

472-520 PACIFIC HIGHWAY AND 95 NICHOLSON STREET ST LEONARDS

Prepared by:

SISSONS urbis



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## 1.0 INTRODUCTION

# 1.1 Purpose

The purpose of this report is to analyse the urban design issues in regards to the planning proposal for 472 - 520 Pacific Highway and 95 Nicholson Street, St Leonards. In this document these sites will be referred to collectively as the 'subject sites' or 'the site'.

This report assesses the site with a view to reaffirming appropriate urban design:

- Rezoning for mixed use development;
- Establishing appropriate height controls and built form.

Planning issues are to be addressed in the planning proposal report prepared by Urbis.

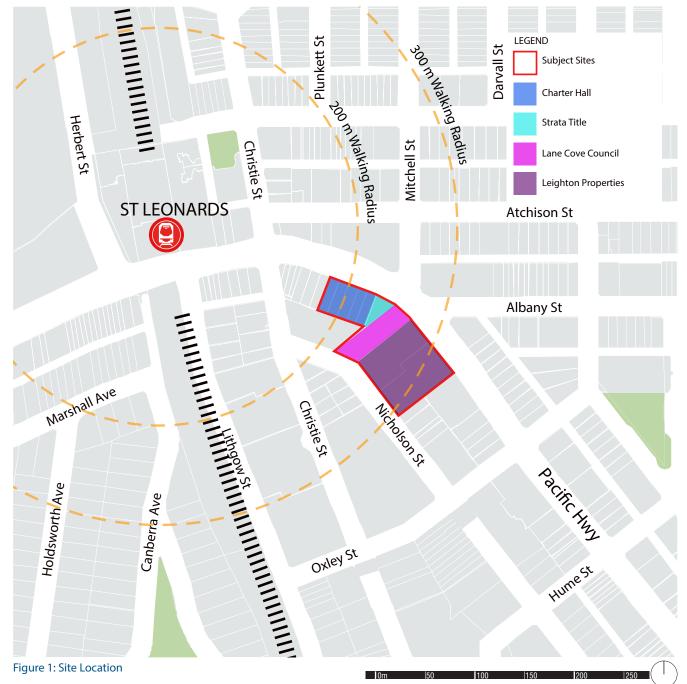
#### 1.2 Site Identification

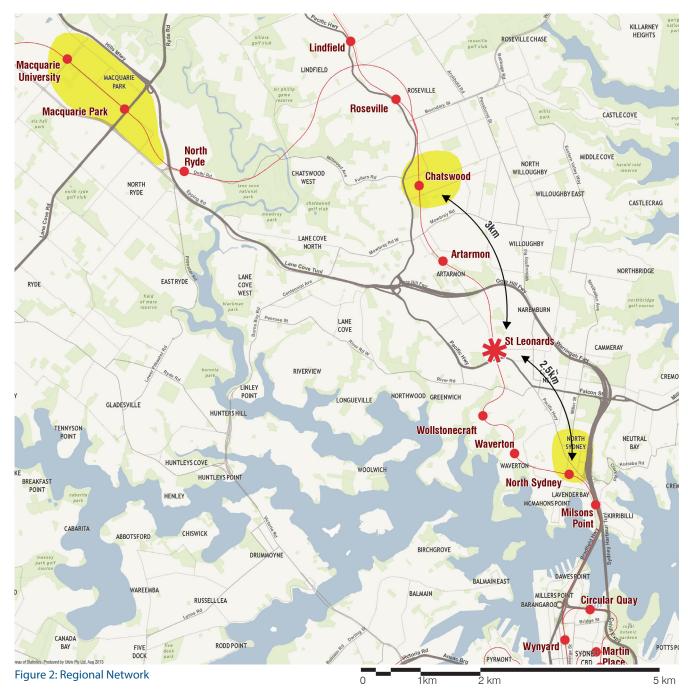
The subject sites are composed of nine different lots; 95 Nicholson Street, 472-486, 500, Friedlander Place, and 504-520 Pacific Highway St Leonards. The lots are under four different ownership groups; Charter Hall, Strata Title, Lane Cove Council, and Leighton Properties, respectively.

The subject sites are within 300 metres walking distance to St Leonards Railway Station, and therefore should be considered under the best practices of transit-oriented development (TOD).

Key TOD Components:

- Get the Land Uses Right
- Promote Density
- Create Convenient Pedestrian Connections
- Ensure Good Urban Design
- Create Compact Development Patterns
- Manage Parking





- Make a "Place"
- Encourage reduced parking ratios
  - increases housing affordability
  - increases public transit patronage/ridership

# **Regional Context**

The St Leonards Area is centrally located between 4 major employment centres; Macquarie Park, Chatswood, North Sydney, and Sydney CBD.

The St Leonards railway station is a station on the North Shore Line and the Northern Line of Sydney's Sydney Trains network. The railway network links St Leonards to the aforementioned primary employment centres.

St Leonards Station offers access to more jobs and cultural/entertainment venues within a 20 minute commute than any other place in all of Australia.

The St Leonards area is ideally suited as a specialised centre with a high residential density.

#### 2.0 **ANALYSIS**

#### Local Context + Street Network 2.1

St Leonards is a mixed use centre on the lower north shore of Sydney. It is divided into four quadrants by the Pacific Highway, which runs east-west, and by the north shore railway line, which runs north-south.

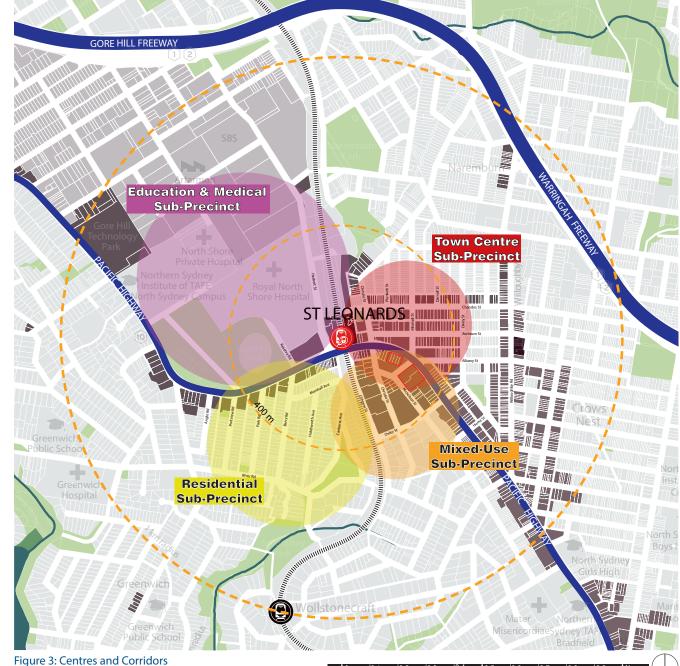
Royal North Shore Hospital (RNSH), North Shore Private Hospital and the Northern Sydney Institute of TAFE are located in the northwest quadrant of the St Leonards centre; educational and medical services providers. The hospitals and the Tech Park are employment areas.

