is achieved by designing for good solar access, articulation of built form and a high quality finish.
- Break up the built form to reduce bulk and provide adequate separation, allowing for good solar access and ventilation.
- Consider the location of towers to maximise orientation to the north, in order to achieve a minimum of 70% solar access to all façades between 9am and 3pm at midwinter, as required in the NSW Apartment Design Guide (Section 4A, p. 79).

Framework Plan

4.5 Proposed Massing and Feasibility

The images opposite present a potential massing envelope, which has been generated by applying the key design moves and constraints for the site.

Height

The recommended podium and overall heights have been driven primarily by the need to retain solar access to Willoughby Road between 11:30am-2:30pm and to create a transition in height to the character and scale of built form within the existing context.

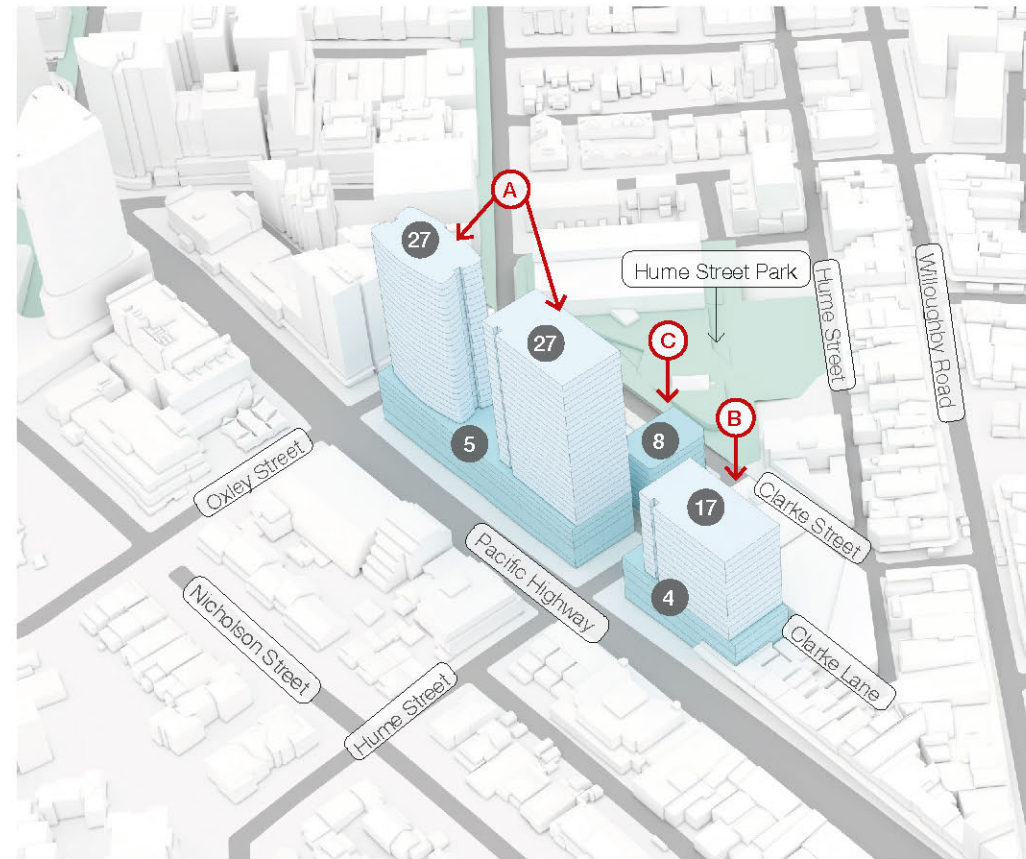
The following are approximate building heights across the site (excluding any rooftop installations- plantrooms/ lift overruns etc):

- Site A: 5 storey podium / 27 storeys overall
- Site B: 5 storey podium / 17 storeys overall
- Site C: 8 storeys overall

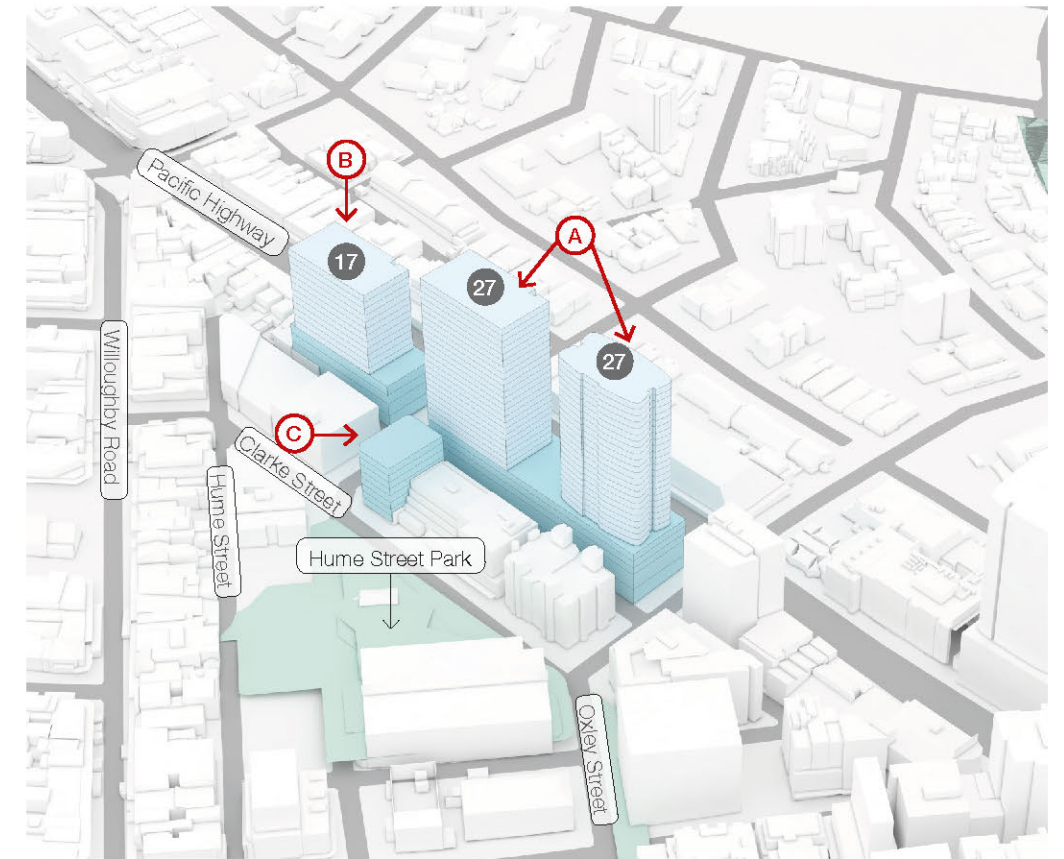
Floor Space Ratio

The resulting FSR for the Integrated Station Development (ie. combined station & OSD) is approximately 12:1, with a non-residential FSR of 3:1.

A non-residential FSR is prescribed to enable approximately 900 new jobs to be provided within the development. This will ensure that the development responds to the aspirations of the Greater Sydney Commission for significant employment growth within the St Leonards and Grows Nest Precinct.



Proposed Massing - View 1

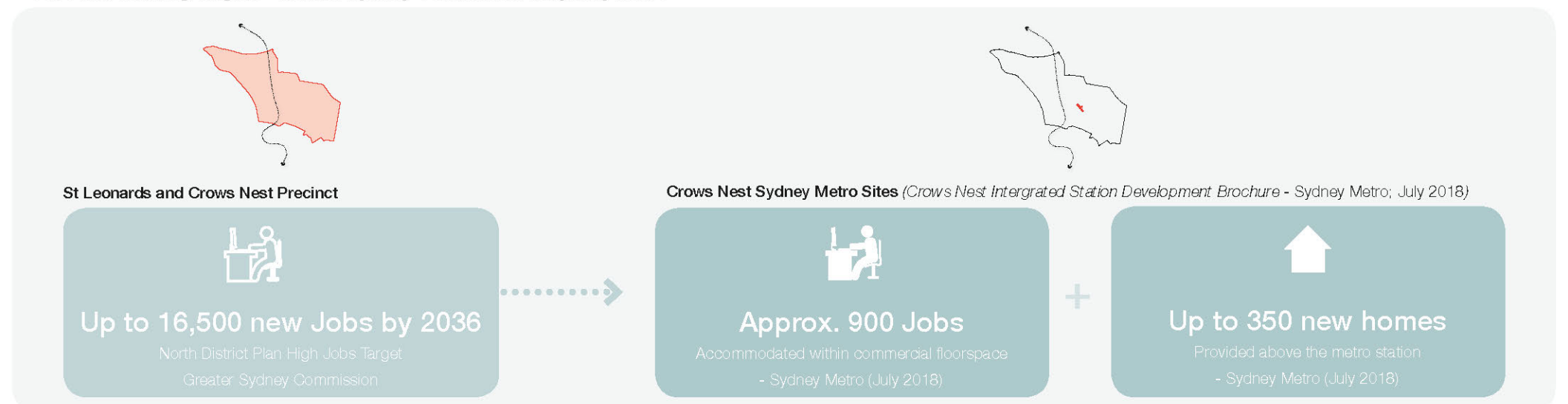


Proposed Massing - View 2

Legend

- ⊗ Development Blocks
- ⊗ Storey height
- Open Space
- Proposed Massing - Podium
- Proposed Massing - Above Podium

