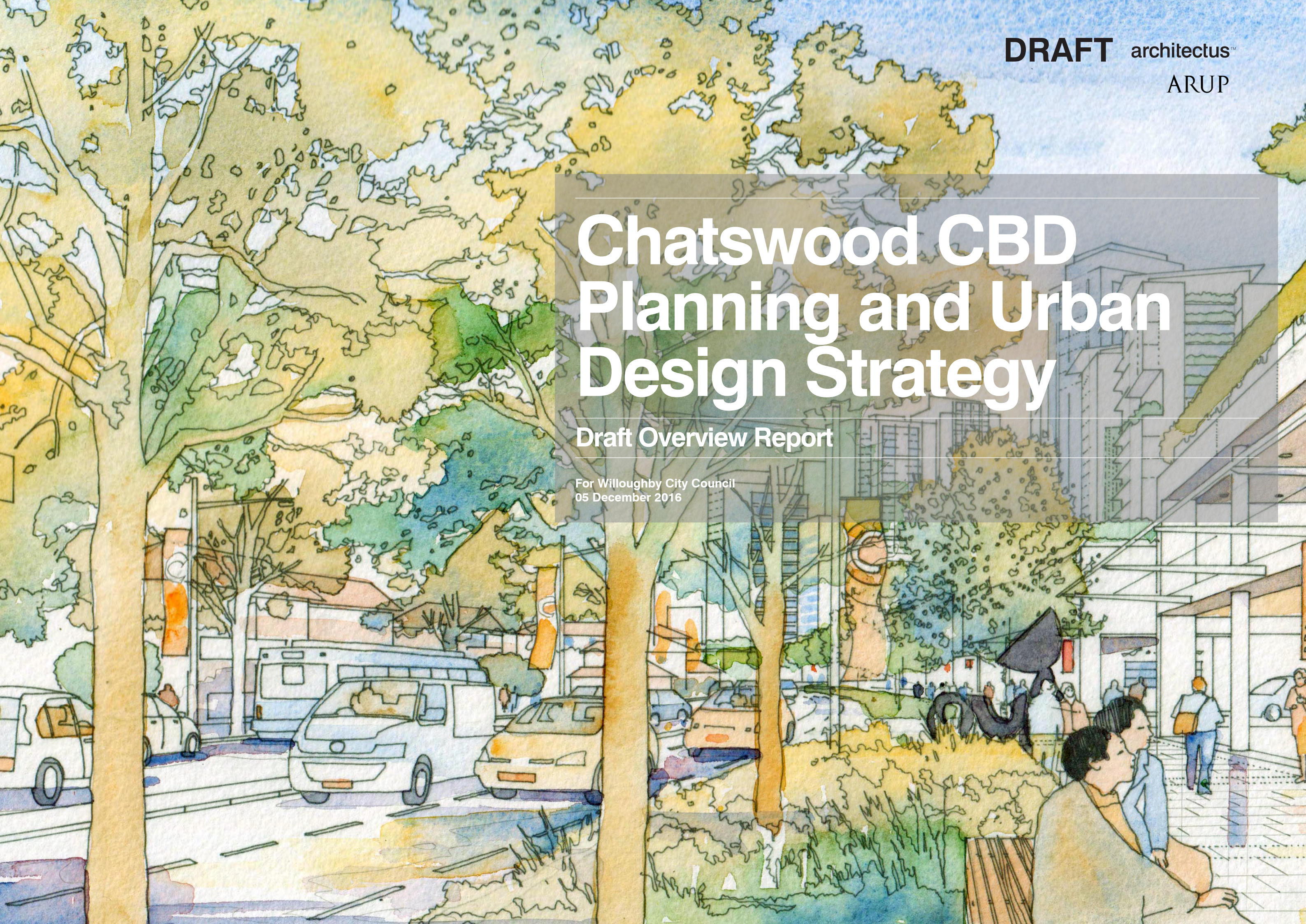


Chatswood CBD Planning and Urban Design Strategy

Draft Overview Report

For Willoughby City Council
05 December 2016



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This document is for discussion purposes only unless signed.

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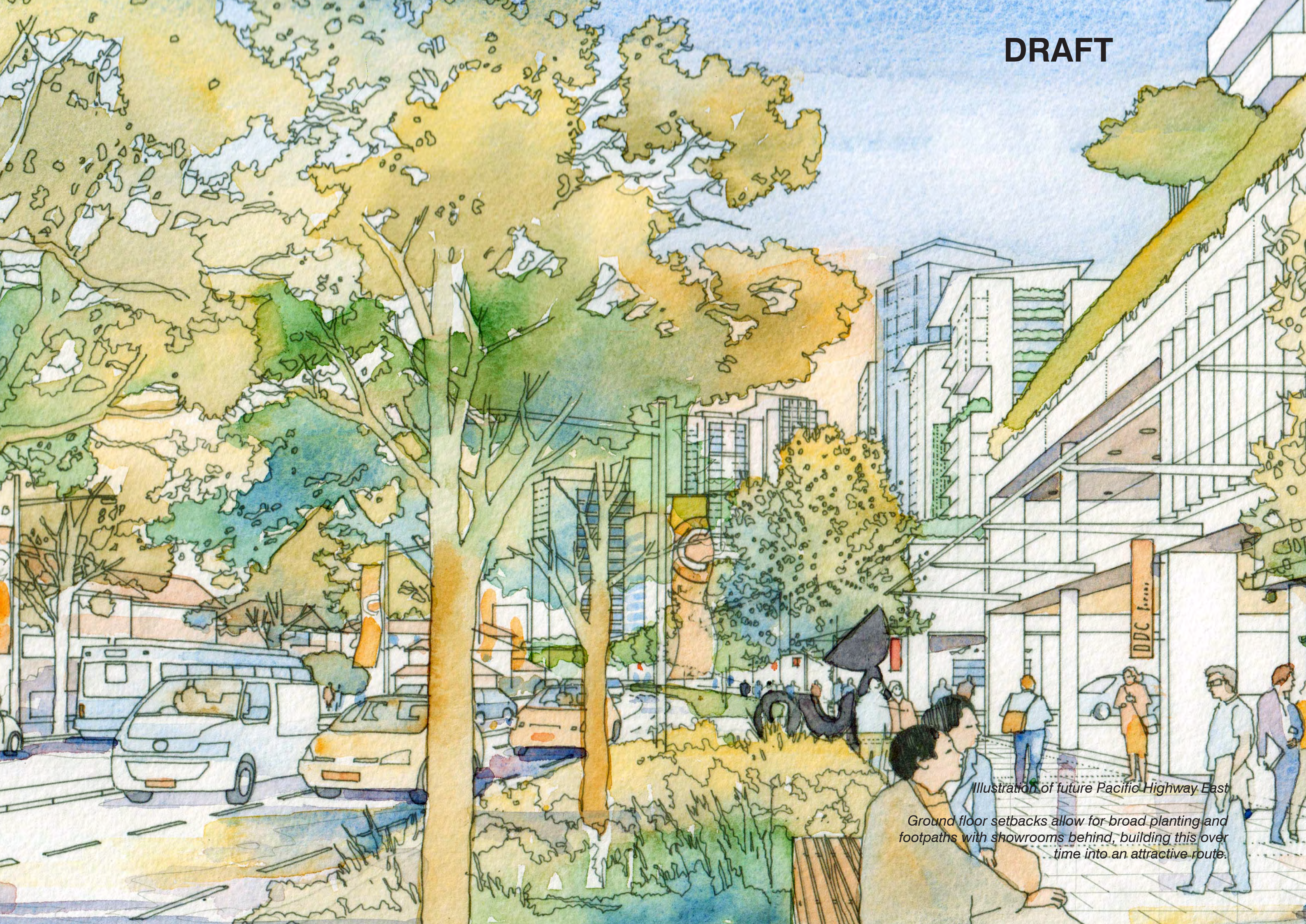


Illustration of future Pacific Highway East

Ground floor setbacks allow for broad planting and footpaths with showrooms behind, building this over time into an attractive route.

1 Introduction

1.1 Introduction and purpose of this report

Architectus has been engaged by Willoughby City Council to prepare this Planning and Urban Design Study of the Chatswood CBD, supported by transport and traffic advice from Arup and economic advice from BIS-Shrapnel.

This report is an Overview Report describing the key issues for the centre. It is a shortened version of the wider strategy which provides further detail on a range of issues.

The purpose of the strategy is to establish a strong framework to guide all future private and public development in the Centre over the next 20 years and to achieve exceptional design and a distinctive, resilient and vibrant centre for Chatswood.

Specifically, this study:

- Reviews the current planning framework (statutory and non statutory) that controls the development of the Chatswood CBD.
- Identifies the opportunities and constraints that are impacting on development in the Chatswood CBD.
- Develops and recommends a planning framework that Council can implement to ensure Chatswood sustainably grows as a competitive strategic centre of Sydney.

In response to Council's brief, the study is designed to provide recommendations that are based on:

- World best practice in the planning and design of cities.
- Achieving a sustainable balance between commercial, retail, residential, education, cultural and other uses in the Centre to ensure on-going vibrancy.
- Maintaining a compact, walkable and economically buoyant Centre.
- Exploring city form and scale aimed at accommodating future growth and change.
- Architectural principles to distinguish Chatswood as a centre that expects exceptional urban design, pedestrian linkages and public domain, embracing key elements of local character and heritage.

- | | |
|---|-------------------------|
| | Centre boundary |
| | Open space |
| 1 | Westfield |
| 2 | Chatswood Chase |
| 3 | Mandarin Centre |
| 4 | Lemon Grove |
| 5 | Westfield Carpark |
| 6 | The Concourse |
| 7 | St Pius X College |
| 8 | Mercy College |
| 9 | Chatswood Public School |
| 10 | Chatswood High School |
| 11 | Our Lady of Dolours |
| 12 | Chatswood Bowling Club |
| 13 | Chatswood Youth Centre |
| 14 | Garden of Remembrance |
| 15 | Currey Park |
| 16 | Kenneth Slessor Park |
| 17 | Chatswood Golf Club |



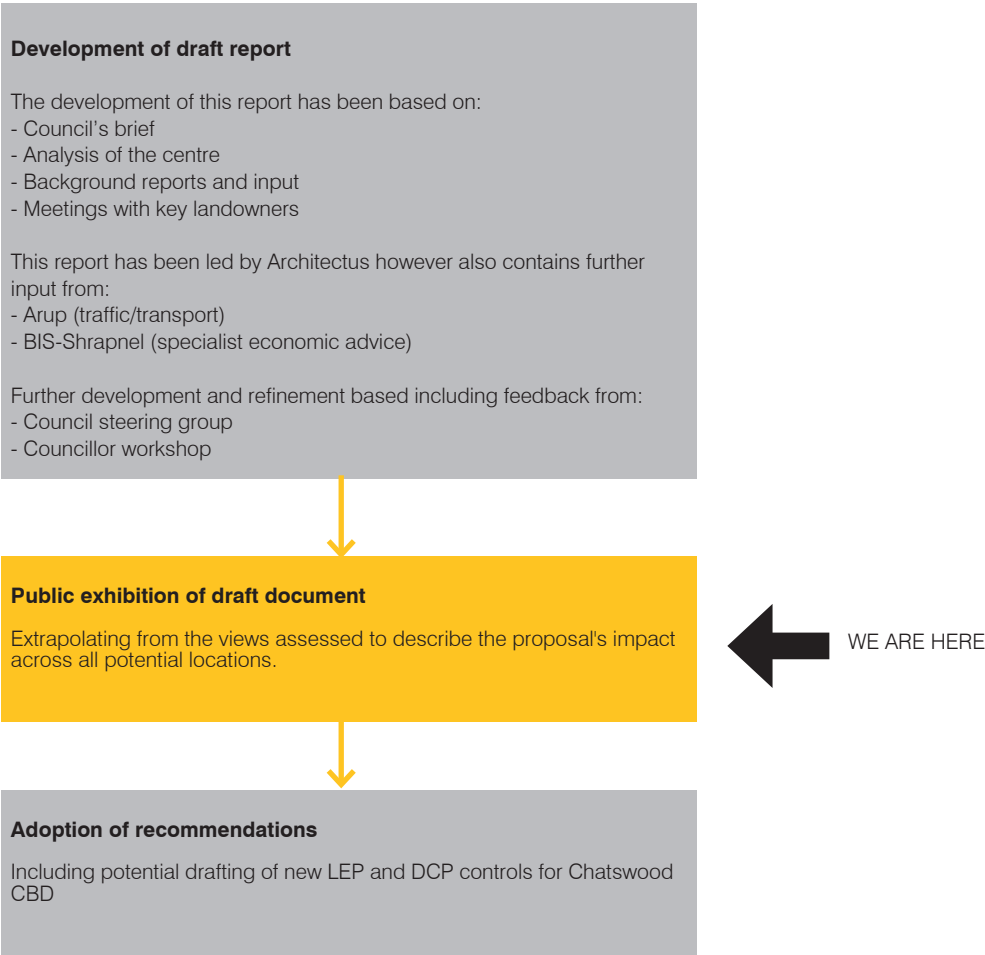
Figure 1.1.1 The existing Chatswood CBD



Process

The process for this study and its adoption is described in the diagram adjacent.

As part of the process of this project, Architectus has met with representatives of a number of significant sites within the centre to understand their current plans and objectives for the centre.



1.2 The Draft Strategy

The strategy includes the following sections which are summarised adjacent:

- Vision.
- Concepts.
- Testing.
- Recommendations.

The key component of the vision is further described in Chapter 2 of this document and the recommendations are included in Chapter 3.