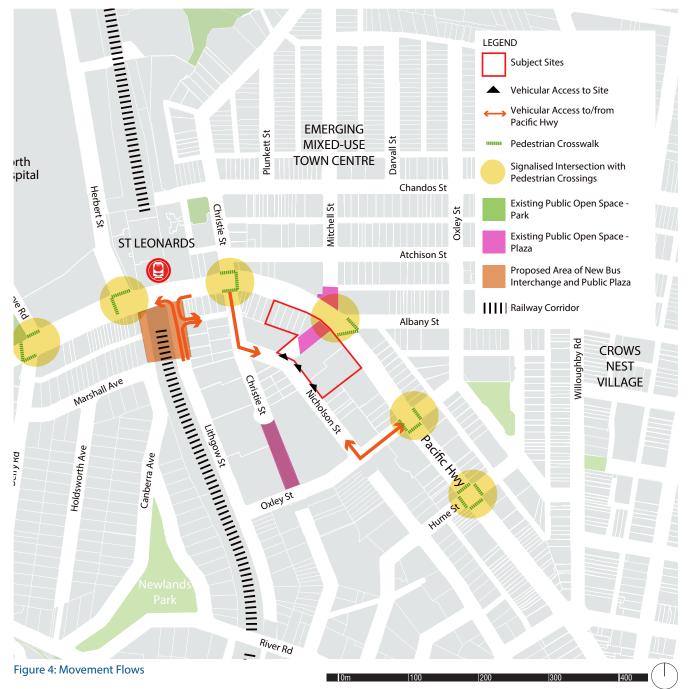
In the northeast quadrant is an emerging town centre sub-precinct organised around an eastwest orthogonal gridded street system. The regular organisation and geometry of the block and lot structure in this sub-precinct lends itself well for marketdriven, mixed-use intensification with a highly animate ground plane.

Likewise, a mixed-use sub-precinct is emerging along the Pacific Highway and within the area generally bounded by the railway line, the Pacific Highway, and Oxley Street. However, competition from other employment centres have stunted the subject parcels uplift redevelopment opportunity envisioned within the 2009 LEPs.

The southwest sub-precinct is predominately residential in character except for the commercial uses fronting onto the Pacific Highway.

The Pacific Highway and the Gore Hill/Warringah Freeway provide access to the broader regional area while local street network provides access to the local immediate surrounding areas.





#### 2.2 Site Constraints

#### 2.2.1 MOVEMENT AND ACCESS

Vehicular and pedestrian movement and access surrounding the subject sites is constrained given the location between the Pacific Highway and the railway corridor and the stepped topography between the Pacific Highway and Nicholson Street.

#### Vehicular

- Vehicular movement to and from the site area is greatly constrained by the Pacific Highway to the north and east and the railway corridor to the west.
- Vehicular access to and from the site area is also greatly constrained.
- Limited vehicular access to sites:
  - From Nicholson Street only:
  - No access from Pacific Highway.
- Limited vehicular access from Nicholson Street to Pacific Highway:
  - Full movements at Oxley Street
  - Left-in left-out access at Lithgow St
  - No egress access to Pacific Hwy from Christie St (one-way street)

#### **Pedestrian**

- Limited movement to and from site as the intersection of Pacific Hwy and Albany Street does not provide full pedestrian movement.
- Friedlander Place provides access from Nicholson Street to Pacific Highway however this path is under-utilised given quality of the environment.
- Limited pedestrian access to sites:
  - From Pacific Highway only;
  - No access from Nicholson Street.

# 2.2.2 OWNERSHIP & LOCAL GOVERNMENT AREAS

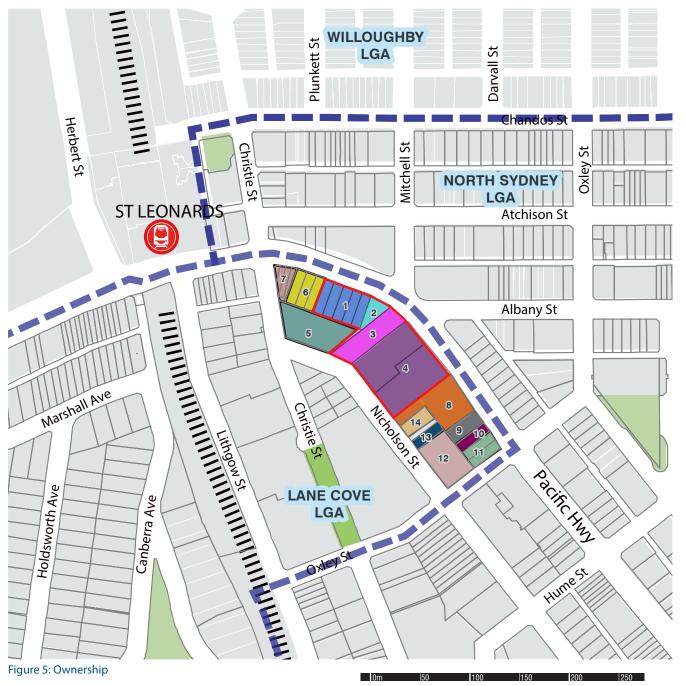
The Pacific Highway is the boundary edge between the North Sydney Local Government Area (LGA) and the Lane Cove LGA. The subject site is located south of Pacific Highway and is part of the Lane Cove LGA.

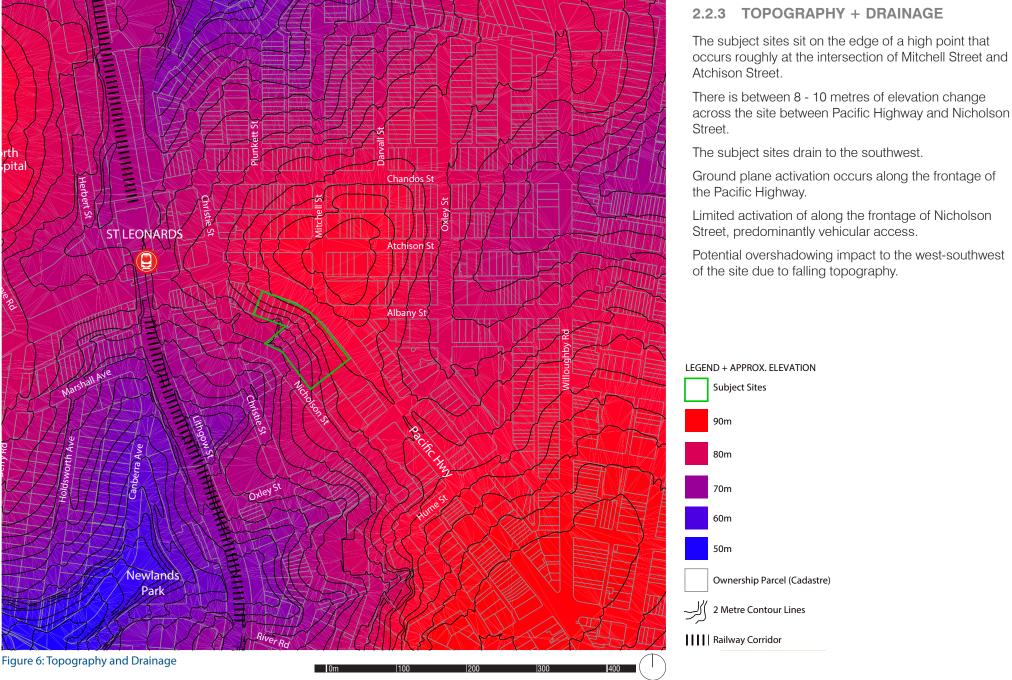
The ownership structure within the sub-precinct can be characterised as highly fragmented with multiple single-owned small lots and strata-title owned larger lots.