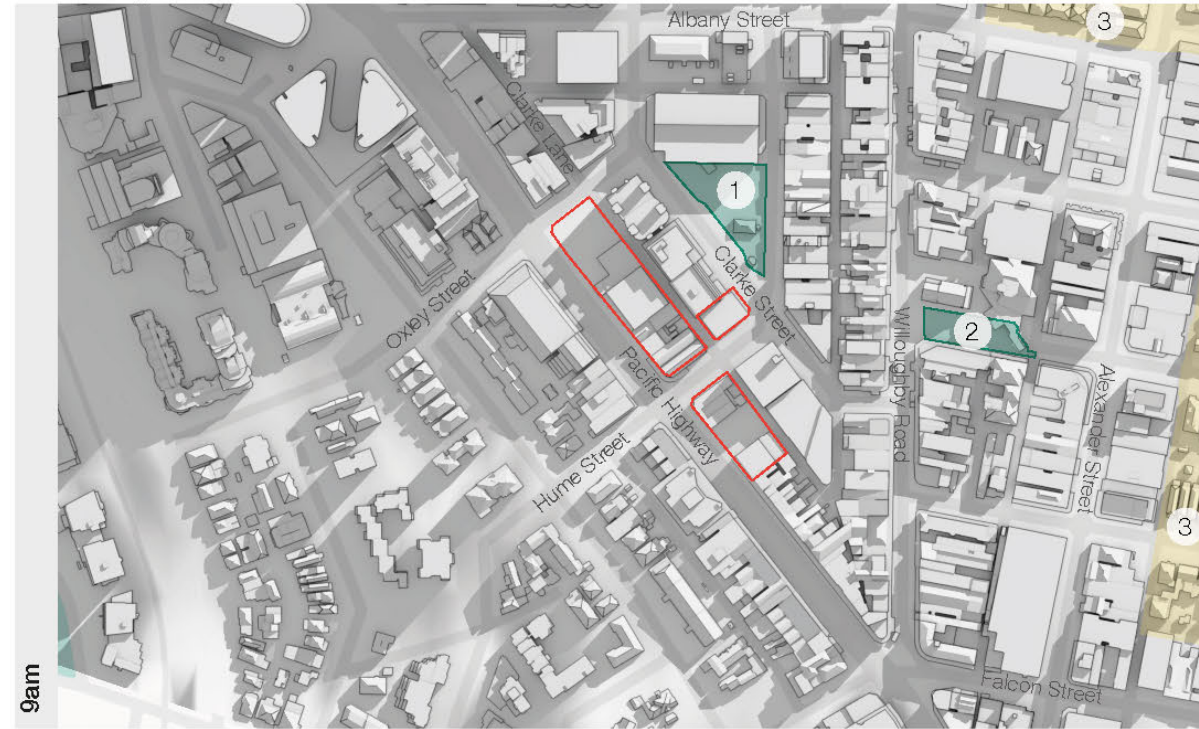
Jobs and Housing Targets - Greater Sydney Commission & Sydney Metro



Design Testing

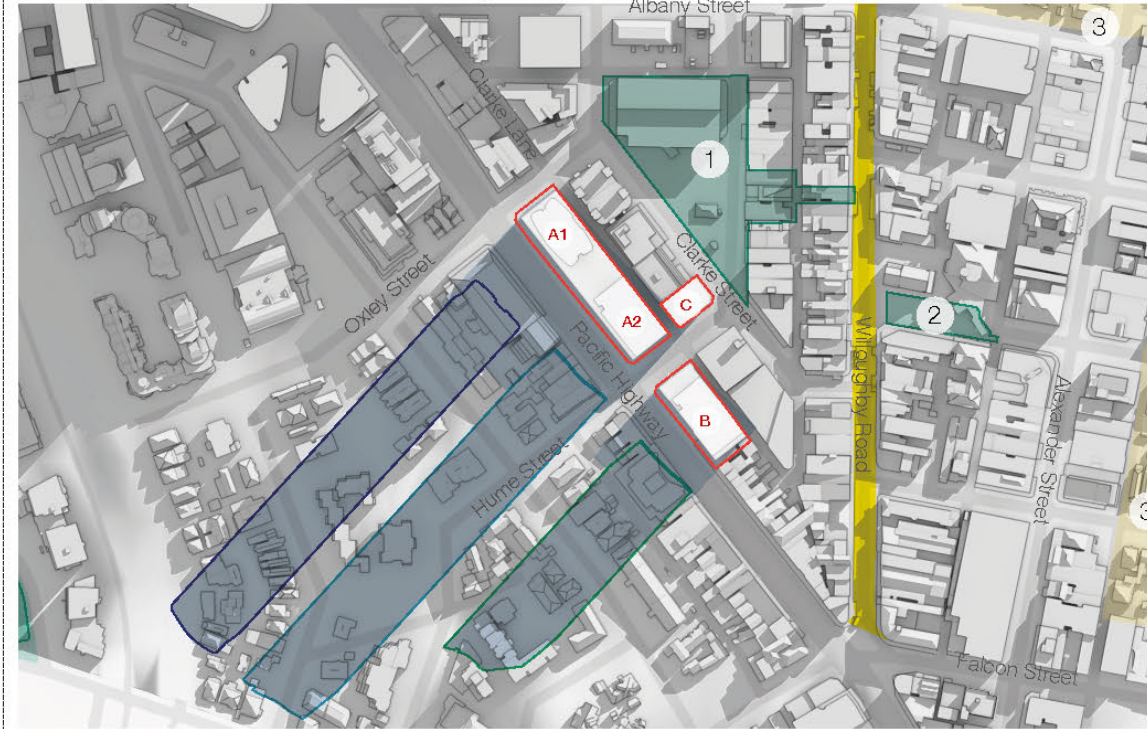
5.1 Shadow Analysis - 21 June

Existing Context



9am

Existing Context with Amended Planning Controls

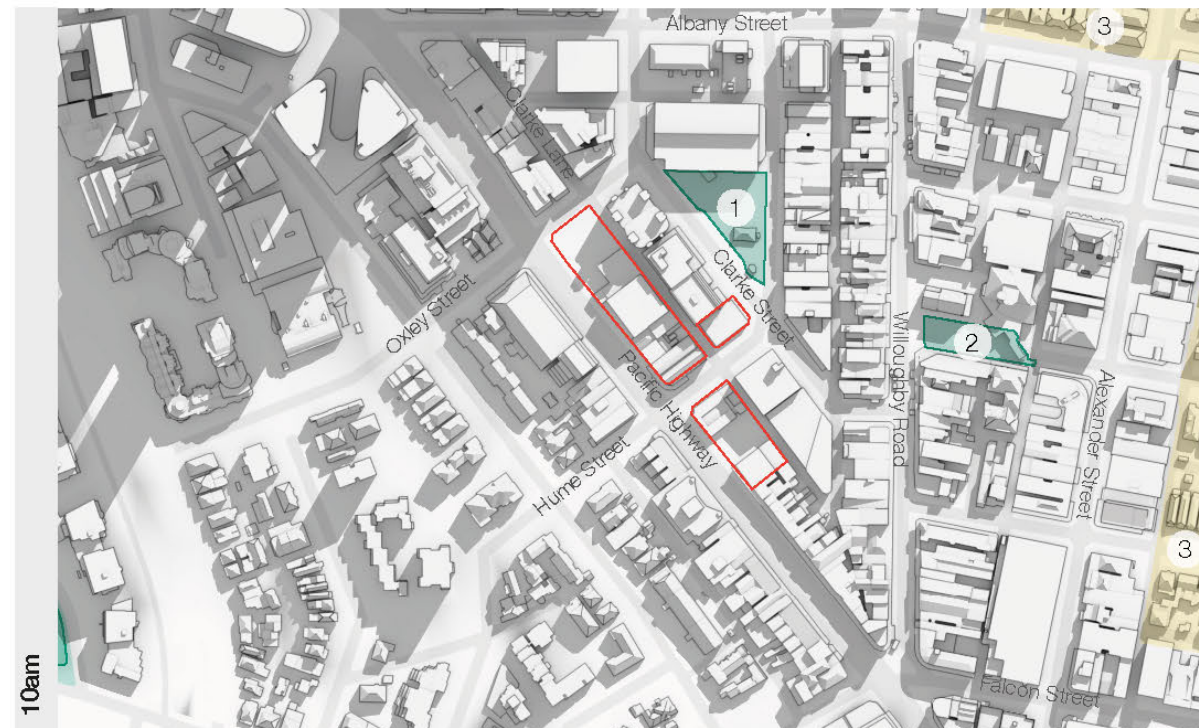


Retain Solar Amenity to:

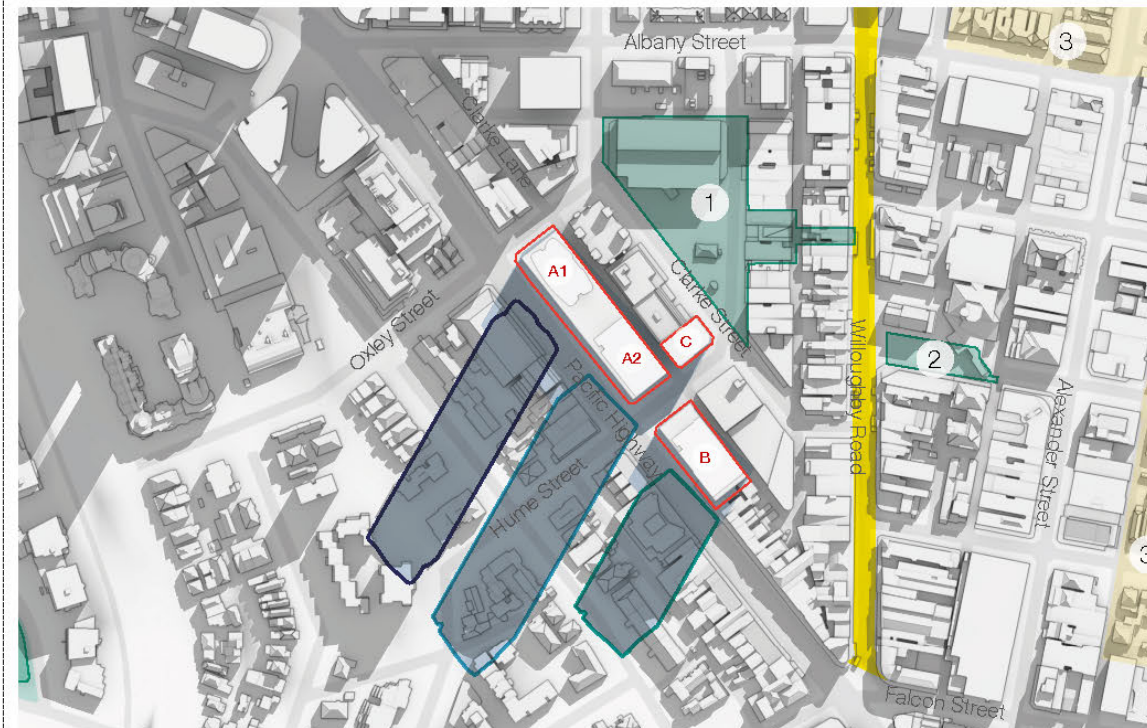
1 Hume Street Park	10am-3pm
2 Ernest Place	10am-3pm
3 Conservation Area	9am-3pm
4 Willoughby Road	11:30am-2:30pm

Comments

- Some additional overshadowing of Wollstonecraft residential occurs between 9am and 10am.
- No additional overshadowing to Conservation Areas occurs at these times.



10am



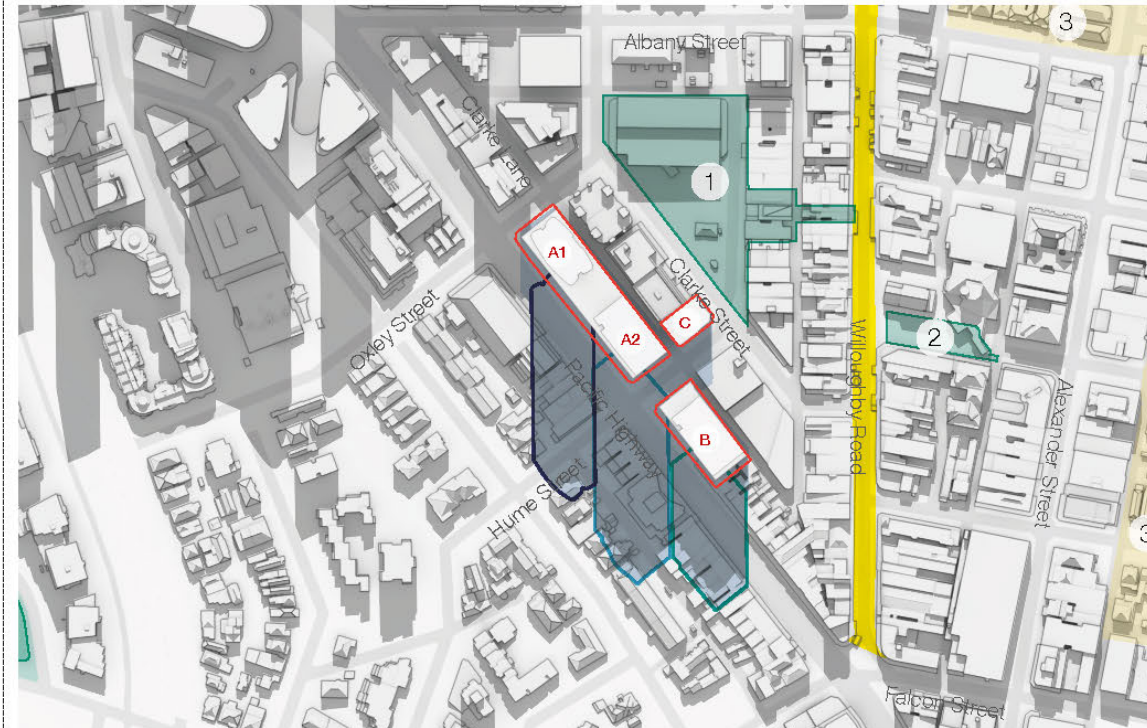
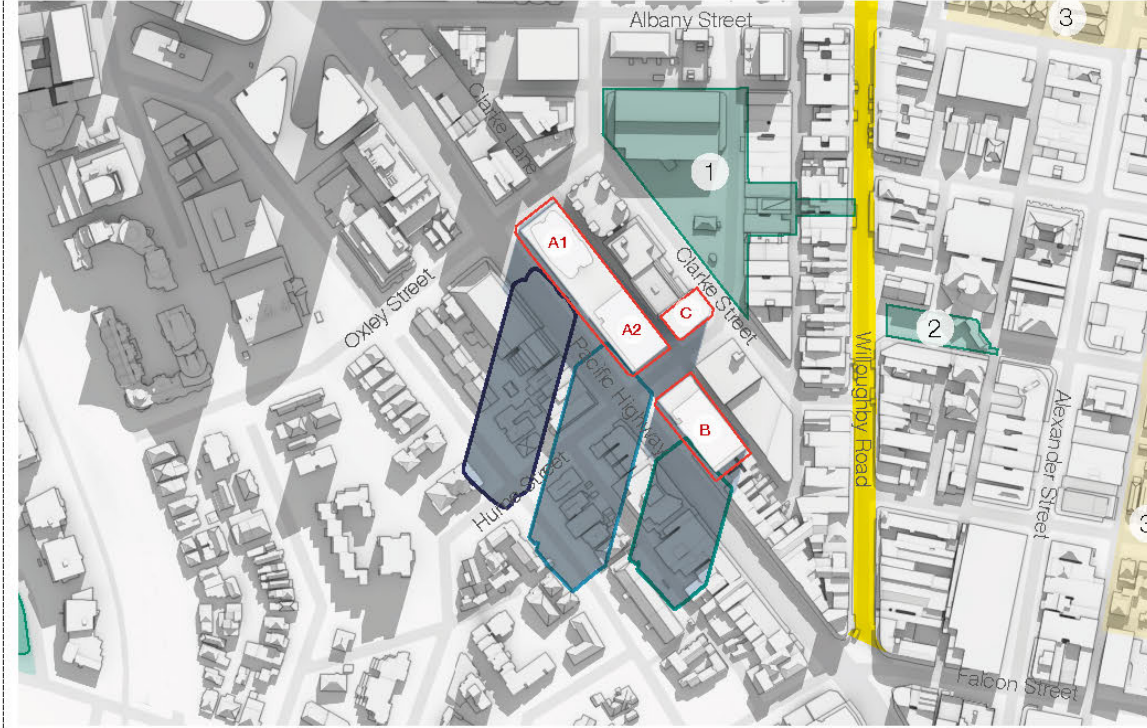
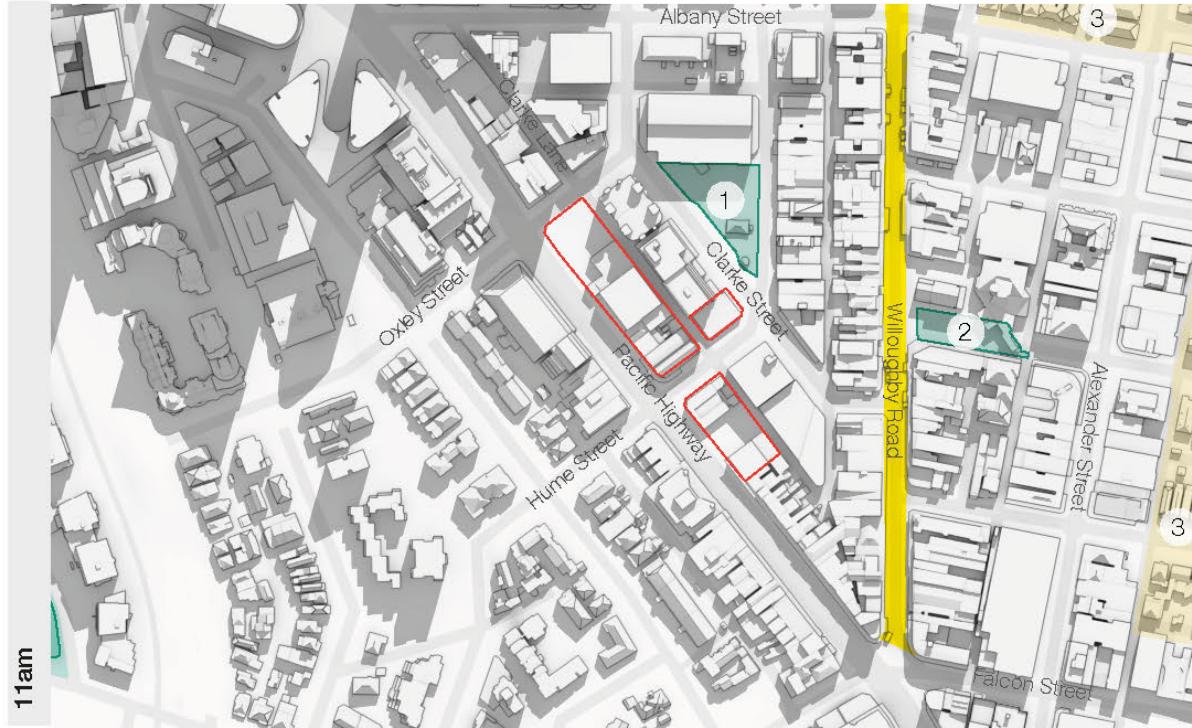
Legend

- Subject Site Boundary
- Open Space
- Conservation Area
- Shadow Cast - Overall Massing
- Shadow Cast - Tower A1
- Shadow Cast - Tower A2
- Shadow Cast - Tower B

Design Testing

Existing Context

Existing Context with Amended Planning Controls



Retain Solar Amenity to:

1 Hume Street Park	10am-3pm
2 Ernest Place	10am-3pm
3 Conservation Area	9am-3pm
4 Willoughby Road	11:30am-2:30pm

Comments

- Retail/commercial sites to the south along the Pacific Highway and some rear residential lots are primarily impacted from additional overshadowing at 11am - 12pm.
- No additional overshadowing to Conservation Areas or Willoughby Road occurs at these times.