Vision

Chatswood centre will be confident, fine grain and green. It will be a diverse, vibrant, active and accessible place, with attractive places to live, work and play. This strategy has developed the following principles to develop this future:

1. Promoting office growth - The office market in Chatswood will continue to improve and it is vital that the centre accommodates this. A key focus for this will be new office growth along Albert Avenue.
2. Residential growth in the right locations - Chatswood is an accessible urban centre, however residential use will need to focus outside of the Commercial Core.
3. Ensuring the right mix of uses - Retail, medical, community and other uses will also need to be provided in Chatswood. Future use clusters for education (around existing schools), arts and culture (around the concourse) and recreation (around Chatswood Oval and other Council properties) have been identified.
4. Providing great public places - Key new spaces and links as well as improvements to existing will provide a variety of high quality, interesting spaces for Chatswood into the future.
5. Addressing transport issues - A balanced approach is required to address future transport needs to ensure sustainable outcomes for Chatswood.

6. Urban design quality - Ensuring a high quality and cohesive environment will provide an attractive centre for all. A clear and implementable vision will help to shape the centre for its future needs.
7. Greening the centre - Chatswood is the focal centre of the leafy North Shore and this should be reflected through both the streetscape and new development.

Growth projections

Based on statistics from the Department of Planning and Environment, the Bureau of Transport Statistics and BIS-Shrapnel work produced alongside this study, the following 30-year growth figures have been used as a basis for understanding likely growth of Chatswood and proposed controls have been developed to accommodate this growth into the future:

- 501,750sqm residential Gross Floor Area.
- 297,500sqm office Gross Floor Area
- 136,200sqm other commercial Gross Floor Area.

While not used as a target for growth, these figures have been used to understand potential future demand. The recommendations presented in this Strategy demonstrate how this level of growth can be planned for the future.

Concepts

In addressing the brief, concepts and principles have been developed to address the following key issues:

- Principles for the development of controls, including:
 - Framework for built form controls.
 - Sun access to key public places.
 - Transition to heritage items from centres.
 - Slender towers and workable floorplates.
 - Tower separation.
 - Site isolation.
 - Human scale and fine grain.
 - Design excellence.
 - Building sustainability.
 - Value sharing.
- Traffic and transport issues.
- City-wide spatial concepts including planning for the growth of office, residential, retail and community uses.
- Local concepts including streetscape, public domain and key building typologies for a range of key locations across Chatswood CBD.
- Typical street sections.
- Urban approaches to podia and greening.

Testing

CBD boundary

Architectus has considered the boundary conditions of the Chatswood CBD. This work has included consideration of Chatswood's existing structure, barriers to growth and a comparison of the Chatswood CBD to other comparable centres. The preferred boundary options have then been tested through the built form scenarios.

Built form scenarios

Architectus has undertaken built form scenario testing of the Chatswood CBD under a series of different planning controls:

- Scenario 1 - Existing controls - based on sites developing to the current controls, including existing solar access requirements.
- Scenario 2 - Unconstrained growth - which tests all potential additions to the boundary with limited development constraints.
- Scenario 3 - Balanced growth - applies additional protections to Scenario 2 and tests north and south additions to the boundary.

The scenario testing has been based on a sieving of sites with potential for significant development and assumed amalgamation patterns. This is based on lot-by-lot analysis of land use, existing development, heritage and other restrictions.

Where building forms are not restricted by controls in some scenarios, they have been limited by external factors such as building height restrictions relating to airspace requirements.

The built form scenario testing of each scenario provides consideration of built form outcomes, views, solar access and floorspace outcomes.

The outcome of the scenario testing has led to a preferred scenario of Scenario 3 - Balanced growth. The image adjacent provide an overview of potential development outcomes under the preferred scenario. The scenario testing provided has been used as a basis to inform the recommended controls for Chatswood.

Recommendations

Recommended controls have been developed in order to achieve the objectives of the Chatswood CBD. Key features of these controls in order to achieve the objectives of this study are:

- Delivery of floorspace which is appropriate to the projected requirements within the future of Chatswood CBD.
- Chatswood's future as an employment centre is protected whilst allowing capacity for residential growth.
- Good sun access to key public spaces.
- Retaining the Chatswood CBD as the focus of Chatswood.
- Capturing the value of 'uplift' in development capacity for Council in order to be able to deliver required improvements to the public realm for a major and attractive residential and commercial centre.
- High quality built form outcomes are achieved through a design excellence process.
- Tower developments are encouraged to be slim and well separated.

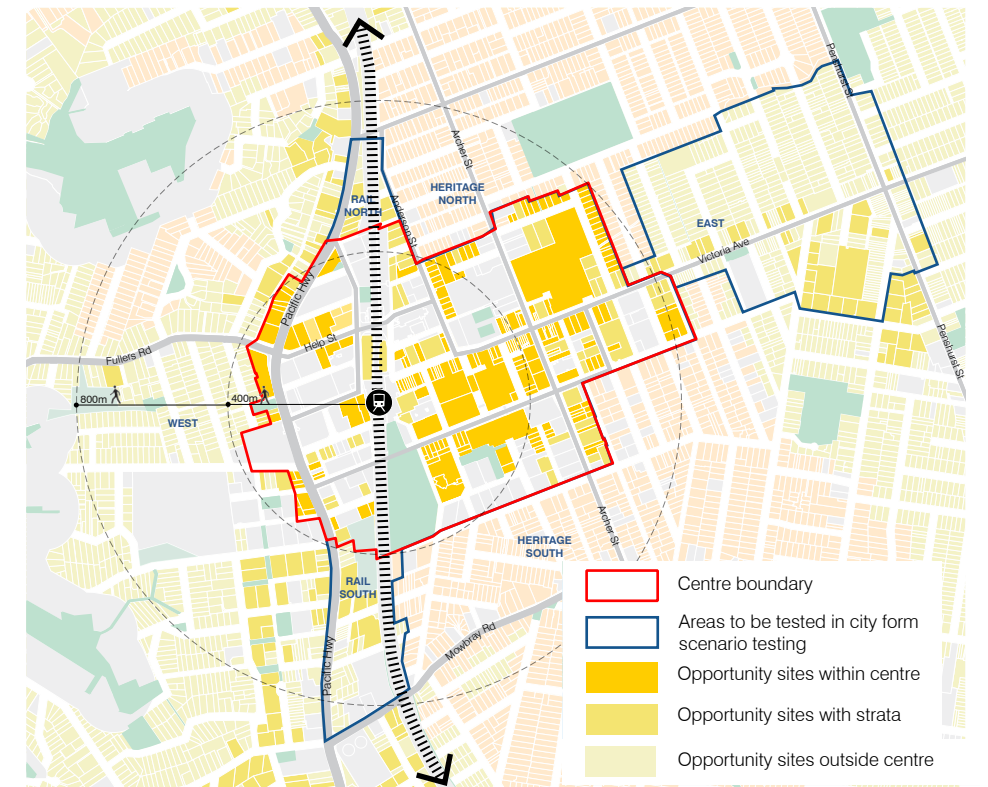


Figure 1.2.1 Areas considered for boundary expansion

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Illustration of future Albert Avenue

Active retail frontages, a landscape setback to the south and new office and retail development will transform this road over time into an attractive, pedestrian friendly and green spine

Active retail frontages, a landscape setback to the south and new office and retail development will transform this road over time into an attractive, pedestrian friendly and green spine

1.3 Strengths, Weaknesses, Opportunities and Threats

A SWOT analysis has been undertaken and has identified the following issues in Chatswood CBD:

Strengths

- Compact centre with a diverse mix of uses including residential, retail, office and other uses (community/cultural, health/medical, hotel, professional services, etc.).
- Highly successful retail focus (with low vacancy and high rents).
- High pedestrian activity and footfall, particularly through the core from the railway station to Chatswood Chase.
- Excellent accessibility by public transport, which will be further improved by the new Sydney Metro (four stations to Martin Place).
- Good environmental quality in the main retail core (including Victoria Avenue Mall, the Concourse and Chatswood Transport Precinct).
- Generally higher levels of safety than other major centres in Sydney.
- A diverse population.
- High levels of demand for residential use and premium market.

Weaknesses

- Lack of confidence in office core caused by a range of factors including:
 - Erosion of office core by residential uses.
 - Lack of recent investment.
 - Market changes and movements of tenants to other centres.
 - Poor public realm quality.
- Weaknesses in open space and green open space provision.
- Road transport and parking is becoming a greater issue.

Threats

- Existing controls do not have the capacity to sustain Chatswood's role.
- Current trend of residential in office precinct has the potential to erode the centre from being a true mixed centre.
- Competition with other centres nearby (including St Leonards/Crows Nest, Macquarie Park and North Sydney).
- Vehicular network issues if not planned for future may reduce the existing accessibility of the centre and also limit the enlarging centre (as connecting roads such as the Pacific Highway, Albert Avenue and Archer Street run through the centre).
- Loss of solar access to public domain.

Opportunities

- Defining new areas to accommodate growth.
- Utilise key sites (large sites and Council land) to provide key 'place based' improvements including new spaces and public realm.
- Utilise high demand to leverage high quality outcomes and Council's priorities (including public realm, social infrastructure etc.).
- Improve cycle links, connections to bushland, etc.



Chatswood transport interchange



Community event at the Concourse, Chatswood

2 Key issues for Chatswood

2.1 Promoting office growth and the right mix of uses

Economic work underpinning this study has strongly underlined the importance of Chatswood's office core in ensuring the future success of the centre. Although economic demand for new office buildings in Chatswood has been low in recent times, is anticipated that this will increase in the years to come. Protection of the capacity and capability of the office core to grow will be fundamental to Chatswood's future.

Sydney is currently one of the fastest growing cities in the developed world. The NSW Department of Planning priorities for the north subregion of Sydney indicate the need for 105,350 new homes needed from 2011-2031, at an average annual growth rate of 1.3%.

Accommodating growth in accessible centres such as Chatswood is acknowledged as a sustainable strategy for the future, encouraging homes close to jobs and minimising the impacts of new growth on existing roads and infrastructure. However, it is important that commercial uses do not 'crowd out' commercial uses from the centre.

Office potential

- 1 Expansion east across railway and along Albert Avenue.
- 2 Potential expansion west across Pacific Highway - considered not appropriate for current change.

Residential potential

- 3 Primarily outside existing Commercial Core.
- 4 Some 'outer' areas of office core which may not be appropriate for office development.

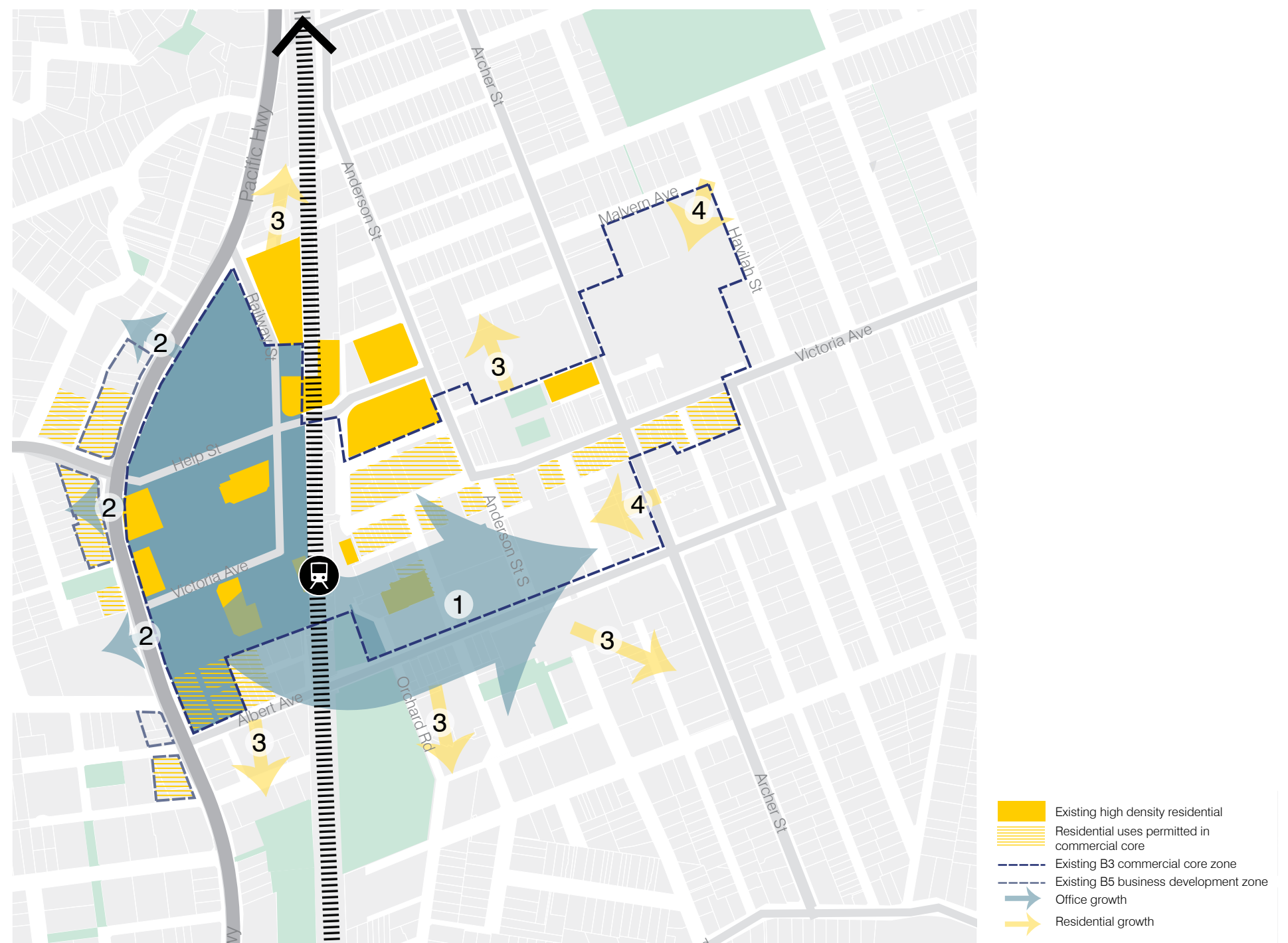


Figure 2.1.1 Tall buildings growth concept - Office and high density residential

Office growth potential

Figure 2.2 identifies the sites with potential for office growth and their likelihood of redeveloping.