The subject sites are composed of nine different lots; 95 Nicholson Street, 472-486, 500, Friedlander Place, and 504-520 Pacific Highway St Leonards. The lots are under four different ownership groups; Charter Hall, Strata Title, Lane Cove Council, and Leighton Properties, respectively.

Fragmented ownership constrains opportunity for amalgamating land holdings to the current developable footprint;

	A			
Ref	Ownership:	Address		
	Subject Sites			
1	Charter Hall	504-520 Pacific Highway & 95 Nicholson Street		
2	Strata Title, 2 owners	500 Pacific Highway		
3	Lane Cove Council	504 Pacific Highway		
4	Leighton Properties	472-486 Pacific Highway		
5	Strata Title, 21 Owners	5 Nicholson Street St		
6	Telstra Exchange Station	524 Pacific Highway		
7	4 Lots, 4 Owners (Private and Corporate)	536-542A Pacific Highway		
8	Commercial Strata Units, Multiple Ownership (more than 10)	460 Pacific Highway		
9	Commercial Strata Units, Multiple Ownership	454-456 Pacific Highway		
10	Commercial Strata Units, Multiple Ownership	452 Pacific Highway		
11	Commercial Strata Units, Multiple Ownership	446 Pacific Highway		
12	Commercial Strata Units (poss), Multiple Ownership	53-63 Nicholson Street St		
13	Commercial Strata Units, Multiple Ownership	65 Nicholson Street St		
14	Australian Dental Association (NSW Branch)	67-69 Nicholson Street St		





## 2.2.4 **NOISE**

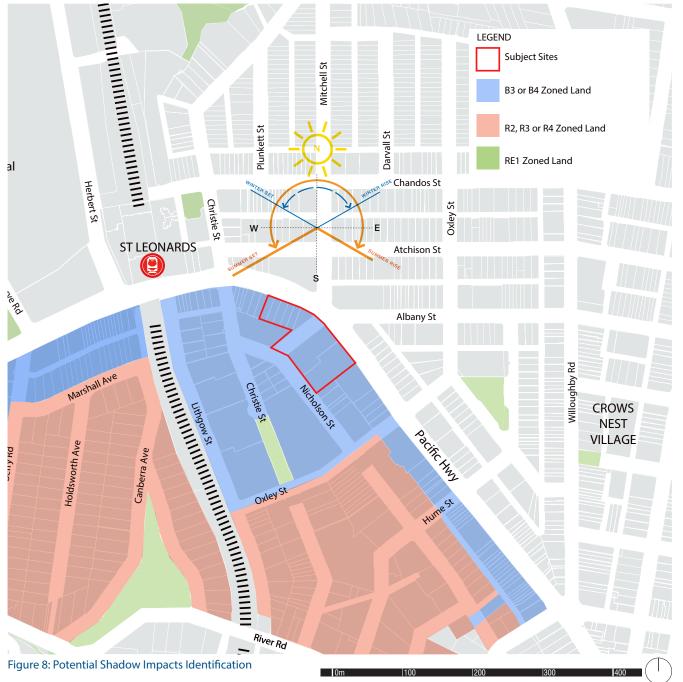
Noise comes primarily from the traffic on Pacific Hwy particularly during peak rush-hour periods.

To a lessor extend the sites are impacted by railway noise.

Residential uses should be situated higher from street level noise.

Noise attenuation measures are recommended at the lower levels.





#### 2.2.5 **OVERSHADOWING**

Consideration should be given to minimise overshadowing to the existing residential (R-Zoned) land.

Tall and slender building forms will allow for faster moving shadows over neighbouring allotments and the public domain.

Given the site's dense urban location, the provision of a minimum 2 hours of solar access to residential apartments between 9am and 3pm, should be in accordance with SEPP 65, Rules of Thumb (page 85):

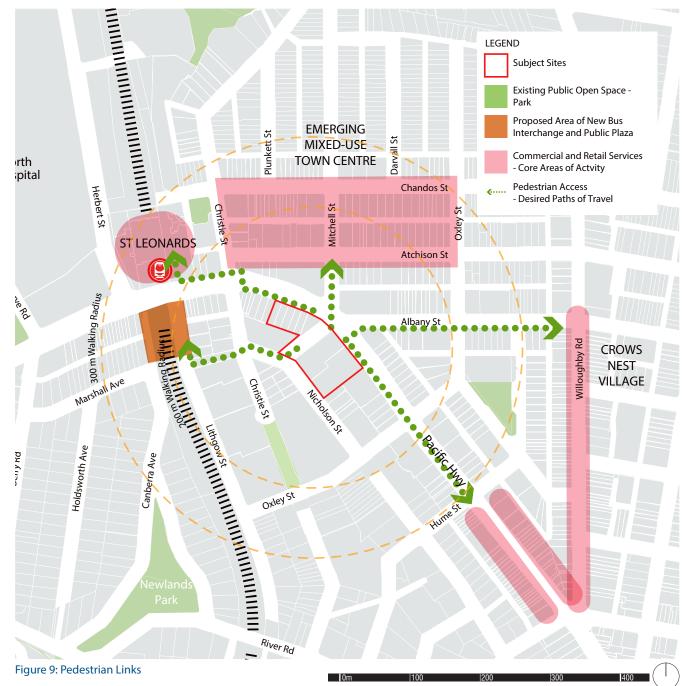
"Living rooms and private open spaces for at least 70 percent of apartments in a development should receive a minimum of three hours direct sunlight between 9 am and 3 pm in mid winter. In dense urban areas a minimum of two hours may be acceptable".

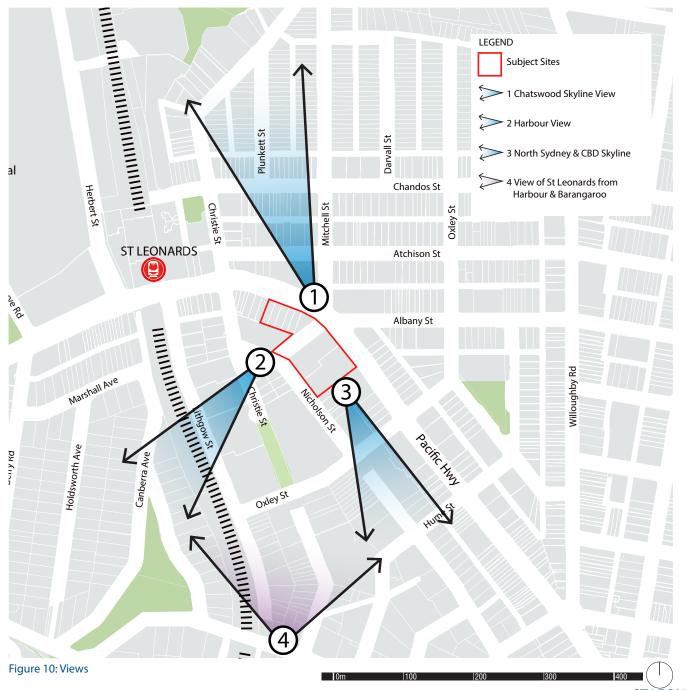
# 2.3 Site Opportunities

#### 2.3.1 PEDESTRIAN ACCESS

The following site opportunities have been identified with regard to pedestrian access:

- Integrate pedestrian movement to the surrounding built environment.
- Provide access to and from site to access the bus interchange and railway station.
- Maintain existing through site link.
- Provide access to several key amenities within close proximity to the site:
  - Open space and recreational facilities such as Gore Hill Park and Newlands Park;
  - Public transport option links, such as the Sydney Orbital Network, Pacific Highway and North Shore Rail Line
  - Proposed transport interchange at St Leonards Railway Station;
  - Royal North Shore Hospital, TAFE, Artarmon Industrial Area, Gore Hill Technology Park, and a number of selective high schools and private secondary schools.