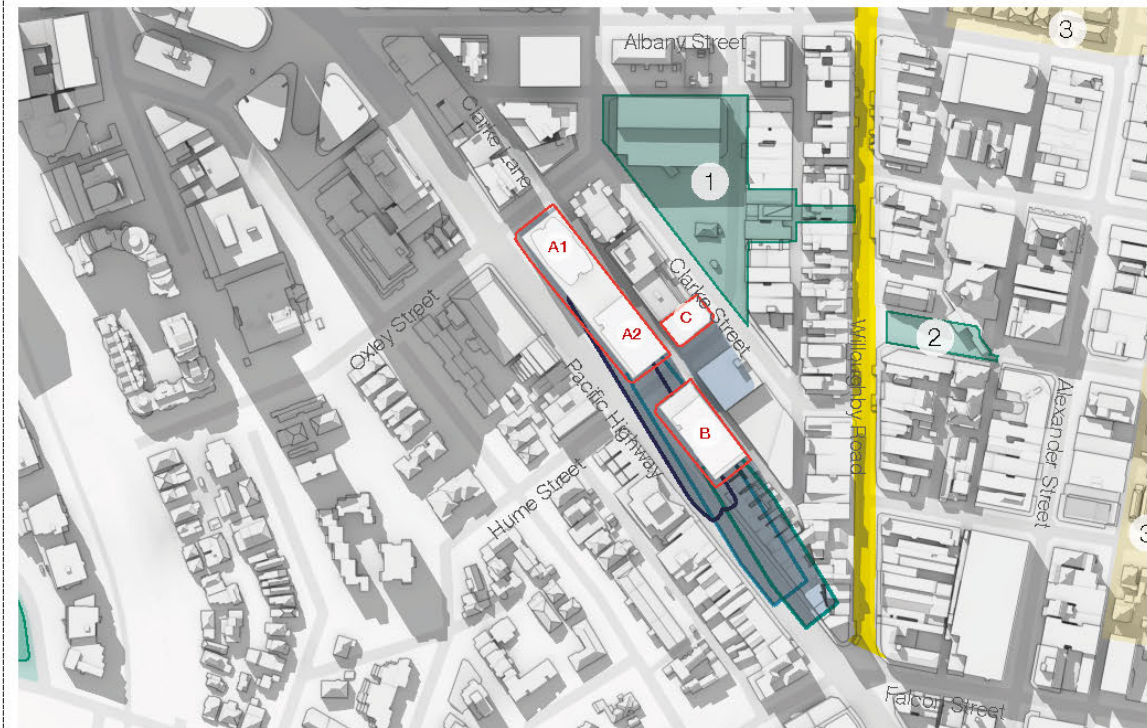
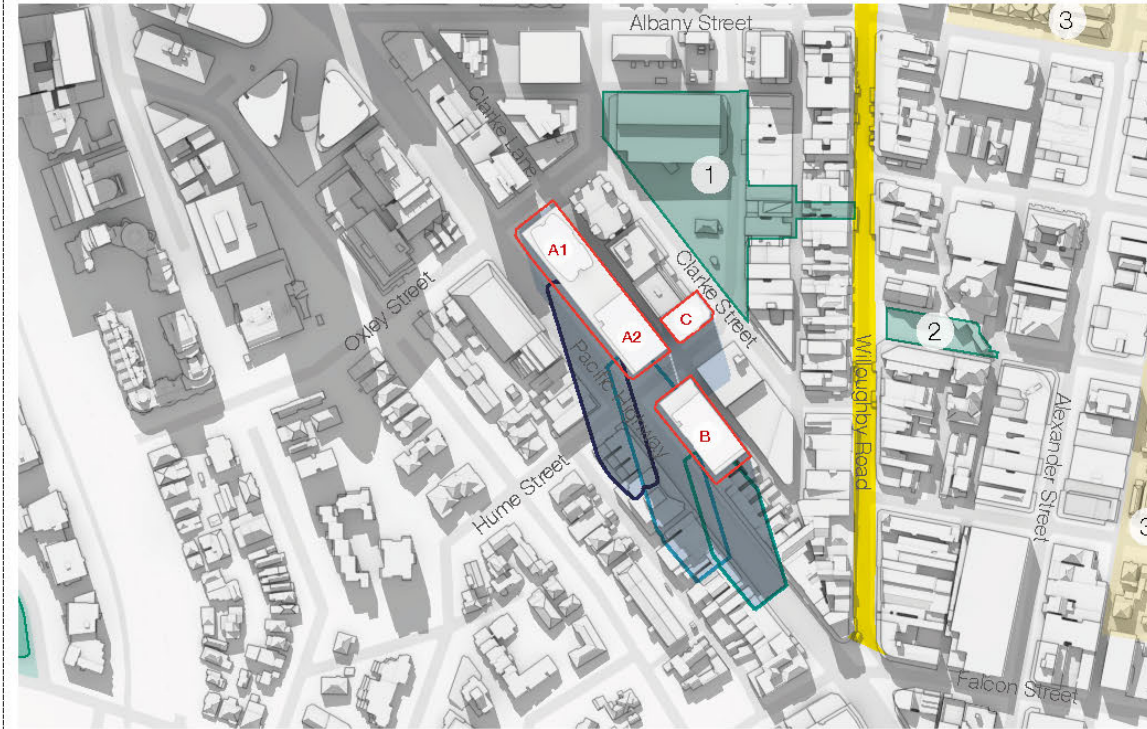
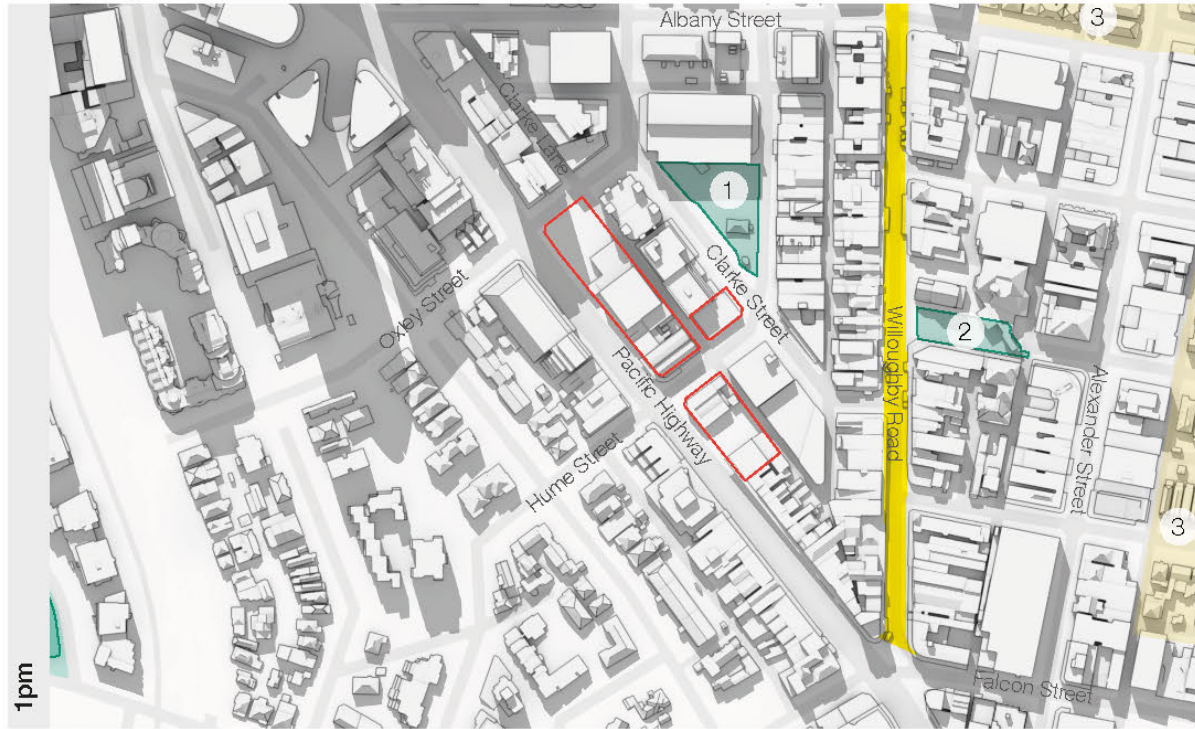
Legend

	Subject Site Boundary
	Open Space
	Conservation Area
	Shadow Cast - Overall Massing
	Shadow Cast - Tower A1
	Shadow Cast - Tower A2
	Shadow Cast - Tower B