It demonstrates that:

- There are few sites available for significant office growth under the existing controls.
- Some sites in the existing office core may be developable as towers with smaller minimum site area requirements.
- There are significant sites in eastern Commercial Core (currently the retail core), including a mix of smaller and larger sites.



Figure 2.1.2 Office growth potential

Land use

From the scenario testing undertaken the following preliminary recommendations for land use have been made.

Preliminary recommendation

Protect B3 zone as commercial-only allowing office towers into the existing retail core and expand this along Albert Avenue.

Notes

BIS-Shrapnel has identified the need for approx. 170,000sqm of office growth over 20 years to promote office growth in Chatswood. BIS-Shrapnel's high-level viability testing has shown that even with the protection proposed here, it may be difficult to achieve this level of growth through viable development.

The entire precinct should remain commercial in use to protect future capacity and ensure no further encroachment from residential. However Council may consider having some flexibility on commercial zoning to ensure wider priorities for the centre can be delivered (e.g. for delivery of a bus station expansion on the 1-5 Railway Street site).

Sites being within the Commercial Core which currently permit residential uses may be required to retain their existing residential capacity in accordance with relevant state government policy however should not be upzoned.

Victoria Avenue to remain similar to existing zoning - B3 with residential.

Remove existing DCP controls limiting the size of offices east of the railway and relax the existing controls limiting the size of retail west of the railway.

Land west of the highway should not be changed in zoning or density.

Outer areas of the centre should generally be mixed use with ground floor commercial required and upper floor commercial encouraged.

The existing scale of shopfronts should be retained with a significant setback to taller buildings.

Enable the existing office core (west of the railway) to expand to the east

Enable better activation of the streets in the existing office core (west of the railway) and provide more services for professionals.

Difficulty crossing Pacific Highway which also splits the centre. This should remain predominantly as employment uses and protected for now as a potential outlet for future office growth.

Encourage mix of uses without requiring where not feasible.



Figure 2.1.3 Recommended land use

Successful centres include a diverse range of uses which brings vibrancy to the centre. As well as residential uses and large office buildings, Chatswood is well placed as a diverse centre with a range of uses however should consider in providing for its future the needs of a broad range of sectors including:

- Retail
- Professional services and small-offices
- Hotels and serviced apartments
- Community uses
- Medical

Active ground plane and retail

- 1 Reinforce Victoria Avenue as Chatswood's primary pedestrian spine.
- 2 Increase activation of side streets from Victoria Avenue, including circular links.
- 3 Activity should grow west across railway with a professional focus.
- 4 Development of a pattern of mid-block links along the eastern part of the centre.



Figure 2.1.4 Active ground plane and retail growth concept

Community, health and education

- 1 A 'cluster' of recreation uses around Council owned opportunity sites and open spaces.
- 2 Chatswood's 'education precincts' around Chatswood Public School and High School to the west and St Pius X and Mercy College to the east.
- 3 An arts and culture cluster around the Concourse.



Figure 2.1.5 Community, health and education growth concept

Summary of economic advice (BIS-Shrapnel)

BIS-Shrapnel have been commissioned by Willoughby Council to provide economic input into the strategy with a focus on office use. The following provides an overview of BIS-Shrapnel's advice.

Chatswood is a dedicated strategic centre within the Sydney metropolitan area and part of the Global Economic Corridor. It features a vibrant mix of offices, major retail facilities and high density residential accommodation. At its centre lies a modern railway and bus interchange that provides direct connections to the Sydney CBD, other centres within the Corridor and residential areas, both local and further afield. Connectivity will be further improved with the opening of the Metro Northwest in 2019 and City and Southwest in 2024.

The office market is Sydney's sixth-largest and, at 14,000 jobs, accommodates well over half of Chatswood's total employment of around 24,700. However, Chatswood's office market is at risk. Pressure from residential development threatens not only its growth potential, but its existing stock. Financially, residential is currently the most attractive land use: unless existing office buildings and (potential) development sites are protected, most, if not all development would favour residential in the foreseeable future. Moreover, under current planning controls and prevailing market conditions commercial development is not feasible.

Left to its own devices, i.e. with no changes to planning controls, BIS Shrapnel forecast that Chatswood's office employment would grow by a mere 900 persons by 2021. Thereafter, both office employment and the stock of office space would contract. Chatswood would lose employment to other centres and its market share of office employment would decline. It would be highly unlikely that Chatswood could achieve even the baseline target of 6,300 additional jobs by 2036 that is set out in the Greater Sydney Commission's Draft North District Plan.

Without impediments to growth in stock of office space, Chatswood has the potential to well exceed the Commission's 'higher target' of 8,300 additional jobs by 2036. Strong demand for office space could see Chatswood accommodate an additional 11,000 office jobs alone over the next 20 years, boosted by overflow demand from a severely site-constrained Sydney CBD and North Sydney.

Removing the threat of encroachment and enabling the office market to meet potential demand will require the combination of protecting existing buildings and development sites, and relaxing current planning restrictions.

Without a relaxation of development controls, there is a risk that the market will fail to deliver the desired jobs growth. Lifting height controls, expanding the commercial zoning east of the railway and applying a broad 10:1 FSR would allow the stock of office space to grow by up to

127,000 square metres and accommodate up to 8,500 new office jobs over the next 20 years. However, even taking into account strong rental growth forecast for the next five years, only six out of an identified 14 potential sites are considered to be financially viable. Of the six, two are only marginally so and development may not necessarily occur.

Lifting FSR restrictions—but retaining height, setback, separation and design excellence controls—has the potential to lift stock additions to 193,000 square metres. Not only would this include unlocking an additional financially viable site, but it would increase the probability that development on others would actually take place. Raising the amount of office space would be accompanied by a lift in the number of potential new office jobs in Chatswood to 11,000 between 2016 and 2036.

Apart from facilitating growth, enabling the office market to develop helps to maximise returns on existing and planned on investment in infrastructure. Moreover, it would contribute to raising efficiencies by minimising travel times between home and work, thereby contributing to the Commission's target of making Sydney a 30-minute city.

2.2 Transport

Current traffic and transport situation

The Pacific Highway is a main road corridor which carries significant through traffic seven days a week and throughout the day. It creates a barrier for cross movement by vehicles and pedestrians as well as limiting the capacity for turning traffic into and out of the Chatswood CBD. Albert Avenue and Help Street provide the key access road connections from the Pacific Highway with road underpasses of the railway corridor to the Chatswood CBD to the east of the railway line. From the east, primary road access is provided by Victoria Avenue and Archer Street.

The Chatswood CBD to the east of the railway line is a major retail centre with associated car parking provided in a number of large car parks. The road system is heavily utilised seven days a week for access to the retail car parking.

Chatswood has a major transport interchange at the railway station with bus, taxi and private drop-off facilities. It is centrally located and connects directly into the Victoria Avenue pedestrian mall.

The most recent comprehensive traffic study undertaken for Willoughby Council is the Chatswood CBD Traffic Study undertaken by Lambert and Rehbein in 2012. The study identified 22 options for improving operations of the movement systems in the Chatswood CBD focused on:

- Public transport improvements – mostly bus priority measures and interchange function.
- Traffic improvements – including intersection upgrades, one-way and altered traffic directions, conversion of lanes from parking to allow traffic flow and a ring road.
- Active transport improvements – pedestrian and cycle improvements including preparation of a PAMP (pedestrian access and mobility plan).
- Parking – removal of on-street parking in places and implementation of a parking guidance system.

To plan for the future growth of the Chatswood CBD, an understanding of the existing number of people living and working in the CBD has been developed and their travel characteristics have been assessed. We have also identified the number of car parking spaces available and the current traffic movements in the evening peak hour.

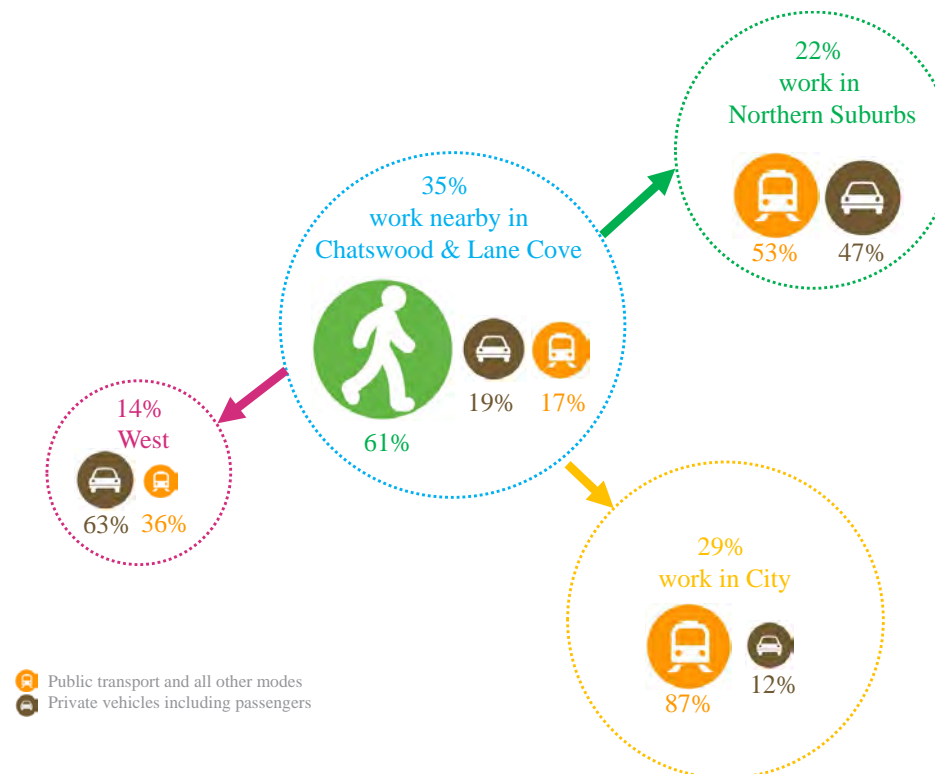


Figure 2.2.1 How Chatswood residents travel to work

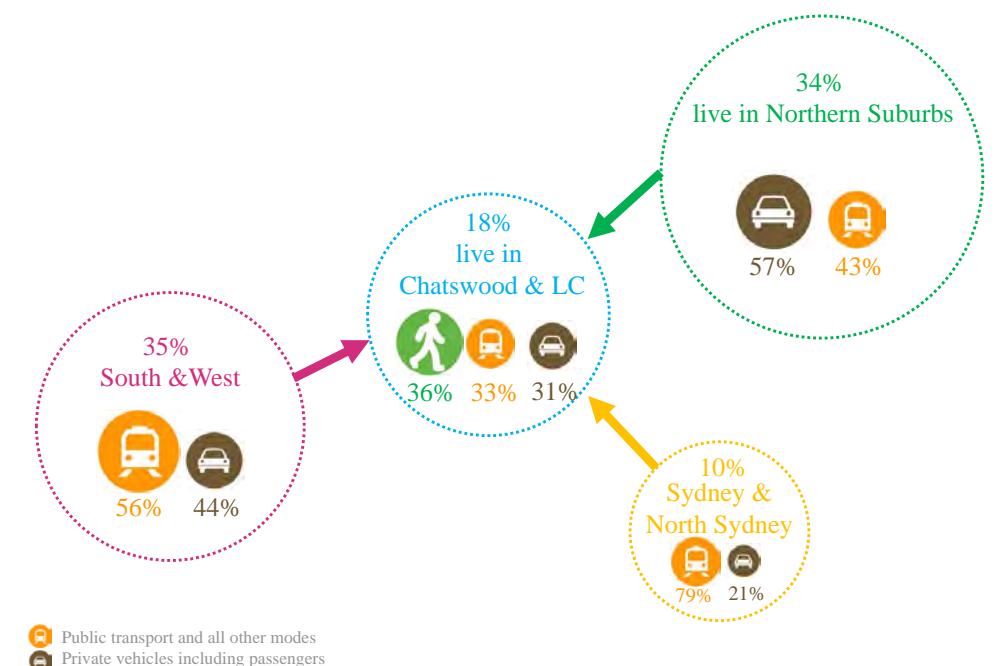


Figure 2.2.2 How people working in Chatswood get to work

Transport Strategy to facilitate growth

A key guiding principal for future development is already embedded in the Willoughby Development Control Plan under Section C4 Transport Requirements for Development.

Manage demand for car use by employing the principle of travel demand management. Travel Demand Management is intervention (excluding provision of major infrastructure) to modify travel decisions so that more desirable transport, social, economic and/or environmental objectives can be achieved, and the adverse impacts of travel can be reduced. The purpose of travel demand management is to reduce the total amount of travel, minimise the need to expand road systems, reduce the incidents of vehicle crashes, prevent further congestion, reduce air pollution, conserve scarce resources and increase the share of non-car based transport. Increasing the supply of parking can induce a greater number of vehicular trips which increases congestion, impacting negatively on the city environment.