## 2.3.2 VISUAL CONNECTIONS

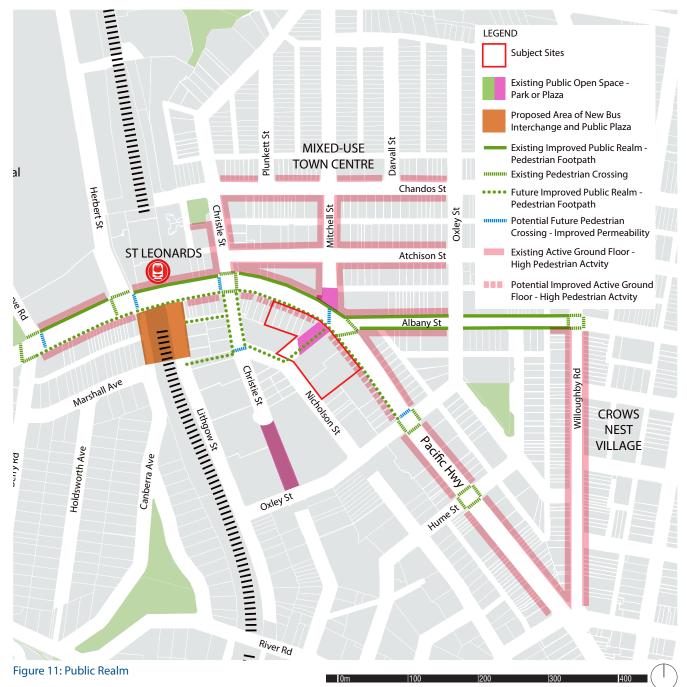
The following site opportunities have been identified with regard to visual connections:

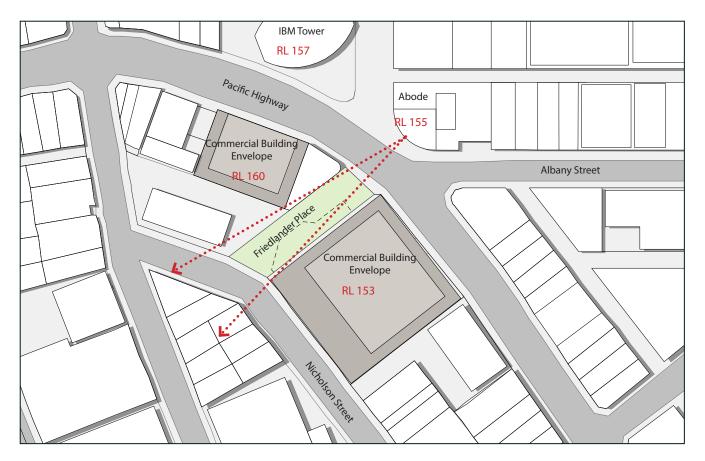
- The subject sites have significant visual connections to several landmarks; Sydney CBD, the Harbour and the Chatswood skyline.
- The skyline of St Leonards is also highly visible from the harbour, Drummoyne, Balmain, Pyrmont and Barangaroo's future financial district / redevelopment.

#### 2.3.3 PUBLIC REALM AND OPEN SPACE

The following site opportunities have been identified with regard to public realm and open space:

- Increase the ground floor activation of the subject sites along the Pacific Highway frontage.
- Best practices of ground floor activation include:
  - Positioning entry locations to encourage pedestrian movement/traffic,
  - Providing a high percentage of ground floor transparency (shop fronts) to animate the public realm,
  - Utilising pedestrian-scaled streetscape modules and materials,
  - Utilising other weather protection and pedestrian scaled elements such as awnings, colonnades, and lighting.
- Greater permeability around the subject sites area should be explored, such as providing additional pedestrian crossings at Pacific Highway traffic intersections.

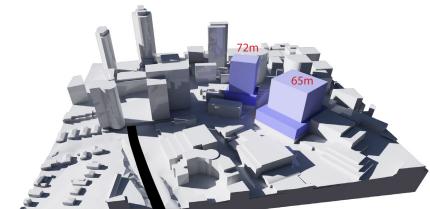




## 2.3.4 ALLOWABLE BUILDING HEIGHT & MASS

The current LEP and DCP controls allow for a building height and mass which is not sympathetic to the existing built environment. As depicted in the adjacent figure the resulting built form creates a visually impenetrable wall.

There is an opportunity to introduce a more transparent built form typology on the subject sites which provides a more contextually compatible and sympathetic solution.







## 3.0 DESIGN PRINCIPLES

The following design principles are formulated from the site analysis study. These principles are used to inform the development and built form of the subject sites, which include:

- Pedestrian connectivity
- Vehicle connectivity
- View corridors and views
- Building heights
- Use
- ESD
- WSUD

## 3.1 Pedestrian connectivity

The following design principles have been identified with regard to pedestrian connectivity:

- Promote walking and ensure that key paths, or movement routes for walking, provide direct access to destinations such as the St Leonards railway station and the future bus interchange facility.
- Strengthen the north-south pedestrian links and encourage an improved pedestrian environment at Pacific Highway intersections
- Explore the potential for improved pedestrian priority at intersections with additional pedestrian crossings
- Activate street edges with retail uses and building entries
- Explore opportunities to introduce new paving to footpaths
- Maintain or improve pedestrian permeability through the precinct with through site links from Nicholson Street to Pacific Highway
- Investigate opportunities to upgrade the pedestrian amenity of streets (paving, lighting, signage, etc.)