Design Testing

Existing Context

Existing Context with Amended Planning Controls



Retain Solar Amenity to:

1 Hume Street Park	10am-3pm
2 Ernest Place	10am-3pm
3 Conservation Area	9am-3pm
4 Willoughby Road	11:30am-2:30pm

Comments

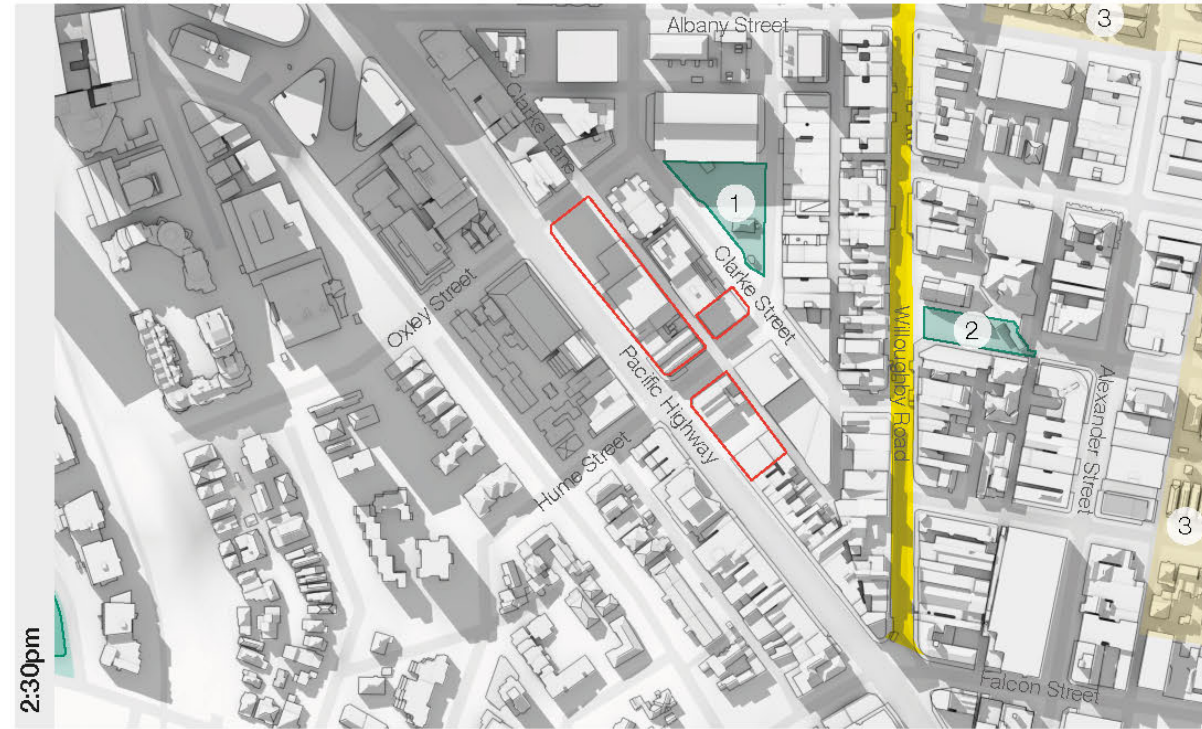
- Retail/commercial sites to the south along the Pacific Highway primarily impacted from additional overshadowing at 1pm.
- Fine grain retail along Pacific Highway on the same block as development site B are primarily affected at 2pm.
- No additional overshadowing to Conservation Areas or Willoughby Road occurs at these times.

Legend

	Subject Site Boundary
	Open Space
	Conservation Area
	Shadow Cast - Overall Massing
	Shadow Cast - Tower A1
	Shadow Cast - Tower A2
	Shadow Cast - Tower B

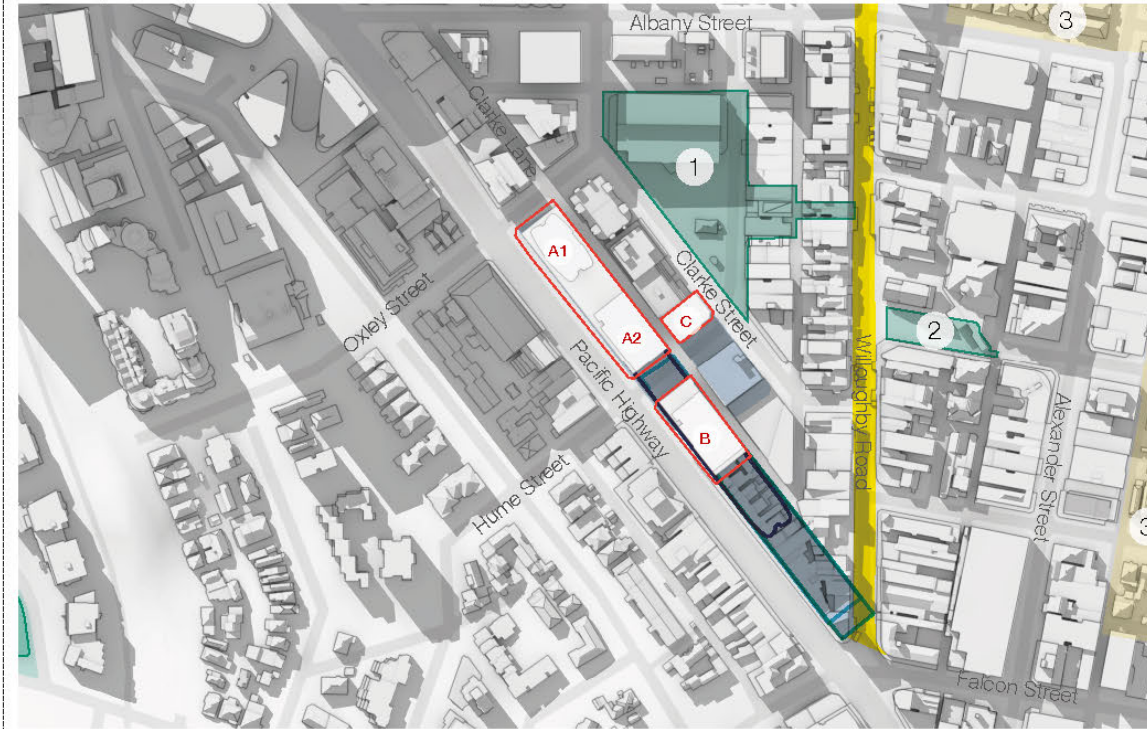
Design Testing

Existing Context



2:30pm

Existing Context with Amended Planning Controls

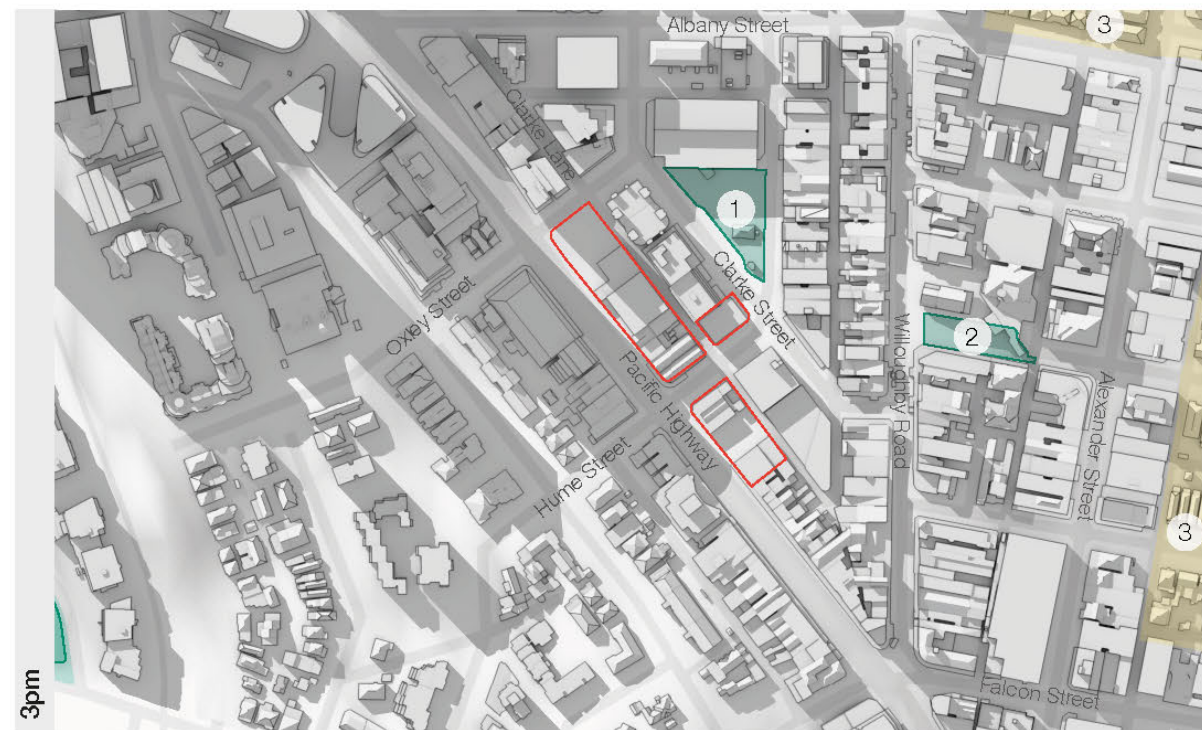


Retain Solar Amenity to:

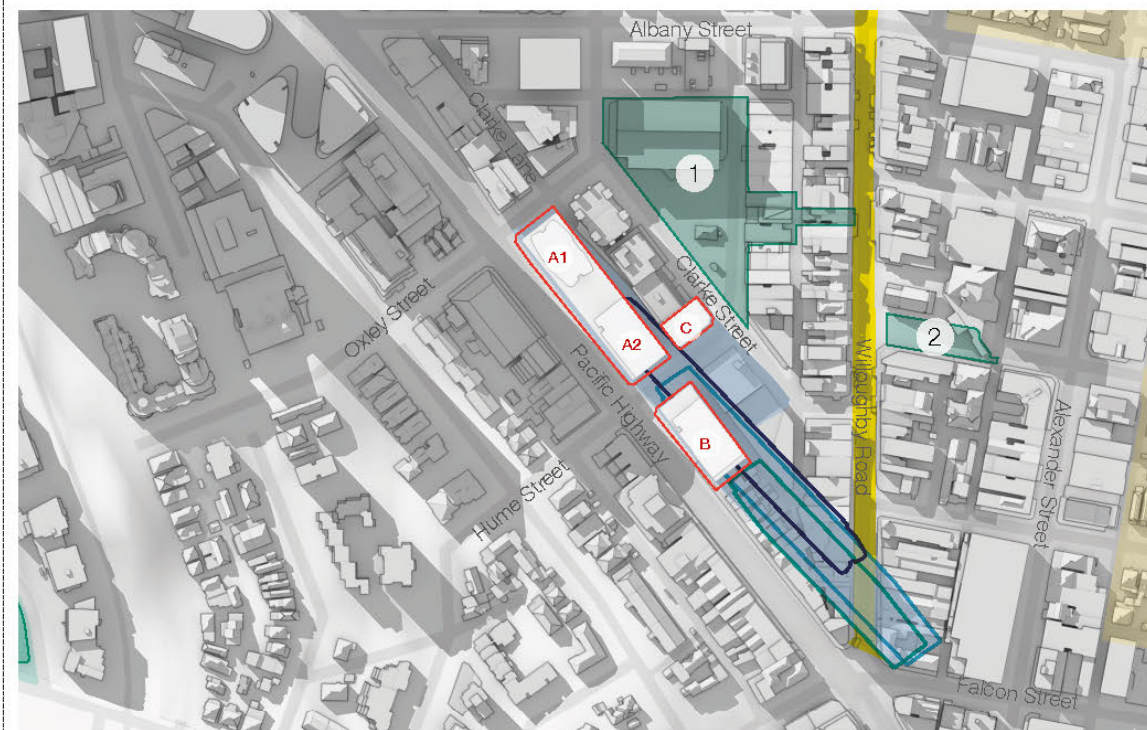
1 Hume Street Park	10am-3pm
2 Ernest Place	10am-3pm
3 Conservation Area	9am-3pm
4 Willoughby Road	11:30am-2:30pm

Comments

- Fine grain retail along Pacific Highway and Willoughby Road to the south-east of the site are primarily affected at 3pm.
- Some overshadowing of Willoughby Road occurs at 2:30pm (caused by Towers A2 and B) however, this is not additional to the shadow already cast by buildings within the existing context at this time.
- Some additional overshadowing of Willoughby Road occurs at 3pm, however this is outside the 11:30am-2:30pm restricted period.



3pm



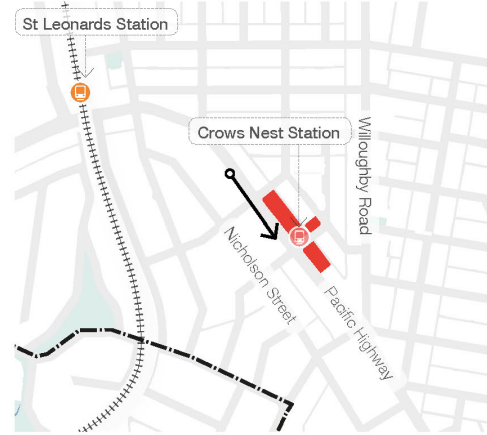
Legend

- Subject Site Boundary
- Open Space
- Conservation Area
- Shadow Cast - Overall Massing
- Shadow Cast - Tower A1
- Shadow Cast - Tower A2
- Shadow Cast - Tower B

Design Testing

5.2 View Impact Assessment

Pacific Highway Looking South



Comments

- The view along the Pacific Highway from this location is already dominated by the existing 16 storey building adjacent to the site.
- This view reveals how the proposed envelope steps down the sloping topography from this high point.

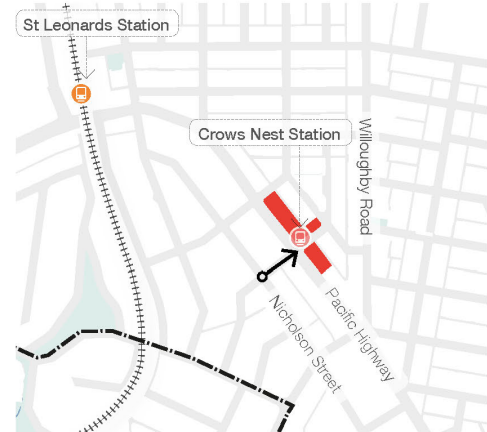
Existing Context



Existing Context with Amended Planning Controls



From Nicholson Street at Hume Street Intersection



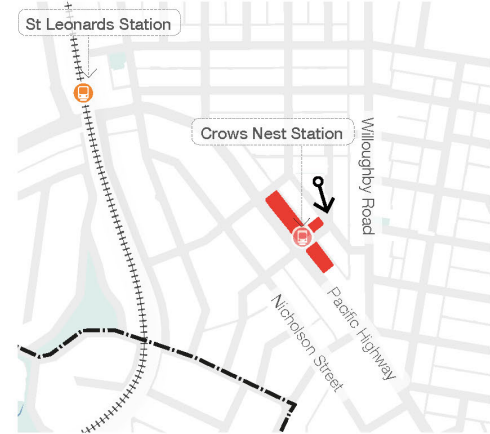
Comments

- The view of the proposed envelope is quite prevalent from this location, serving as a visual marker from the residential street to the metro station and other services along the Pacific Highway.



Design Testing

Proposed Hume Street Park Looking South



Comments

- The proposed envelope steps in height, mirroring the scale of built form in the foreground from this location.

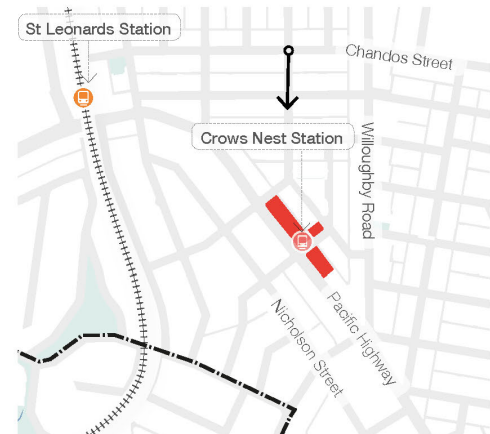
Existing Context



Existing Context with Amended Planning Controls



Oxley Street at Chandos Street



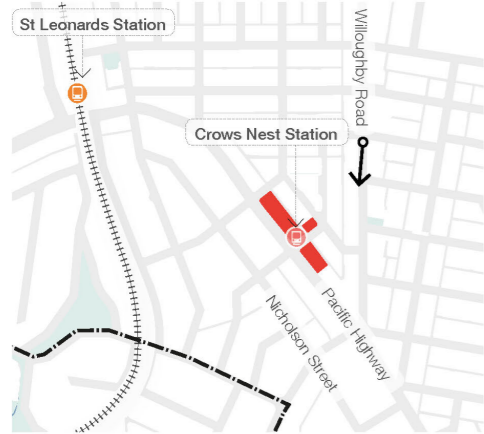
Comments

- The proposed envelope creates some impact on distant views down Oxley Street, although the prominence of the site also serves as a visual marker for the transport/commercial hub at the future metro station.



Design Testing

Willoughby Road Looking South



Comments

- There is minimal visual impact caused by the proposed envelope at this location on Willoughby Road.