The relevant travel demand management (TDM) objectives that can be applied to Chatswood are:

1. Divert though traffic to reduce the amount of traffic within the CBD
2. Direct motorists who enter the CBD to available car parking spaces through introduction of a dynamic signage system
3. Promote the use of public transport through the Chatswood Interchange
4. Introduce car share to reduce the amount of traffic within the CBD
5. Recognise that new residents and employees moving into the area will be less reliant on private car travel, particularly in the peak traffic periods
6. Recognise increasing self-containment of activity in the CBD due to the mixed use nature of development
7. Increase parking supply

– Manage the existing and future on and off road car parking in a manner that sustains and enhances the economic and environmental qualities of Willoughby;

– Provide for the safe, convenient, and efficient movement and

accommodation of vehicles within the City;

- Ensure that provision is made for a reasonable number of parking spaces for vehicles generated by a development including visitor, employee, service and commercial vehicles;
8. Encourage the use of public transport in areas close to transport nodes;
9. Encourage alternative modes of transport;
10. Ensure that appropriate facilities are provided for bicycles;
11. Ensure that vehicular movements and parking do not impede pedestrian traffic safety and efficiency;

The existing levels of traffic entering the Chatswood CBD will be reduced through these travel demand management initiatives. It is estimated that a 10% reduction could occur:

Traffic movements	Existing PM peak hour	Potential reduced traffic flow
Employment - commercial	1,200	1,100
Shoppers - retail	4,000	4,000
Residents	440	440
On-street and through traffic	2,360	1,660
Total	8,000	7,200

Figure 2.2.3 Potential reduced traffic flow

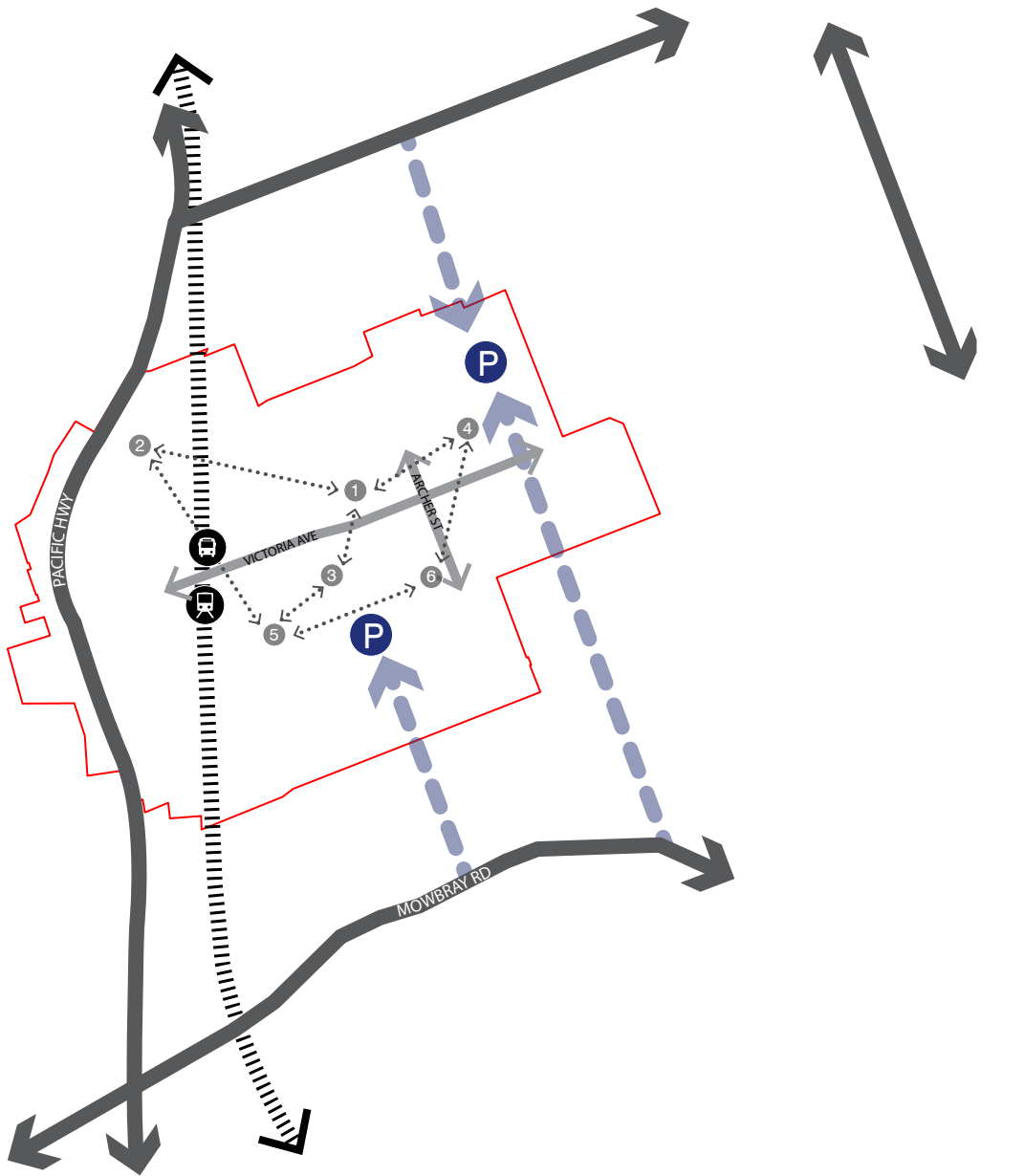


Figure 2.2.4 Traffic movement interventions



Future traffic and transport

Car parking

The future car parking provision has been determined by applying the existing Willoughby DCP controls. For the retail, only 50% of the retail is anticipated to require car parking with the remainder being ancillary to mixed use development.

Future car parking			
Use	30 years growth	Willoughby DCP parking rates	Car parking
Office	124,800m²	1/110m²	1,135
Retail	55,000m²	4/100m² (50% car parking rate applied)	1,100
Residential	5,575 units	1.25/dwelling (1 residential/0.25 visitor)	6,970
Total			9,205

Figure 2.2.5 Future car parking

A strategic approach should be taken to car parking across the centre.

- Residential: rates set low recognising good access to public transport and local amenities
- Commercial: rates set very low recognising good access to public transport
- Retail: consideration of town centre public parking provision shared by all retail centres with access managed through a parking guidance system. This means that cars only need to travel to the edge of the centre on the ring road and walk within the centre.
- On-street parking limited to loading zones and short parking duration to suit access to services.

Traffic Generation

The associated traffic generation has been determined using the current RMS rates applicable to the Chatswood CBD and applying discount factors where appropriate. The level of self-containment of the centre will increase as the density of the centre increases with more trips undertaken on foot or by bicycle. It is anticipated that an additional 1,500 trips will be generated in the PM Peak.

Future traffic generation				
Use	30 years growth	PM traffic rate	Reduction factors	PM peak traffic
Office	124,800m²	0.35/100m²	10% self containment	400
Retail	55,000m²	1.35/100m²	30% pass by and linked trips	550
Residential	5,575 units	0.12/unit	20% self containment	550
Total				1500

Figure 2.2.6 Future traffic generation

As discussed previously, the existing levels of traffic entering the Chatswood CBD will be reduced through the travel demand management initiatives. It is estimated that a 10% reduction could occur which represents 800 less vehicles on the road in the PM Peak. This reduces the impact of growth from future development by approximately 50%.

The growth in the number of people, number of car spaces and associated traffic movements can be compared. It is anticipated that almost 20,000 people could live and work in the Chatswood CBD over the next 30 years. Approximately 9,000 car parking spaces may be required, with the majority assigned for resident's vehicles.

When the potential traffic reduction due to travel demand management measures is considered, traffic growth in the PM Peak of approximately 9% is envisaged over the 30 year period which represents only 0.3% per annum growth. This level of growth is equivalent to general background growth that can be catered for through RMS upgrades on the Pacific Highway and local road upgrades funded through Section 94 contributions.

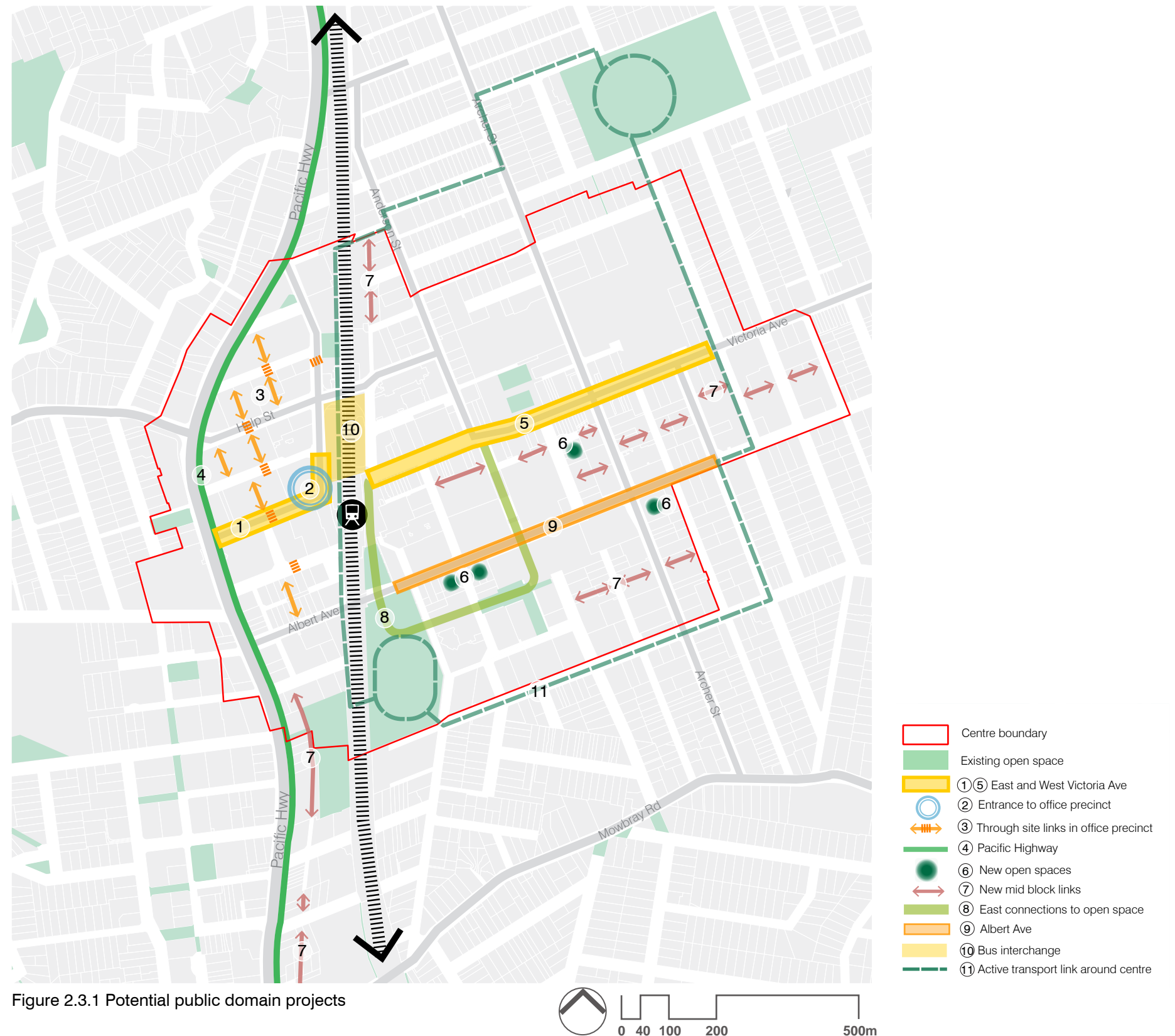
2.3 Public spaces and urban design quality

A terrific feature of Chatswood is that parts of it are very vibrant, probably more so than many other urban centres in metropolitan Sydney. Chatswood has been particularly successful in creating a vibrant heart along the retail spine of Victoria Avenue. There is the opportunity to continue to extend this high quality public domain to create a number of unique and attractive places and green spaces throughout the centre which are well connected through a highly permeable pedestrian network.

This section describes a number of public domain improvements and built form features which should be prioritised to ensure Chatswood CBD thrives with activity and new development into the future. These improvements include both Council led projects, (such as streetscape improvements) and developer led projects (such as new open space and through site links).

Council has the opportunity to champion improvements to the public domain through upgrades to the streetscape as well as through considering how the redevelopment of Council owned sites can contribute to the public domain.

Further to the projects described in this section, Architectus recommends that a public domain manual should be consistently applied (similar to the City of Sydney). This will enable Council to prioritize improvements and determine whether Council or the developer are responsible for the construction and/or payment. This public domain manual should be aligned with and integrate into it, a street tree plan and a bike plan for Chatswood CBD.