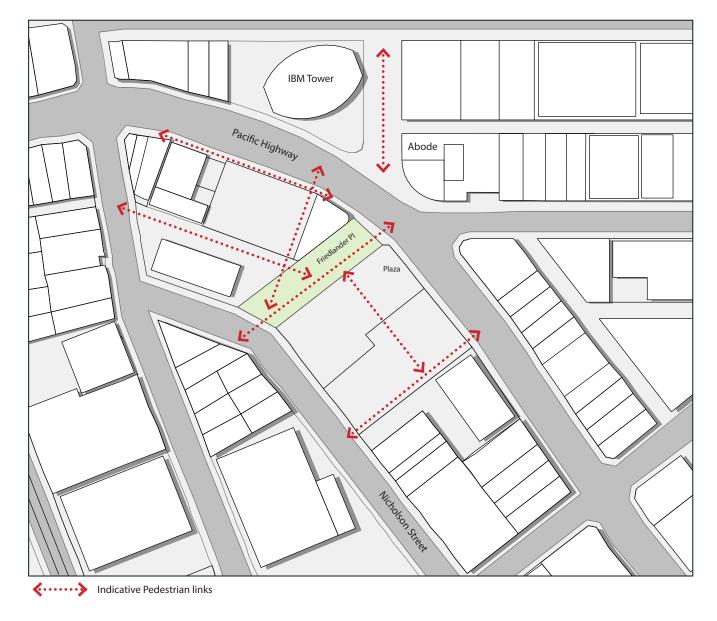
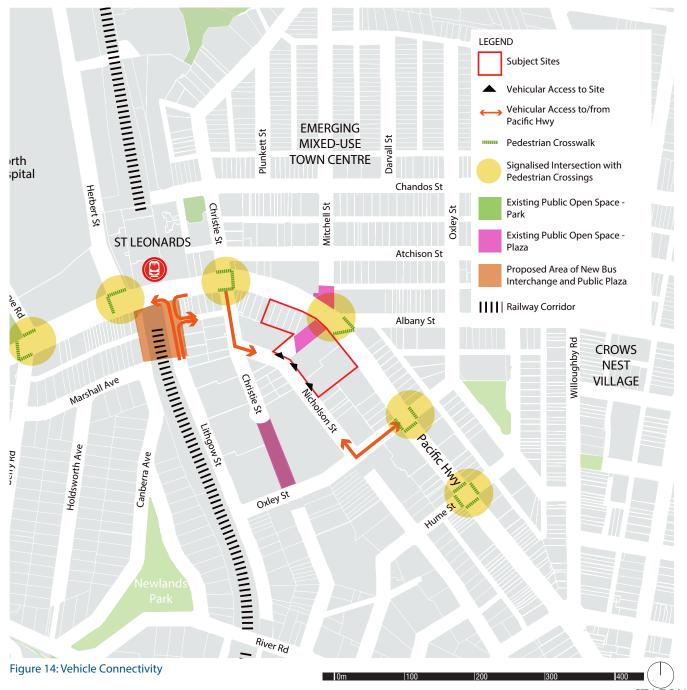


Figure 13: Pedestrian Connectivity



#### **Vehicle connectivity** 3.2

The following design principles have been identified with regard to vehicle connectivity:

- Maintain site access from Nicholson St
- Seek reduced parking rate requirements because of sites proximity and accessibility to multiple modes of public transport.

## 3.3 Public Realm and Open Space

The following design principles have been identified with regard to public realm and open space:

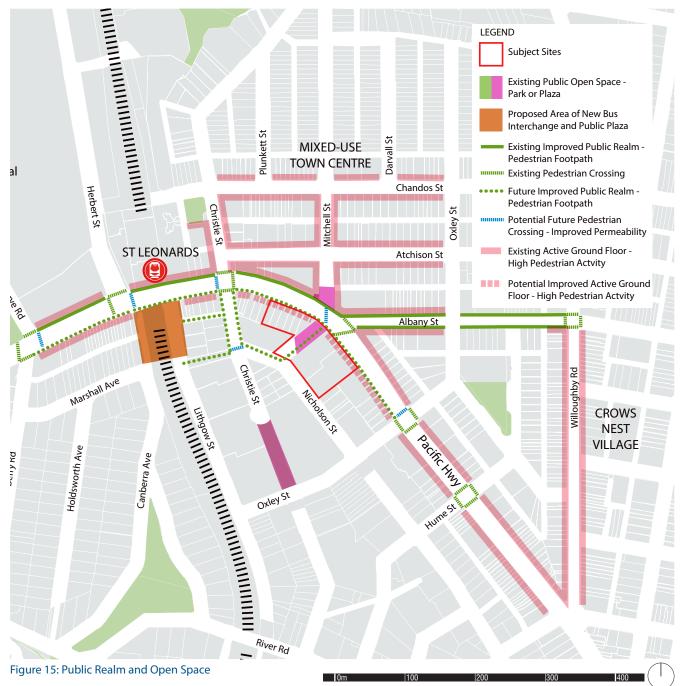
- Provide an improved and activated public realm that offers a variety of different publicly accessible places for visitors and residents.
- Ensure that activity is street-based through positive frontages to primary streets and movement routes, minimum or zero setbacks to these streets, and high quality public realm design which encourages pedestrian movement and activity.
- Seek opportunities to integrate with and revitalise existing public open space (i.e. Friedlander Place).



Pacific Square - Activated Public Realm



Friedlander Place - Under-utilised Public Open Space



## VIEW FROM ABODE TO SYDNEY CBD



Elevated Precinct View to CBD



View Corridor to CBD (Source: Google Earth)



View Corridor across site to CBD (Source: Google Earth)

#### 3.4 **View Corridors and Views**

The following design principles have been identified with regard to view corridors and views:

#### View Corridors

Ensure built form creates and maintains view corridors through the proposed development to Sydney CBD and the harbour.

#### Views

 Arrange the proposed built form to facilitate view sharing in particular southern views to Sydney CBD and the harbour and northern views to Chatswood and Macquarie Park

# VIEW FROM ABODE TO HARBOUR



Elevated Precinct View to Harbour



View corridor to Harbour. (Source: Google Earth)



View Corridor across site to Harbour. (Source: Google Earth)

# VIEW FROM FORUM TO CBD



View from Forum to CBD - For illustrative purposes. (Source: Winten Property Group, marketing image)



View Corridor to CBD (Source: Google Earth)



View Corridor across site to CBD (Source: Google Earth)

# VIEW FROM THE FORUM TO HARBOUR



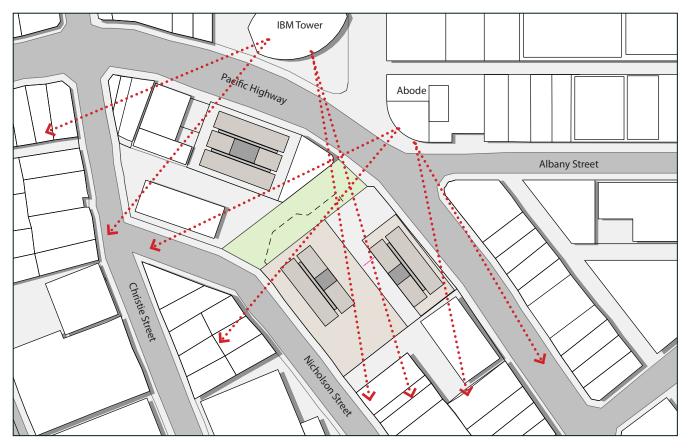
Illustrative view to Harbour. (Source: Tripadvisor for 192 Pacific Highway, marketing image)



View corridor to Harbour. (Source: Google Earth)



View Corridor across site to Harbour. (Source: Google Earth)