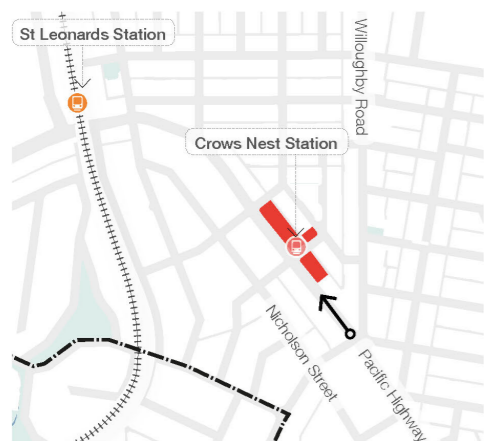
Existing Context



Existing Context with Amended Planning Controls



Five Ways Looking North



Comments

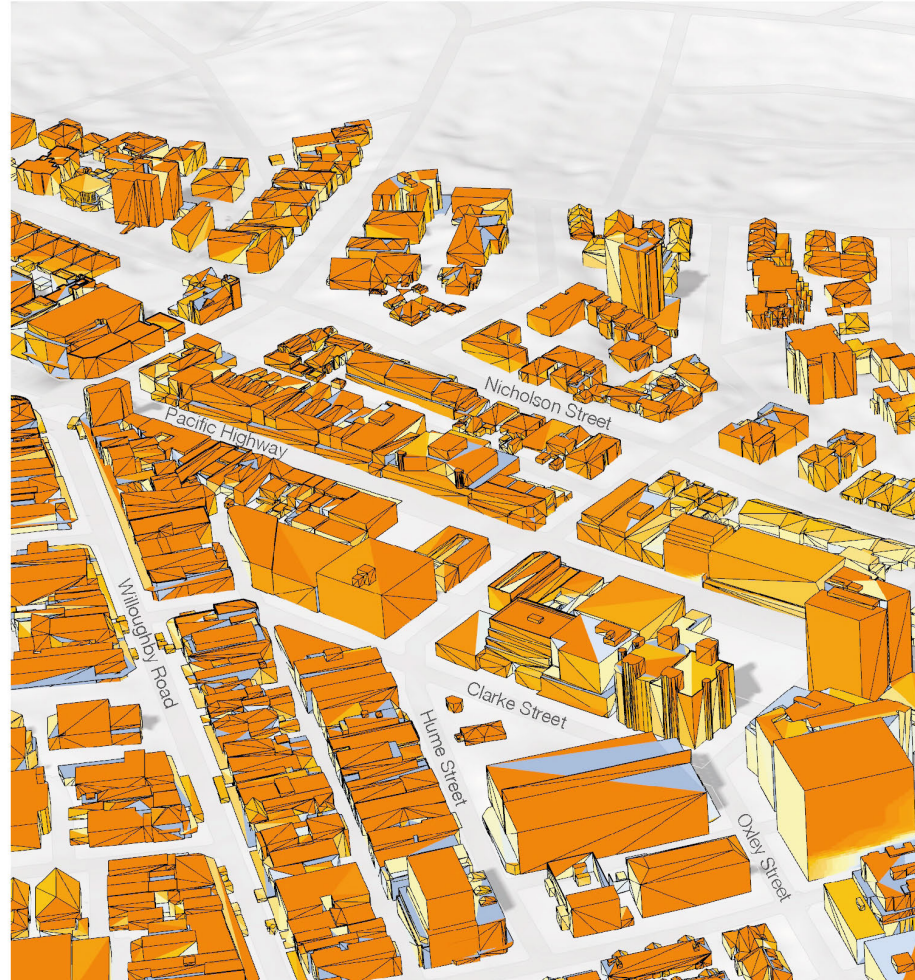
- The proposed envelope, visible in the background of this view, serves as a visual marker at this end of the Pacific Highway.
- The proposal causes minimal visual impact on key sites including the corner heritage building and fine grain retail to the south of the site.



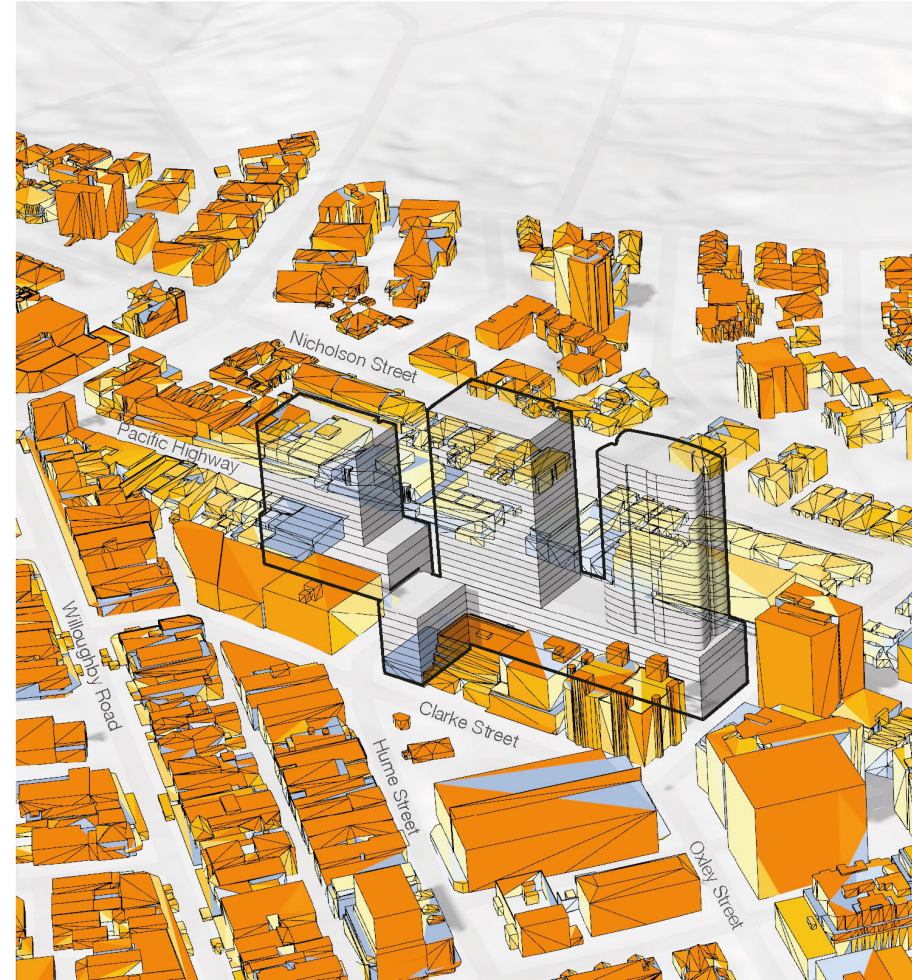
Design Testing

5.3 Solar Insolation Testing - View from North

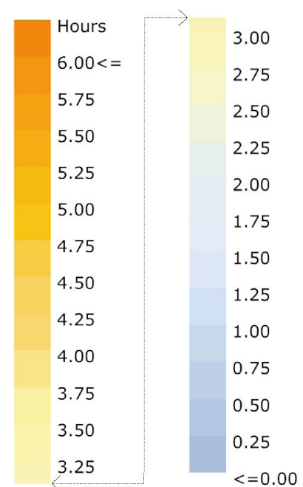
Existing Context



Amended Planning Controls - Impact on Existing Context



Amended Planning Controls - Impact on Subject Site



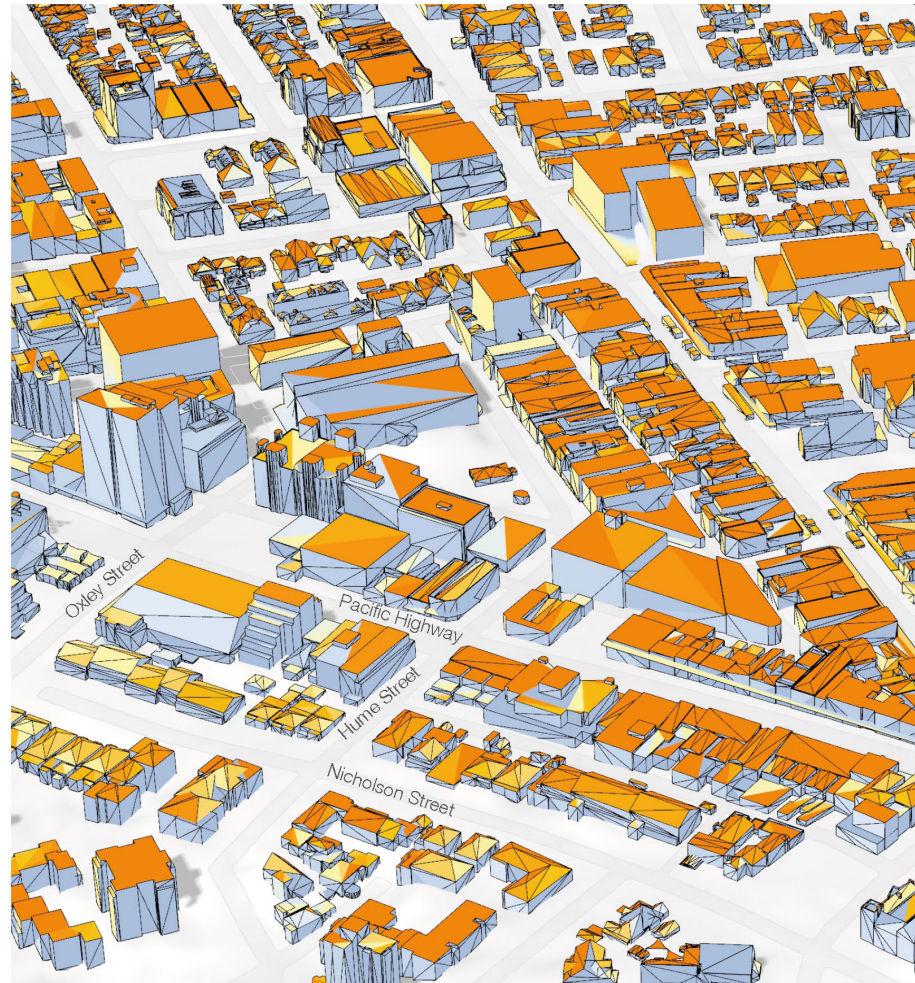
- Reduced solar access to sites to the south along the Pacific Highway - these are primarily commercial lots, with some residential located further south.

- The northern aspect of the proposed envelope receives adequate solar access between 9am-3pm.
- It is recommended that the location of residential apartments is maximised along the north-facing facade, to ensure compliance with SEPP65 and the NSW Apartment Design Guide.