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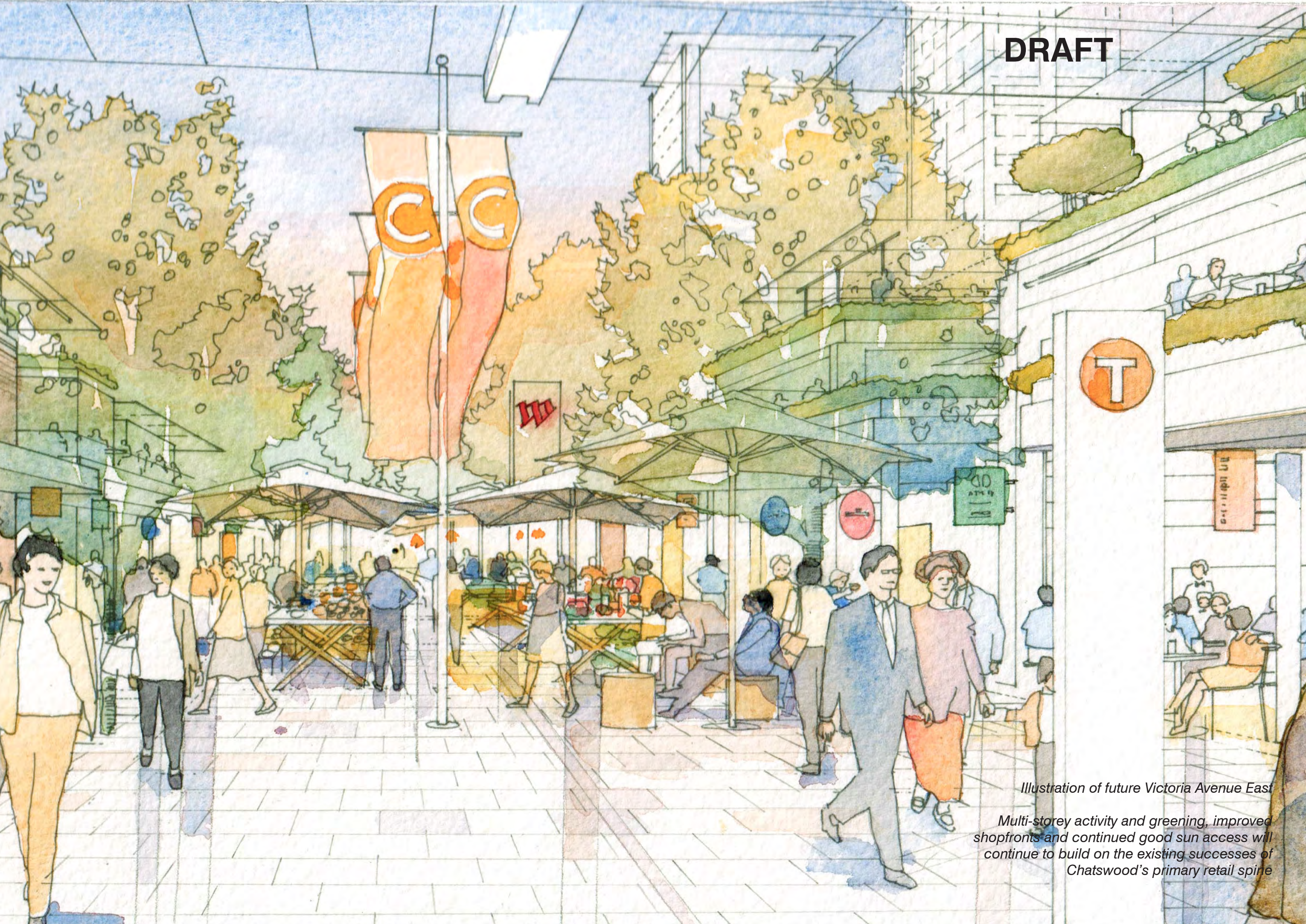


Illustration of future Victoria Avenue East

Multi-storey activity and greening, improved shopfronts and continued good sun access will continue to build on the existing successes of Chatswood's primary retail spine

Victoria Avenue East

Victoria Avenue is the heart of Chatswood's activity and its shops should contribute to the enduring quality of the centre.

The following principles should be applied to Victoria Avenue shops:

Density of experience



Ginza Tokyo

Architectural quality



Myeondong, Korea

Multi-storey



The Butler, Potts Point

Servicing



Gothenburg, Sweden - delivery vehicle

- ① Clear and accessible vertical circulation
- ② Active balcony over street permitted
- ③ Public use of rooftop spaces
- ④ Links to neighbouring sites
- ⑤ Car park access from neighbouring site

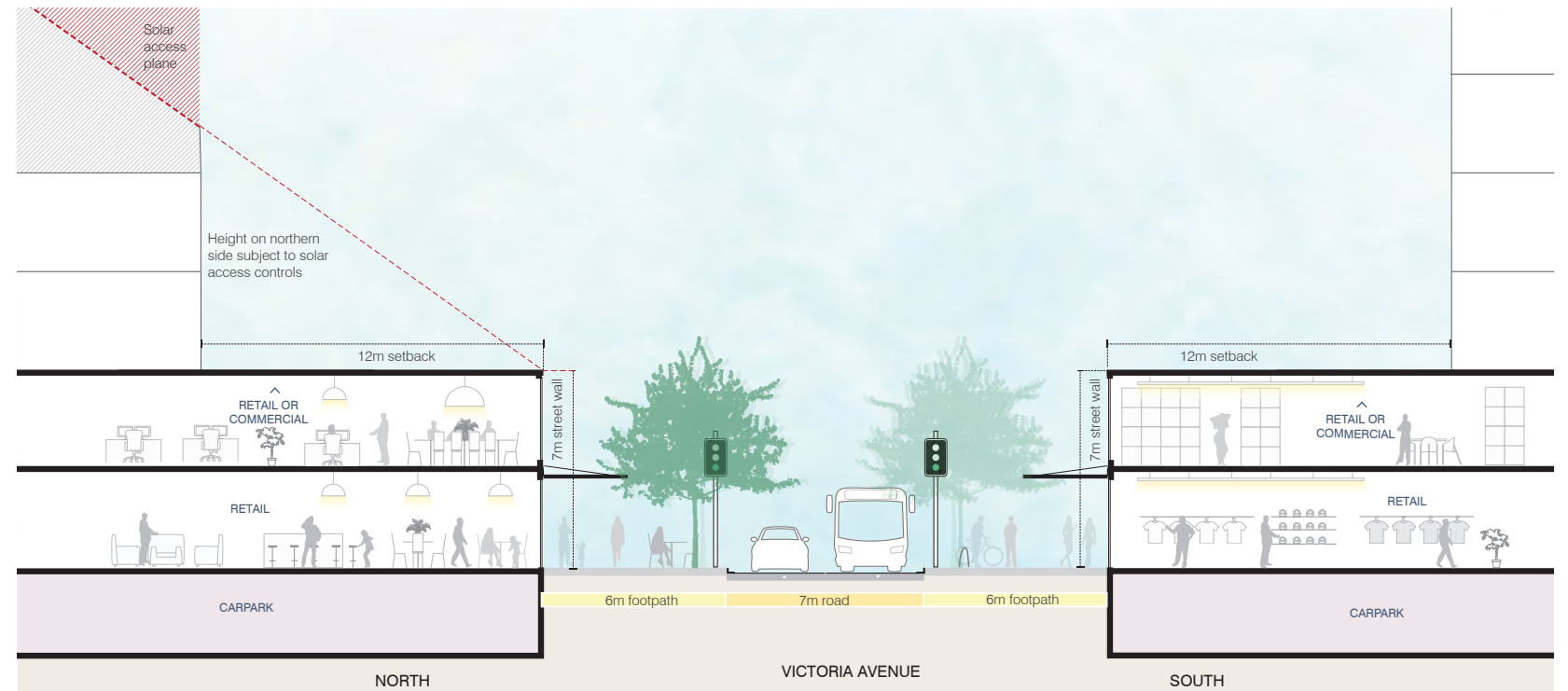


Figure 2.3.2 Section of Victoria Avenue street concept (facing east)

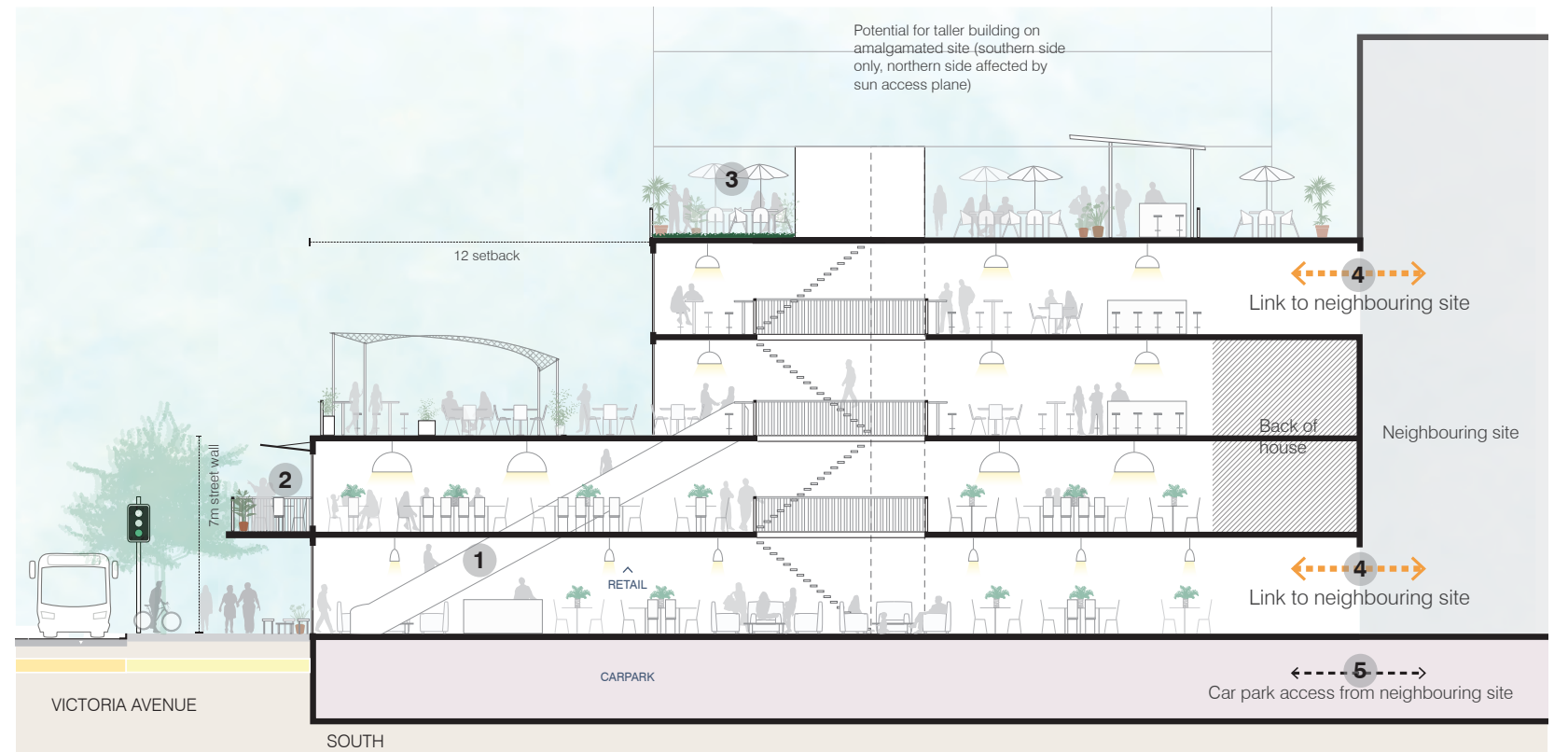


Figure 2.3.3 Section of Victoria Avenue shops concept (facing east)



DRAFT

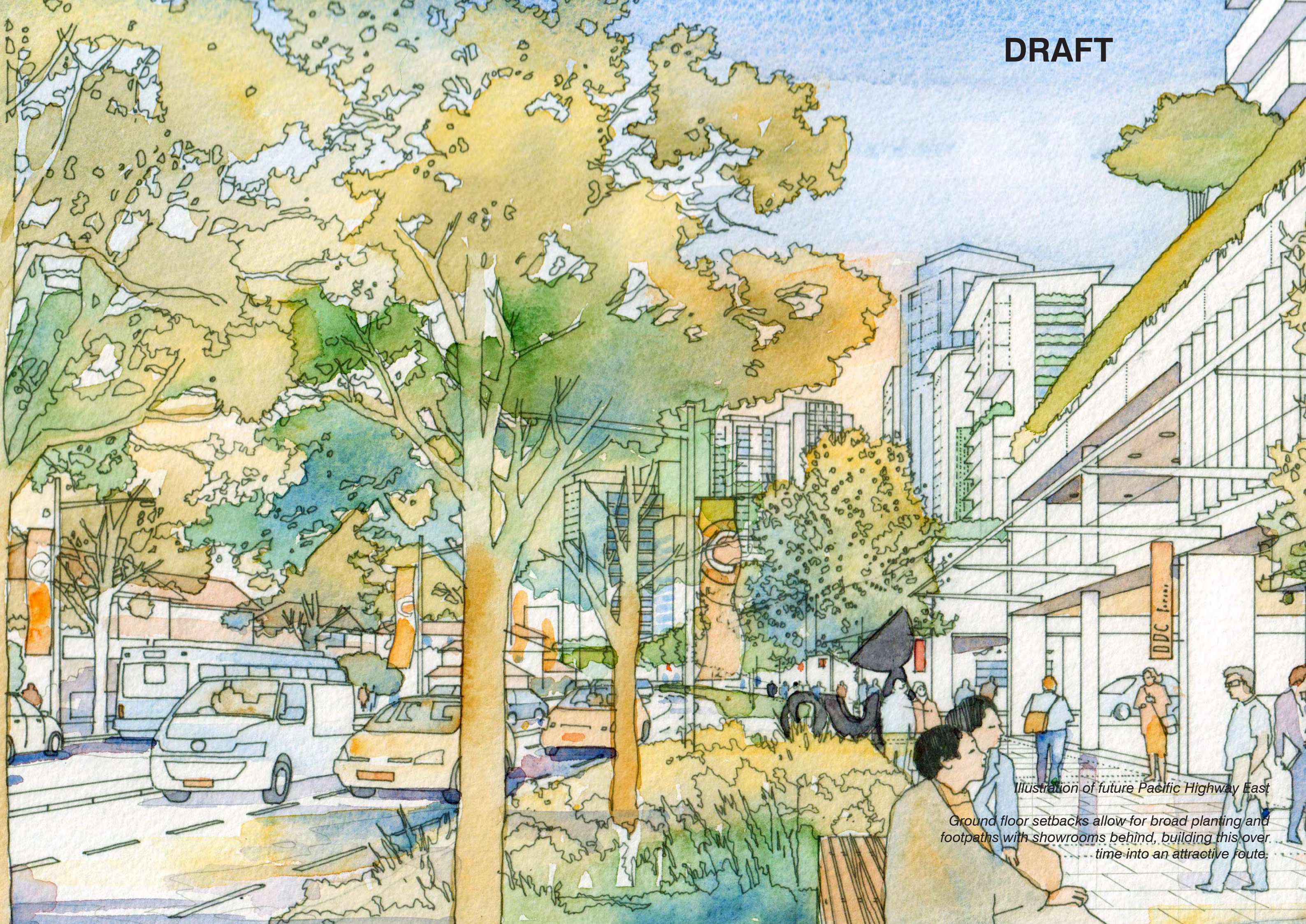


Illustration of future Pacific Highway East

Ground floor setbacks allow for broad planting and footpaths with showrooms behind, building this over time into an attractive route.