•• View Corridor

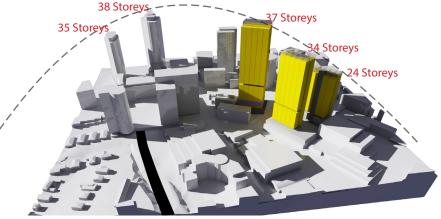


Figure 16: Building Heights and Mass

#### 3.5 **Building Heights and Mass**

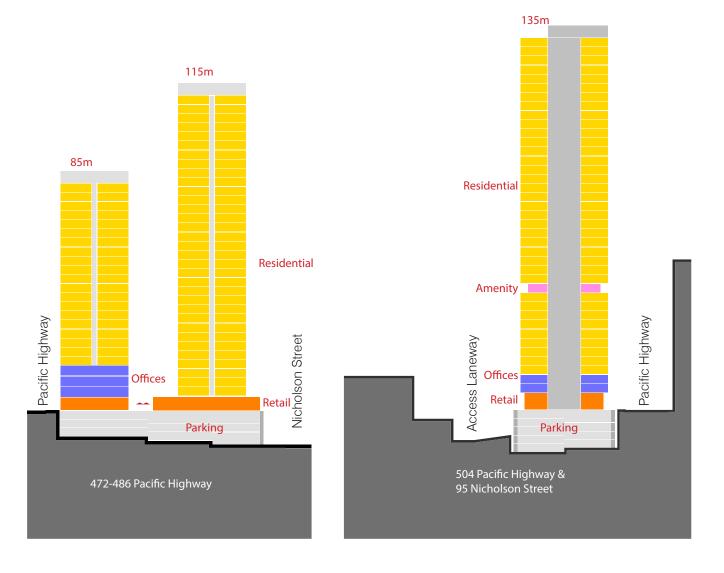
The following design principles have been identified with regard to building heights and mass:

- Create a landmark precinct of taller more slender towers at this unique corner of the Pacific Highway to provide visual interest upon approach from all directions.
- Create positive, engaging and legible 'entrance' points or 'gateways' to St Leonards, and to reinforce St Leonards as a key location as an activity centres.
- Introduce a more transparent built form typology on the subject sites which provides a more contextually compatible and sympathetic solution Maintain sufficient solar access to the surrounding residential neighbourhood south of Oxley Street.
- Utilise tall narrow towers that allow for, view permeability, and fast moving shadows to minimise any impacts from overshadowing.
- Graduation of the heights of the various tower forms are in response to the proximity to St Leonards Station and the topographic high point of the precinct.

#### 3.6 Use

The subject sites are within 300 metres walking distance to St Leondards Railway Station, and therefore should be considered under the best practices of transit-oriented development.

- Encourage uses which operate during evening and early morning hours in activity centres, such as cafes and restaurants, cinemas, community facilities such as a library or sports centre, gymnasiums and other facilities, to encourage activity and safety outside of office hours.
- Improve the use of public transport and the integration of public transport services by developing high-density housing proximate to existing transport infrastructure.
- Provide a range of housing options, including more affordable housing with less required parking.
- Provide local retail stores and services, so most shopping can be done locally



#### 3.7 **Ecologically Sustainable Development (ESD)**

Ecologically Sustainable Development (ESD) describes buildings and cities which protect and enhance our natural environment for the future, through design or layout, materials, systems, functionality and maintenance which avoids adverse impacts on the natural environment.

The considerations of ESD align closely with the aforementioned principles in that by creating more sustainable places, we are also creating more accessible, welcoming, attractive, healthy, safe, vibrant and prosperous cities through the following outcomes:

- Increasing accessibility, by modes other than the private car thus decreasing auto dependency and exhaust emissions.
- Increasing choice, of housing type, local area characteristics, and transport mode - making better connections between jobs and housing.
- Providing increased neighbourhood and travel options for those not owning cars.
- Making identifiable and walkable neighbourhoods.
- Creating more street activity and a safer station environment.
- Acting as a catalyst for other public and private investment and development.
- Using transit serviced land more efficiently to help create a compact urban form.

#### 3.8 **Water Sensitive Urban Design** (WSUD)

Water sensitive urban design (WSUD) plays an important role in capturing, recycling and purifying water within our urban environments. Implementing WSUD devices reduces water consumption, passively irrigates street trees and purifies water before it enters the harbour, removing heavy metals and faecal coliforms from stormwater.

Investigate the following WSUD principles in the design of the precinct:

- Capture surface stormwater to passively irrigate plantinas.
- Utilise urban bio-retention tree pits to street trees (to irrigate trees and filter water).
- Recycle excess stormwater for irrigation and grey water reuse where possible.

## 4.0 CONCEPT MASTER PLAN

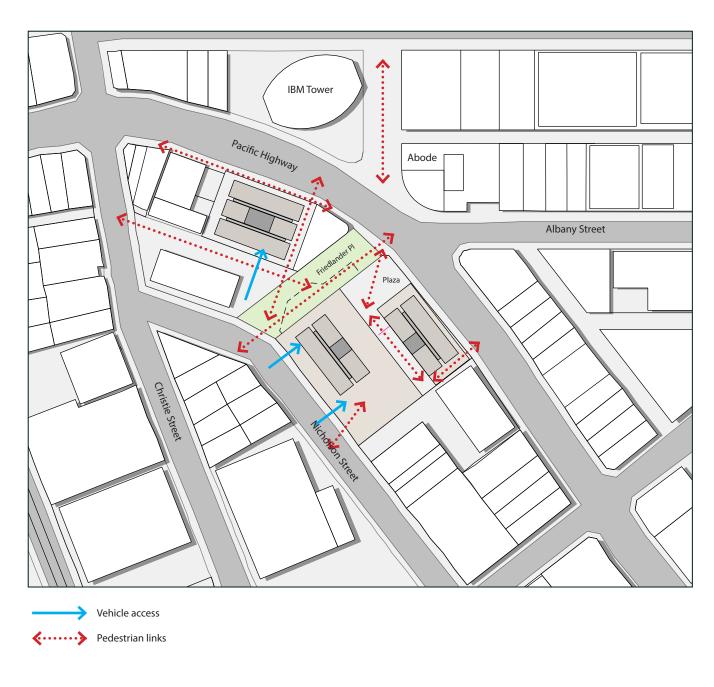
As identified above, the concept master plan began with an analysis of the existing built form controls for the subject sites (Lane Cove LEP 2009 and DCP 2010). Analysing the Charter Hall and Leighton Property sites, a significant discrepancy was found between each of the site's commercial office development potential and the associated built form impact to the surrounding built environment. Specifically, the typical large office floorplate poses a significant negative impact to the visual and solar permeability to the existing surrounding towers and the street level public domain. This and the serious lack of commercial office space demand within the precinct lead to exploring the sites' potential with a change in land use to residential.

Therefore the proposed urban design approach has been to commence from first principles of having regard to the surrounding context, the intent of Councils controls, and the opportunities and constraints of the sites. The urban design concept has sought to create positive, engaging and legible 'entrance' points or 'gateways' to St Leonards, and to reinforce St Leonards as a key location as an activity centre through a different building form profile.

As such, the resulting concept master plan manifests the positive benefits of a residential built form; buildings that are taller and slimmer in form. Significant benefits consist of view sharing opportunities and fast moving shadows with greater solar access to the surrounding built environment and street level public domain. An additional benefit includes ending the stagnation which has occurred under the existing LEP.



Figure 18: Concept Master Plan



#### 4.1 **Pedestrian and Vehicular Movement**

The arrangement of the master plan encourages pedestrian permeability across the site.

Additional site permeability has been provided on the 504 Pacific Highway site with pedestrian access from Nicholson Street to Pacific Highway.

Vehicular access is maintained from Nicholson Street.