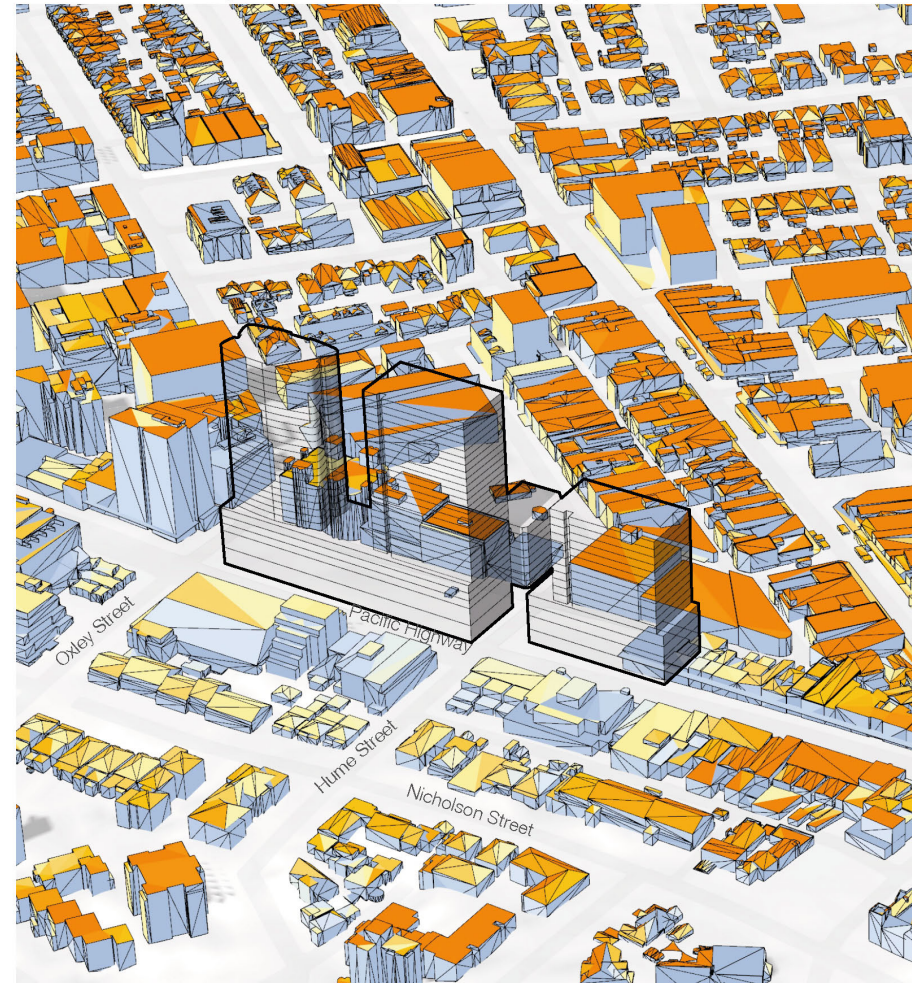
Design Testing

5.4 Solar Insolation Testing - View from South

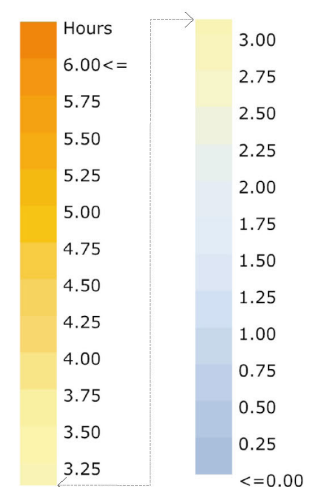
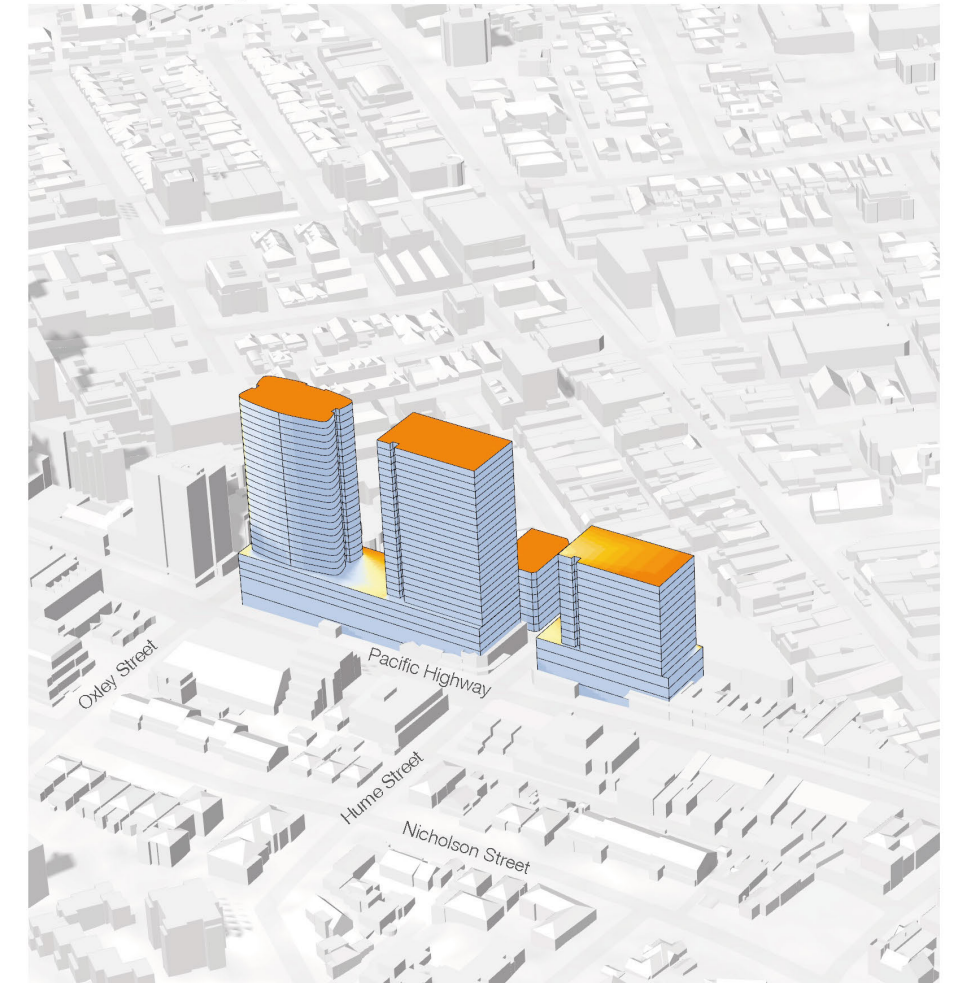
Existing Context



Amended Planning Controls - Impact on Existing Context



Amended Planning Controls - Impact on Subject Site



- There is no significant additional impact on solar access apparent for sites to the north of the proposal.

- The southern aspect of the proposal receives less than the minimum 3 hours of direct sunlight between 9am and 3pm at midwinter, as required in the NSW Apartment Design Guide (Section 4A, p. 79).
- The implication on restricted solar access requires further design consideration on how the building might be articulated to ensure residential apartments receive good solar amenity. This may include the use of single-loaded apartments or carving out the built form to achieve a greater proportion of solar access to the facade.

Recommendations

6

Recommendations

6.1 Recommendations and Conclusion

Implementation of the Urban Design Framework

The intention of this document is to provide an urban design framework, to inform the amended planning controls for the Crows Nest Sydney Metro sites.

A set of urban design principles and key moves have been outlined (Chapter 3-4) under the following overarching themes:

- Open space, public domain and community;
- Movement and access;
- Land use and activity; and
- Built form and solar access.

The final recommendations have been informed by this framework and is supported by the design testing undertaken in Chapter 5.

Recommendations for changes to the LEP

Based on the urban design analysis and framework presented in this report, the following recommendations are made for amendments to the North Sydney Local Environmental Plan 2013:

Height of Building

- Tower A: Amend current maximum height control of 20m to 97.5m/ RL183m.
- Tower B: Amend current maximum height control of 10m to 63m/ RL155m.
- Tower C: Amend current maximum height control of 20m to 28m/ RL127m.

Floor Space Ratio (Non-residential)

- Tower A: Amend current non-residential FSR control of 1.5:1 to 3:1
- Tower B: Amend current non-residential FSR control of 0.5:1 to 2:1.
- Tower C: Amend current non-residential FSR control of 0.5:1 to 2:1.

Floor Space Ratio (Overall)

- Tower A: Specify an overall FSR of 12:1.
- Tower B: Specify an overall FSR of 8:1.
- Tower C: Specify an overall FSR of 4:1.

Design Excellence

- The above provisions are permissible, subject to the development proposal demonstrating design excellence (see design move 10, p.28 and considerations outlined in Chapter 5 Design Testing).

Shaping the vision for St Leonards and Crows Nest

Through the implementation of best practice design principles and LEP controls recommended within this study, there is an opportunity to create a high quality transit-oriented development on the Crows Nest Sydney Metro sites.

The subject site is envisioned as a vibrant, mixed-use development, leveraging the proximity to St Leonards Station and primary location within the Central Precinct of St Leonards and Crows Nest. The development will facilitate the GSC's aspirations for employment growth through the provision of commercial floorspace, supported by housing, retail and improved community infrastructure.

This vision aims to maximise the potential for the site to contribute to the revitalisation of the surrounding St Leonards and Crows Nest area, in shaping a productive and sustainable future for the Precinct.

SJB Urban

sjb.com.au

We create spaces people love.
SJB is passionate about the
possibilities of architecture,
interiors, urban design
and planning.
Let's collaborate.

Level 2, 490 Crown Street
Surry Hills NSW 2010
Australia
T. 61 2 9380 9911
architects@sjb.com.au
sjb.com.au