Pacific Highway east - green setback

Council's DCP currently requires a general 4m deep soil setback to the Pacific Highway. This is appropriate for the eastern side of the highway however there may be opportunity to increase this to 6m to the west of the Highway if uplift is considered there. Examples of appropriate treatments of both private land and the RMS road reserve of the highway are provided below.

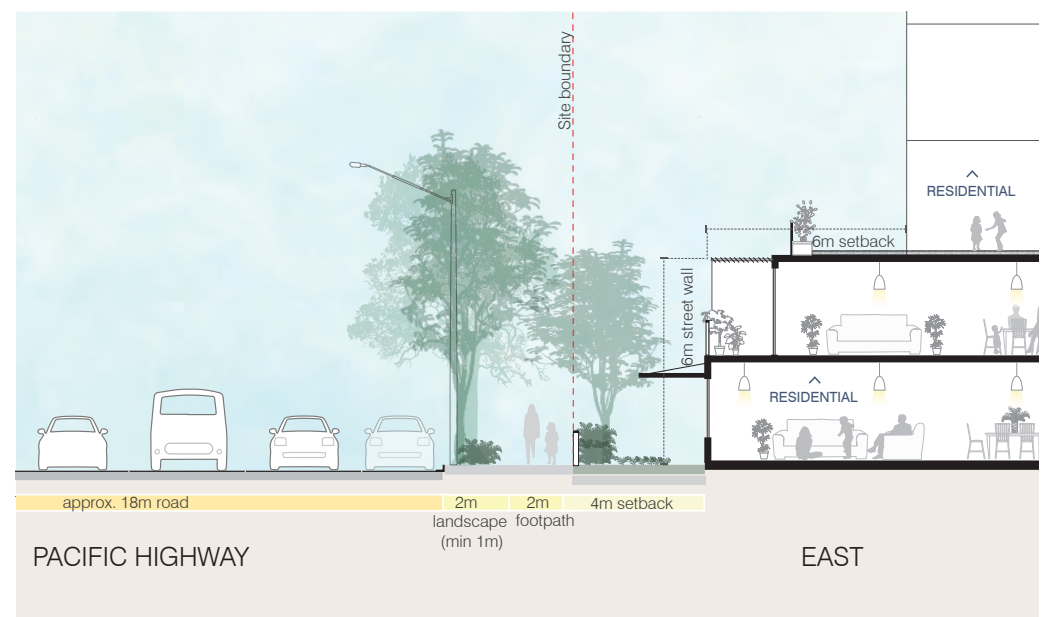
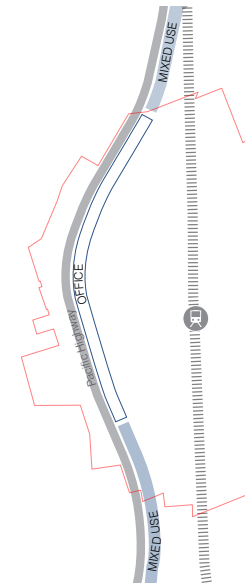


Figure 2.3.4 Proposed landscape buffer on Pacific Highway - within mixed use zone



Pacific Highway, Chatswood
Appropriate land use in mixed use zone - ground floor showrooms with residential above



Proposed streetscape character (Example: Omotesando, Tokyo)

Bus interchange

The existing bus interchange offers a poor pedestrian environment. With increased need for public transport accessibility to the centre and to the interchange with rail by bus, a new interchange strategy is needed to facilitate increased bus activity. Preliminary suggestions are to:

- Provide new pedestrian link between interchange and new plaza on Help St - align crossings and remove obstacles to connectivity
- Consider a reconfiguration of the vehicular traffic through the bus interchange (e.g. Orchard Rd into a bus only street and Endeavour St into a service street with vehicular access)
- Potential to provide a new public space at the intersection of Endeavour St and Orchard Rd.

The site at 1-5 Railway St has the opportunity to contribute to the pedestrian and transport objectives for this space.

Arup recommends that a bus study should be undertaken to gain an understanding of the future role and bus space requirements of the interchange (post-North West Metro and Sydney Rapid Transit).

The study should identify potential bus interchange layout and operational options. These would be based on proven designs and functional approaches suited to the site and development options. Bus interchange layout options should include on, off-street and mixed approaches and identify bus space needs, key dimensions and configurations, access and egress arrangements, bus layover options, pedestrian provision and passenger waiting and movement needs.

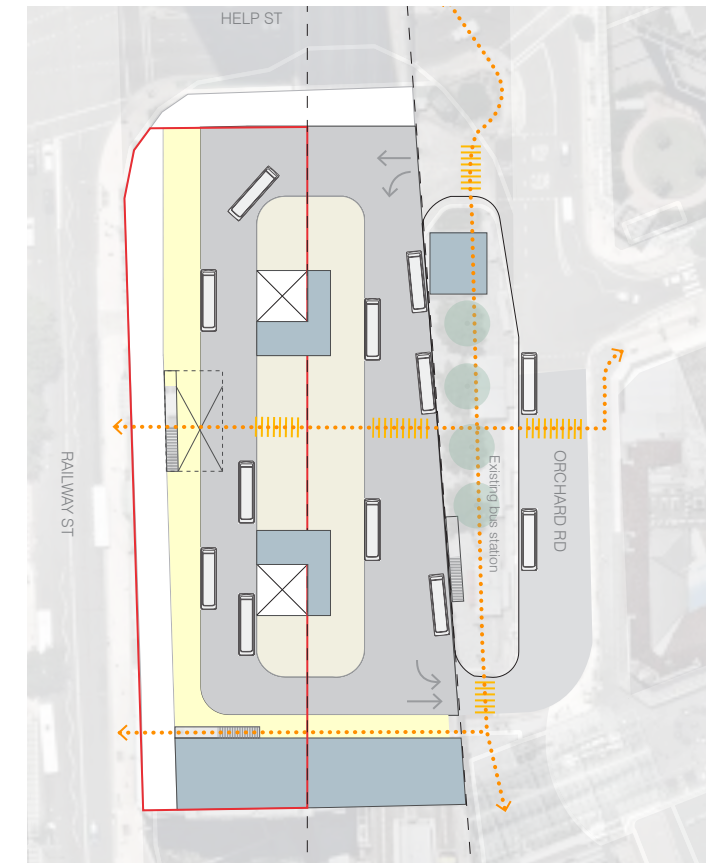
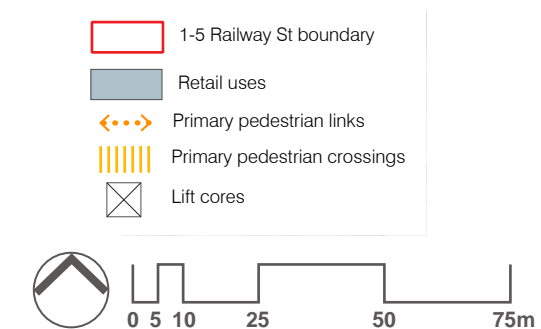


Figure 2.3.5 Plan of bus interchange expansion concept



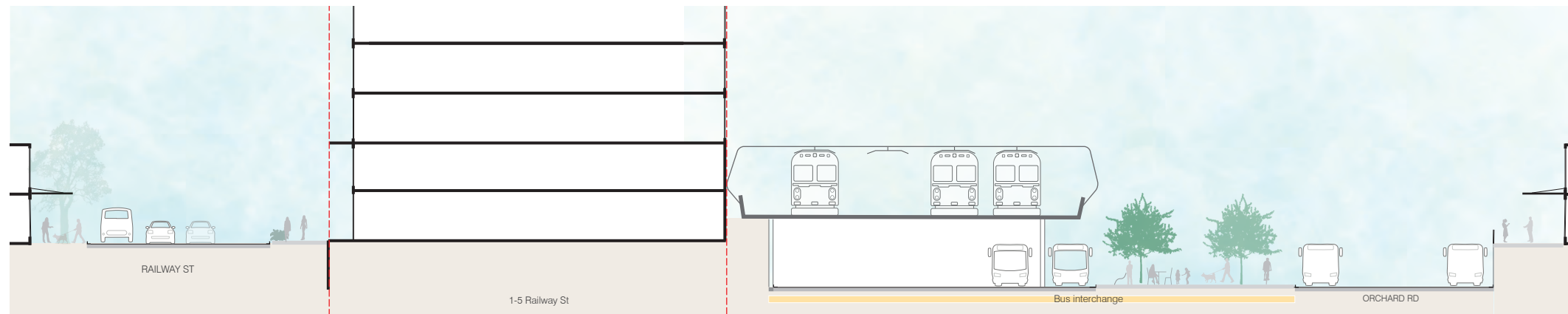


Figure 2.3.6 Illustrative section of existing bus interchange (facing north)

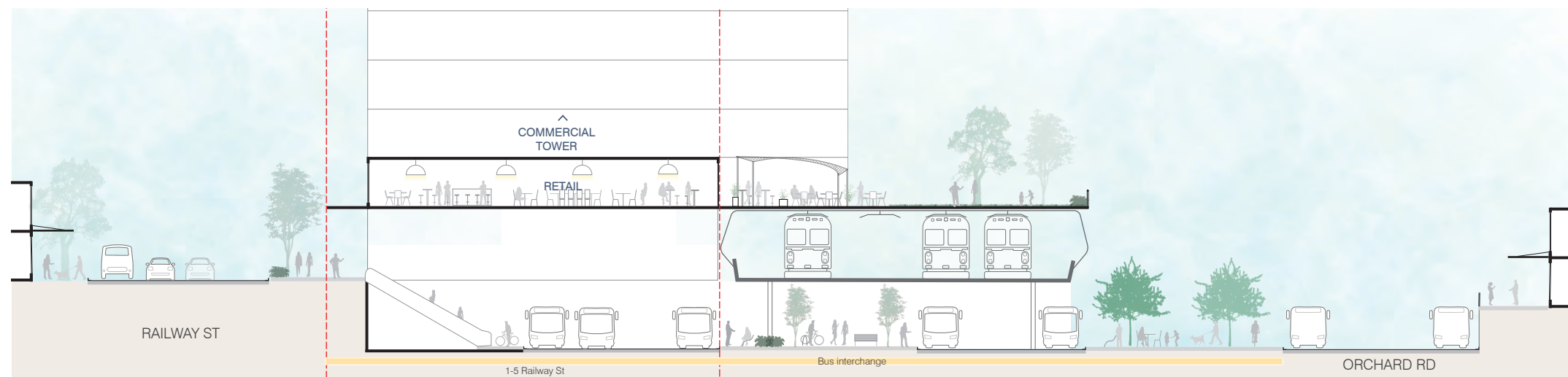


Figure 2.3.7 Illustrative section of bus interchange expansion concept



New square for the office precinct

West of the railway, Chatswood does not have a central square. There is a need for an area of open space or a public plaza in close proximity to the station, that provides a destination and meeting place for the west. Architectus suggests:

- Narrowing road around turn and removing railings
- Re-landscaping to be consistent with Chatswood palette
- Consider removal of two-storey shops (private land) to create new open space (concept sketch below). This concept is one way of implementing a new entrance square for Chatswood.