Figure 19: Pedestrian and Vehicular Movement

# 4.2 Open Space Network

The arrangement of the site elements lends itself well to the creation of intimate pockets of open space animated by ground floor retail and other commercial uses.

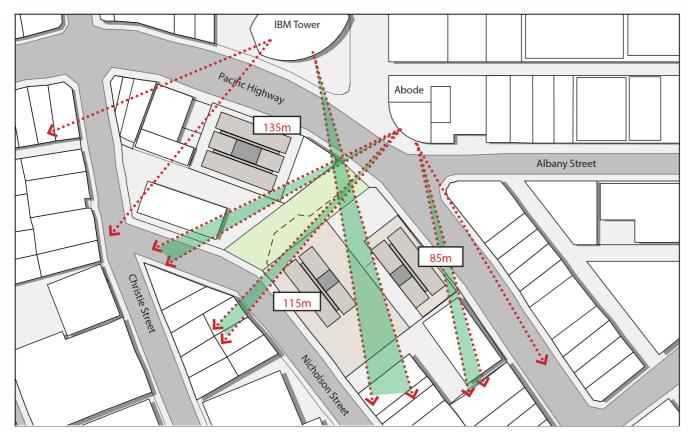
The concept master plan for the site includes a substantial increase and dedication of site area to useable public and privately-owned public open space.

The creation of landscaped through-site links to provide relief from noise and congestion of nearby vehicle thoroughfares

The provision of high quality public open spaces within the sites allows for opportunities for fine-grain pedestrian spaces animated by a variety of retail types including restaurants, cafes and markets.



Figure 20: Open Space Network





#### 4.3 **Building Heights, Mass and View Permeability**

The introduction of the proposed building forms resonate with the existing built forms of the Forum, IBM, and Abode to create a legible entrance to St Leonards.

The heights of the proposed forms have been stepped to reinforce the topography of the precinct.

The clustering of the taller elements seek to reinforce the importance of the St Leonards Centre and railway station.

Building locations and forms allow for significant axial through-site views, creating a strong urban experience.

Tall narrow building mass provides for:

- increased view permeability from adjacent buildings and from pedestrian level;
- fast moving shadows which lessen the impact of overshadowing;
- increased access to natural light to the ground plane.

Additionally, the podium structures mitigate against downdrafts into the public realm.

# 4.4 Setbacks and Tower Separation

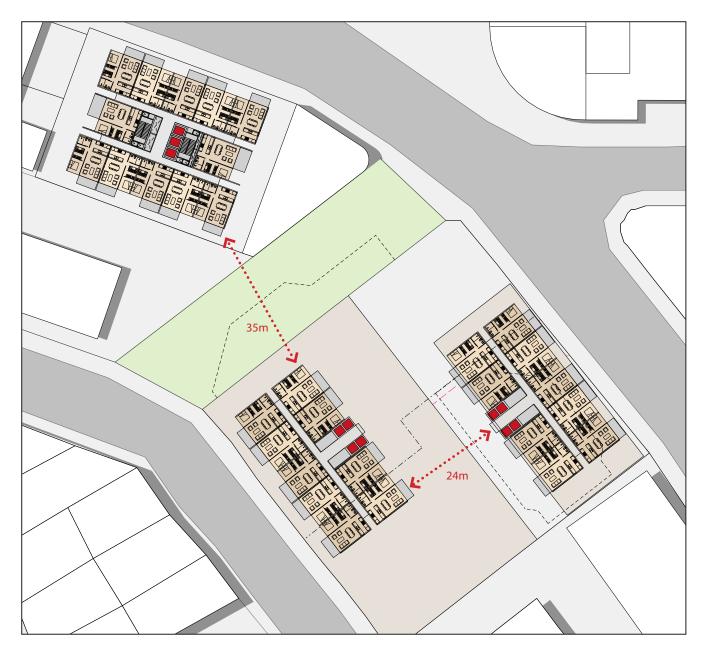
Figure 22 illustrates the setbacks utilised for the tower elements of the concept master plan. The setback predominately meet the spirit of the DCP setbacks outlined in the Friedlander Precinct Controls.

Other aspects of the setbacks include:

- Reduced impacts upon surrounding buildings with improved access to light and ventilation
- Opportunities to create narrow through site links at each building perimeter, improving pedestrian connectivity throughout the precinct.
- Performance based tower separation will be required to achieve SEPP 65 compliance.



Figure 22: Building Setbacks and Separation



#### 4.5 **Indicative Typical Residential Floor** Plan

Figure 23 illustrates an indicative typical residential floor plan. Objectives of the floorplate includes:

- Opportunities to create narrow and flexible floorplates with a variety of apartment types available.
- Maximised tower separation to provide high amenity apartments with access to light and ventilation.
- Tower orientation allows for shared views towards key district landmarks, improving outlook and value.
- Efficient double loaded corridor arrangements featuring natural cross ventilation for improved ESD performance.
- Centralised core locations to maximise façade spaces for apartment uses.

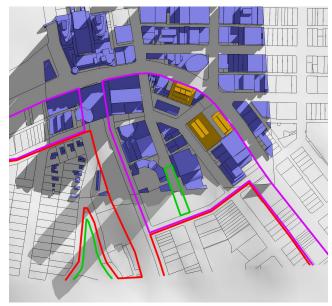
Figure 23: Building Setbacks and Separation

# 4.6 Shadow Analysis

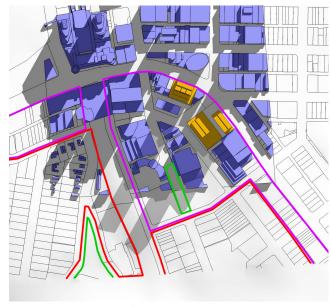
The adjacent shadow diagrams illustrate the potential impact of the proposed built form to the surrounding built environment. Colour-coded zone boundary lines illustrate RE, B, and R zoned lands.

The following observations have been made:

- Tall slender towers allow for narrow fast moving shadows with minimal impact upon amenity.
- Shadows track generally along Oxley Street with limited shadow impacts upon the residential zones to the south.
- A minimum of 4-5 hours of direct sunlight is provided to each residential zoned property between the hours of 0900 and 1500.
- Late afternoon shadows between 1400 and 1500 track along the commercially zoned Pacific Highway edge with limited impacts upon residential amenity.



0900 21 June - Winter Solstice



1000 21 June - Winter Solstice



1300 21 June - Winter Solstice



1400 21 June - Winter Solstice



1100 21 June - Winter Solstice

1200 21 June - Winter Solstice



1500 21 June - Winter Solstice

#### 4.7 Use

Vertically integrated mixed-use development with a retail activated ground floor. Incubator/start-up office space is provided at the lower levels with residential units above.

Residential uses are located higher, away from any potential impacts of traffic and railway noise, with views toward Sydney CBD, the harbour and Chatswood's skyline.

Mixed uses allow for a variety of activities throughout the day with local businesses supporting daytime retail activity and on site residents providing activation into the evenings. 472-486 Pacific Highway

504 Pacific Highway & 95 Nicholson Street

Future Bus Interchange & Mixed Use Development

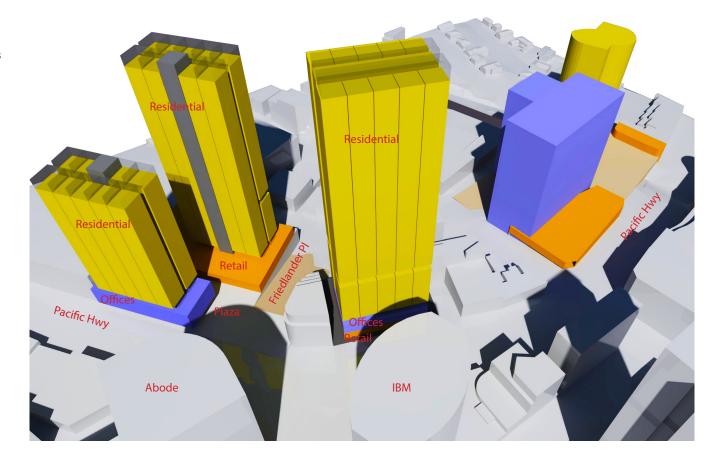
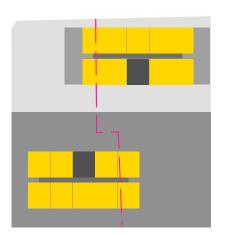




Figure 25: Design Options Explored for 472-486 Pacific Highway



#### 4.8 **Design Options**

A wide variety of massing options were explored for the Leighton Properties site to reveal the best possible combination of amenity, views and solar access.

Three base options were generated that were able to achieve these goals. The preferred design solution was selected due to its capacity to achieve the highest apartment amenity for its residents with a strong urban design response, given the constraints of the site.

The design places two parallel towers located on both Pacific Highway and Nicholson Street sides of the site. These forms are laterally slid to form an offset, allowing for improved district views. The towers have been separated by a clear opening of 24m, allowing for maximised solar access provision and acoustic privacy between apartments.

This master plan arrangement also creates a strong urban design result with a long axial view between the towers from the Mitchell Street precinct to the north. An open ground floor plaza space was formed at this corner with a generous frontage facing Friedlander Place. This creates the opportunity for active retail frontages that can be animated with restaurants and cafes, with a fresh food market towards the centre of the site. The podium building facing the Pacific Highway provides small incubator office spaces over three levels to promote and accommodate local businesses.

The result is a strong and high amenity design response to a significant site with a generous urban design response with limited impacts upon surrounding properties with the ability to achieve SEPP 65 compliance.

## 4.9 Reference Images

The proposed master plan can create high quality urban spaces that make a strong urban contribution to the precinct.

Opportunities to create distinctive destination spaces animated by retail offerings including market, restaurants and cafes.

Opportunities for urban artworks with cultural significance both locally and regionally.

Activated podium edges to provide visual interest to the immediate streetscape.

The highly visible location on the Pacific Highway lends itself to showcase retail opportunities and branded environments.

Mixed use affordable office spaces create opportunities for smaller businesses that support the local area.

Tall sculptural tower forms will create a distinctive skyline that will become a landmark destination.

## 4.10 Summary

The design proposal includes three slender towers; one on the site of 504 Pacific Highway and two on the sites of 472-486 Pacific Highway.

The orientation and location of the tower elements have been sited to provide maximum separation while promoting view permeability.

The heights of the forms have been stepped to reinforce the topography of the precinct and the importance of the St Leonards Railway Station.

The visual form and composition of the buildings create a sense of place along the Pacific Highway and Friedlander Place while minimising the impact to 500 Pacific Highway.



Image 01 -Urban plaza spaces at Pacific Place, Maroubra



Image 03 - Sculptural tower forms with separation





mage 02 - Incubator office spaces



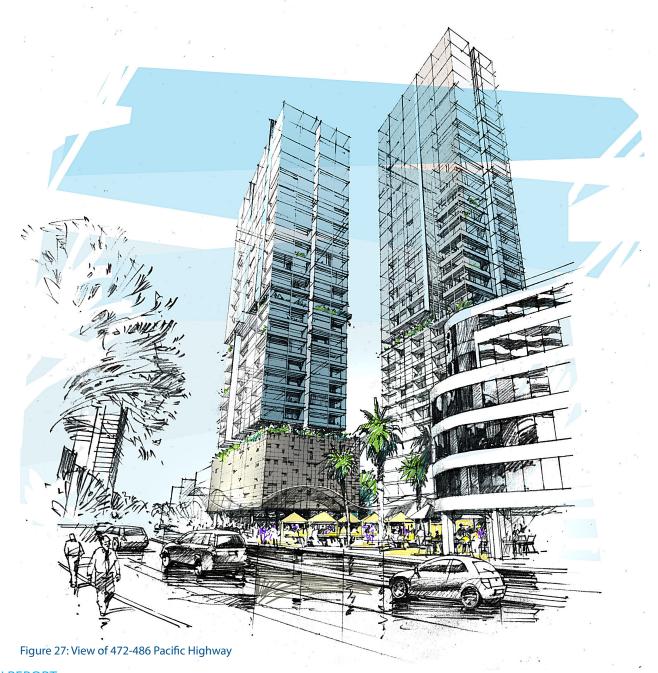
Image 04 - Urban art work

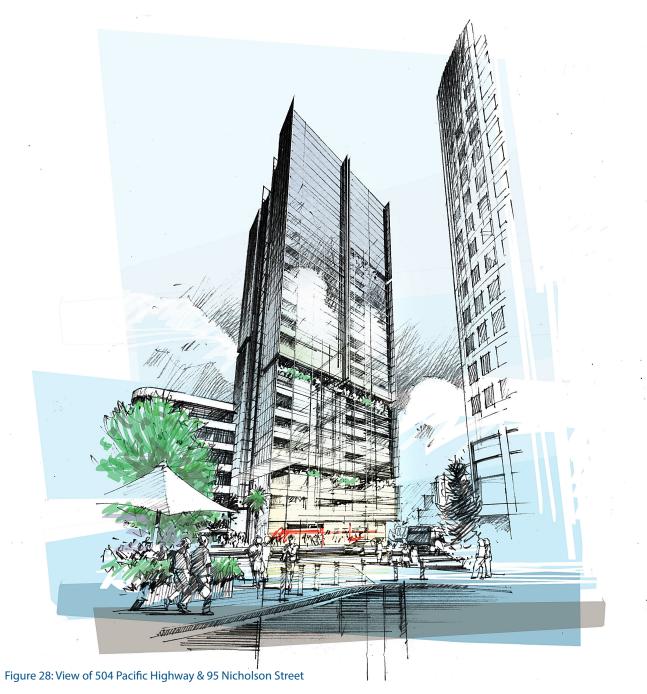


Image 06 - Retail showroom spaces



Figure 26: Artist's Impression





# 4.11 Area Summary

# 504 Pacific Highway & 95 Nicholson Street (Charter Hall):

Site Area: 1920sqm

Commercial GFA: 2,350sqm (7%)

Residential GFA: 30,195sqm (93%)

Apartments: 390 Max Height: 135m

Storeys above ground: 37 floors

## 472-486 Pacific Highway (LPPL):

Site Area: 5133sqm

Commercial GFA: 3,750sqm (7.5%) Residential GFA: 46,110sqm (92.5%)

Apartments: 520

Max Heights: 115m and 85m

Storeys above ground: 34 floors and 24 floors