Figure 2.3.8 Concept sketch for new square west of station

This concept is based on the following principles:

A new 'front door'



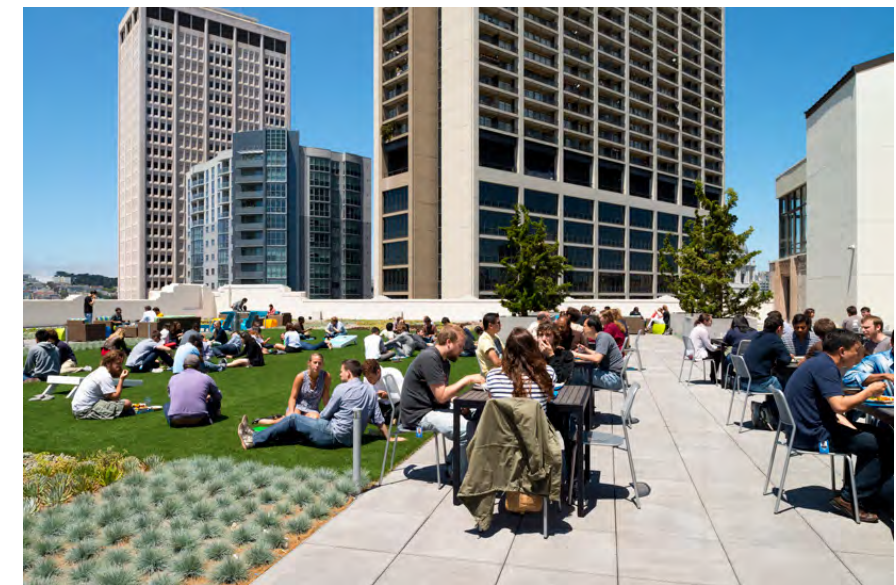
Parramatta Square

Passive quality



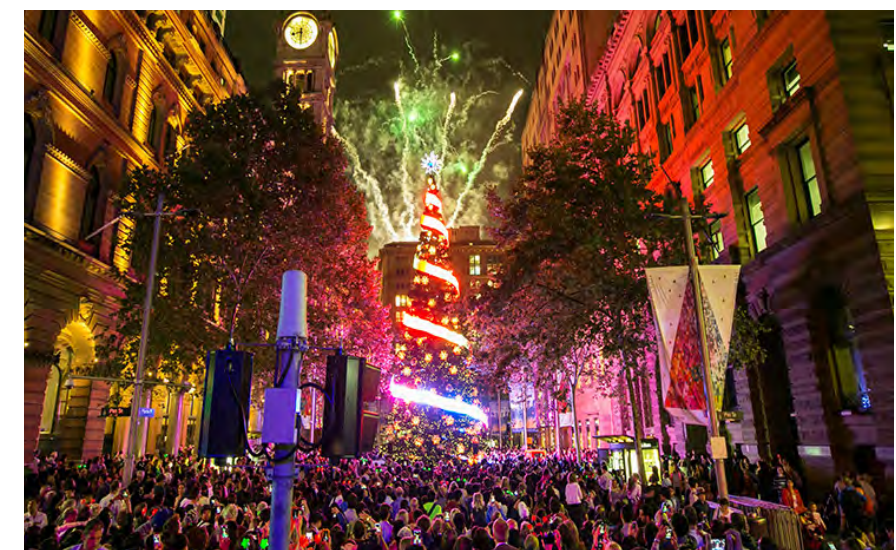
Cardinal Place, London

Outdoor business



Twitter headquarters

Events and markets



Martin Place, Sydney

Remembrance Garden and interchange entry concept

Chatswood existing open spaces are difficult to access as a pedestrian. Figure 2.4.10 shows a concept to improve the pedestrian connection between Remembrance Garden and the interchange entry. It is an idea only, to be discussed with relevant stakeholders.

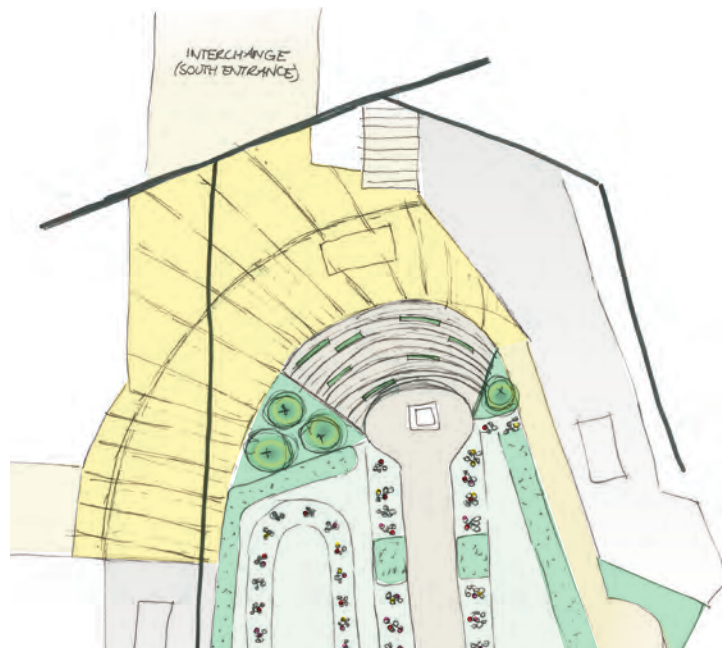


Figure 2.3.9 Plan of interchange entry concept



Existing southern interchange entry



Figure 2.3.10 Photomontage of proposed interchange entry concept with improved pedestrian connection to Remembrance Garden.

2.4 Greening the centre

As Chatswood grows it should aim to be positioned as the green capital of the leafy North Shore.

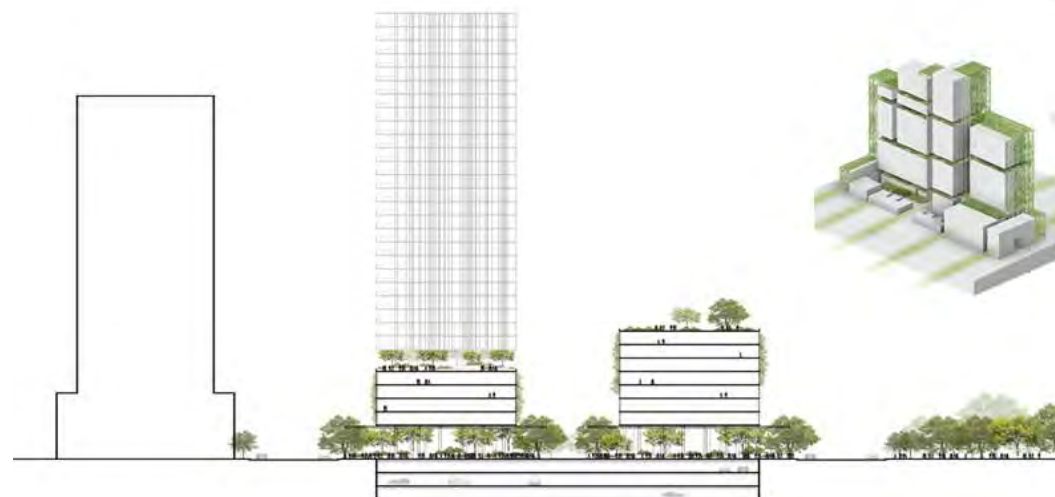
A range of approaches should be applied on a site-specific basis to ensure permeability, provide publicly accessible open space and a 'green' ground plane. Over time these can develop a comprehensive network for the centre of landscape and open space.

The images below and adjacent describe a case study of this process for Architectus in Brisbane. Architectus has developed a series of principles for provision of landscape and open space in Chatswood proposing to achieve this aim.



Ground plane now

Effect of 50 subtropical podia over 20 years



Laneways and courtyards



Subtropical loggia



Stepped garden terrace



Green urban undercroft

3 Recommendations

3.1 Recommendations for LEP and DCP controls

The following pages provide key recommendations as the outcomes of this study for LEP and DCP controls. Note: the purpose of this study is not to prepare actual LEP and DCP maps of controls – however, the following advice provides clear recommendations for change.

CBD boundary

1. The Chatswood CBD boundary should expand to the north and south as per Figure 3.1.1.

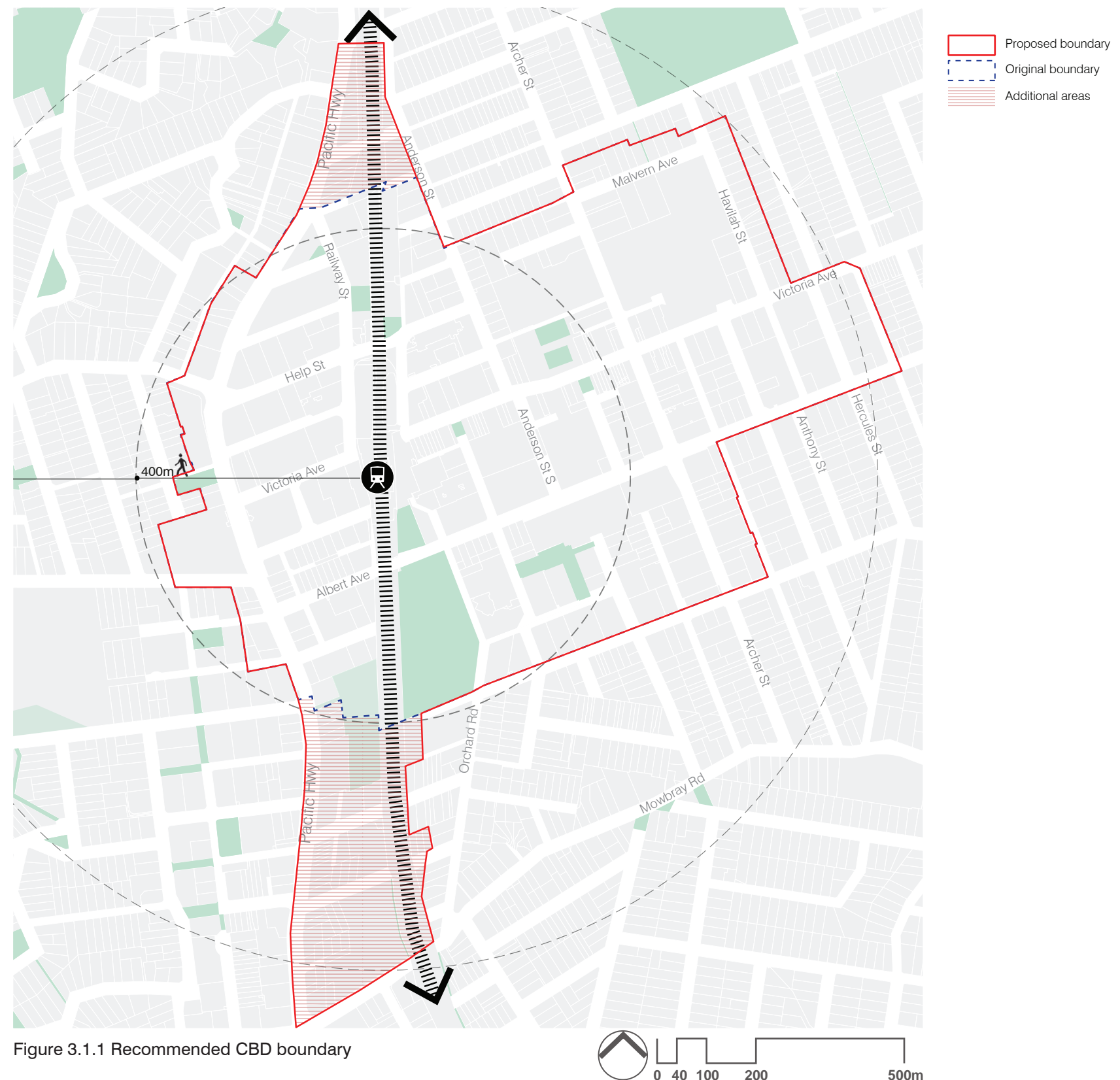


Figure 3.1.1 Recommended CBD boundary

Land use mix

2. The land uses in the LEP should be amended based on the structure in Figure 3.1.2, to:
 - Protect office core west of railway as commercial-only and permit office towers within existing retail core east of railway.
 - Enable other areas to be mixed use.

The existing DCP limits on office and retail use in parts of the Commercial Core should be removed.

3. Serviced apartments should be removed as a permissible use from the B3 Commercial Core.



Value uplift sharing to fund public domain

3. The existing FSR controls are to be simplified and be retained as a 'base' FSR.
4. Increased FSR based on the maximum capacity of the sites resulting from detailed urban design study (between the base FSR and the max FSR) is to be linked to a contributions scheme that will provide the public and social infrastructure in the Chatswood CBD necessary to support an increased residential population. The scheme would:
 - Apply to residential uses above base FSR
 - Apply to commercial uses above 10:1 FSR
 - Operate in addition to the existing Section 94A contributions and Affordable housing contributions.
 - Contribute to public domain improvements in the centre (including streets and parks) that would increase amenity and support residential and commercial uses.

Design excellence and building sustainability

5. Design excellence is to be required for all developments exceeding the base FSR, based on the following process:
 - Competitive designs for developments over 25m high.
 - A Design Review Panel for developments up to 25m high.
6. To achieve design excellence, developments must achieve higher building sustainability standards.
7. The Architects for design excellence schemes should be maintained through the DA process and can only be substituted with agreement of Council.

Floor Space Ratio (FSR)

8. Figure 3.1.3 shows a simplified FSR diagram to that in the existing LEP. It provides a maximum base FSR which:
- Is the maximum FSR for sites below the minimum site areas.
 - Forms the base above which value uplift sharing and design excellence applies.



9. The FSRs in Figure 3.1.4 should be considered as maximums achievable in the centre, subject to minimum site sizes and appropriate contributions.
- No maximum FSR for commercial development in the centre, generally within 400m of railway station, with no additional residential FSRs.
 - 6:1 FSR in outer centre.
 - Retention of 2.5:1 FSR along Victoria Avenue north.



Figure 3.1.4 Recommended maximum FSR

Sun access to key public spaces

10. The sun access protection in Figure 3.1.5 should be incorporated into LEP controls, to ensure no additional overshadowing and protection in mid winter of:
 - Victoria Avenue (between interchange and Archer St) 12pm-2pm.
 - Concourse 12pm-2pm.
 - Garden of Remembrance 12pm-2pm.
 - Tennis and croquet club 12pm-2pm.
 - Chatswood Oval 11am-2pm (which in turn also protects Chatswood Park).



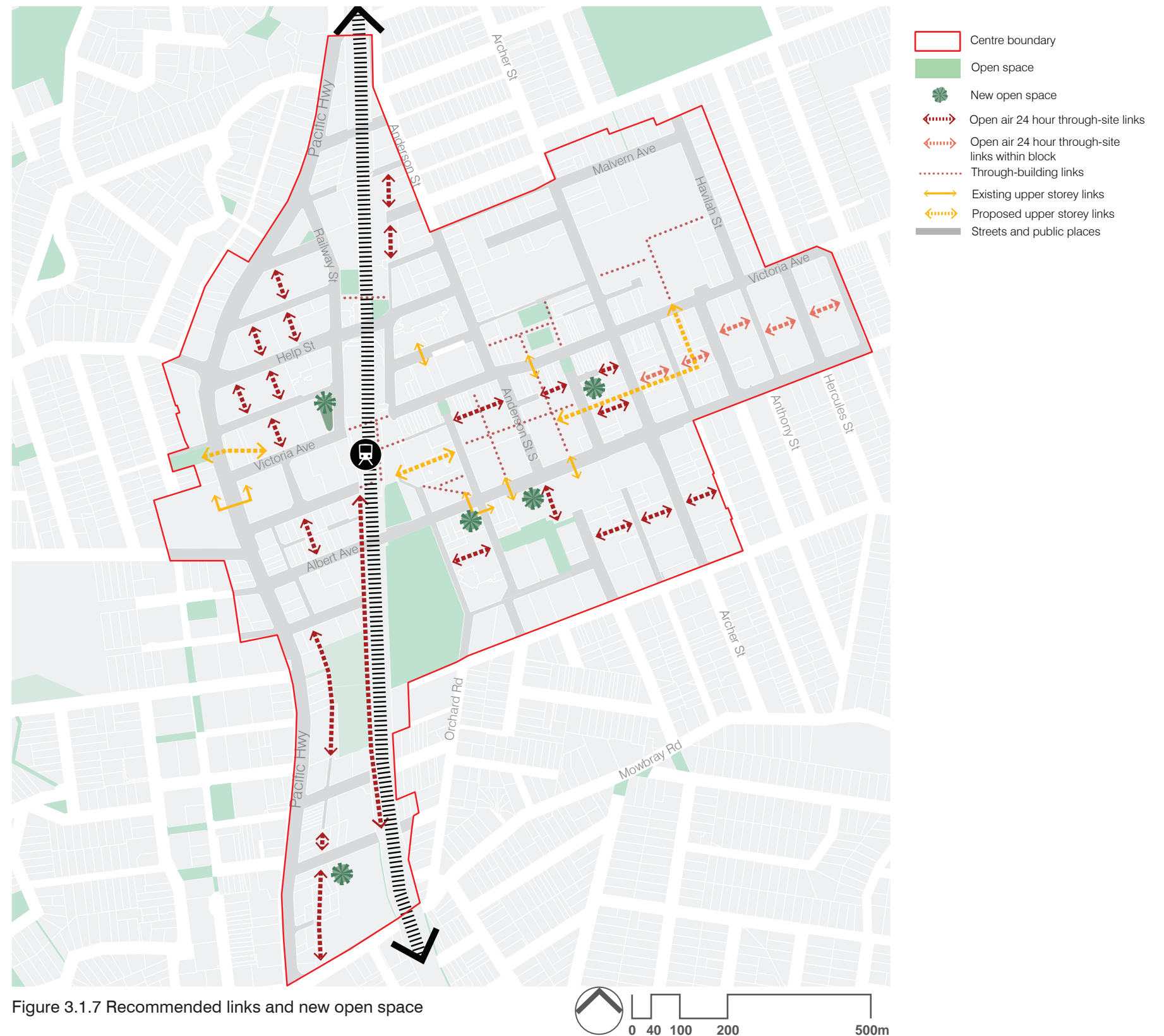
Heights

11. Height limits in the centre should be based on Figure 3.1.6, including raising to the airspace limits for core areas, except where sun access protection applies.



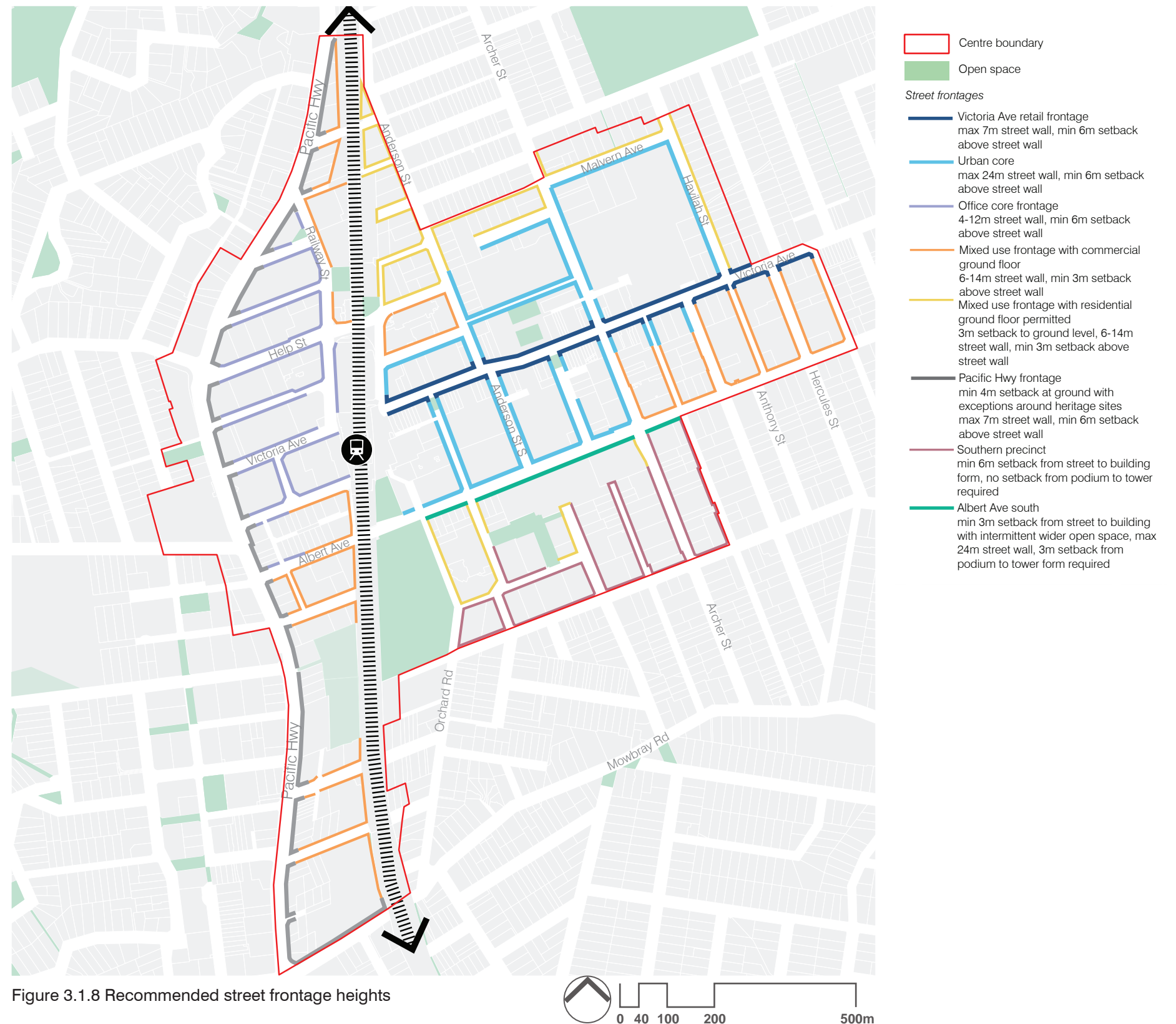
Links, open space and landscaping

12. The links and open space structure in Figure 3.1.7 should form part of the DCP.
13. Publicly accessible space and green landscaping to be required by all development, subject to design principles.
14. All roofs up to 30m from ground to be green roofs.



Street frontage heights

15. Street frontage heights should be provided based on Figure 3.1.8. Note that this does not describe site-specific need for open space (see 'Links and open spaces') which may further set back street walls from the street.
16. Controls for required active frontages should be developed describing key streets where no blank walls, servicing and non-retail uses are permitted.



Further built form controls

17. Building separation as per Apartment Design Guide for residential uses and a minimum 6m from all boundaries for commercial uses above street wall height.
18. All buildings should also be set back at minimum in a 1:20 ratio of setback to building height from all boundaries (e.g. 3m setback for a 60m building, and 6m setback for a 120m building) .
19. Site isolation to be discouraged and where unavoidable joined basements and zero-setback podiums should be provided.
20. Fine grain controls to be provided including retention of the traditional lot pattern along Victoria Ave east (~6-12m).
21. Substations to be provided within buildings, not within the streets, open spaces or setbacks.
22. Minimum site size of 1800sqm for office and 1200sqm for residential to achieve maximum FSR.
23. Maximum tower size of 2000sqm GFA for office and 700sqm GFA for residential.
24. All developments in Chatswood Centre achieving an FSR uplift through this strategy should contribute public art in accordance with Willoughby's Public Art Policy.

3.2 Recommendations for further studies

Contributions

A value uplift sharing study should be conducted to fund public domain improvements.

Transport

- Encourage public transport use.
- Conduct a bus interchange study.
- Develop parking directional signage.

Social infrastructure

Consider sports/recreation facilities and childcare.

Streetscape improvements

A public domain plan and manual should be developed.

Healthy environment

Increase environmental sustainability in design excellence.

Technology

Develop a parking directions strategy.

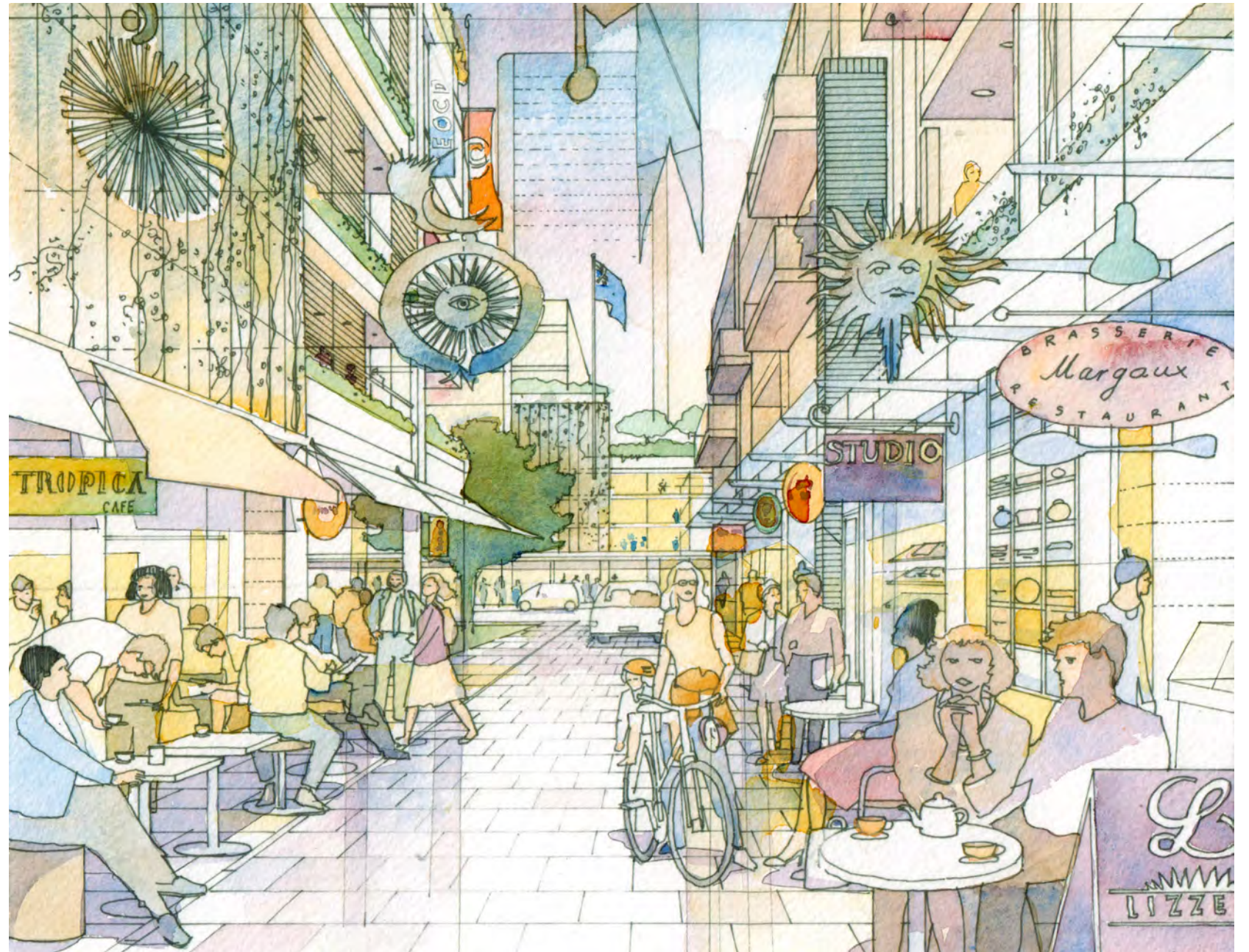


Illustration of future laneway

Chatswood's existing laneways, as well as new connections, will provide attractive focal points for activity. Pedestrians and cyclists will have priority in these spaces.