

St Leonards and Crows Nest Station Precinct Social Infrastructure and Open Space Study

April 2018



This report takes into account the particular instructions and requirements of our client.

It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

This report has been developed for consideration by the NSW Department of Planning and Environment.

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This report was prepared by Arup for the Department of Planning and Environment for information only. Advice in this report reflects the independent opinions of Arup at the time the analysis was undertaken and does not represent the views of the Department of Planning and Environment and/or the relevant Council.

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1. Introduction

1.1 Project overview and purpose of this study

St Leonards is defined as a Metropolitan Centre (the Centre) within the Eastern Harbour City in the A Metropolis of Three Cities - the Greater Sydney Region Plan, 2018. St Leonards and Crows Nest Station Precinct (the Precinct) is described as a designated Growth Area and Urban Renewal Corridor and is a well-connected centre with a focus on health activities associated with Royal North Shore Hospital.

To implement the Greater Sydney Region Plan, district level plans have been established with a set of planning priorities. Relevant to the Precinct, the actions outlined for the North District Plan include:

- Leverage the new Sydney Metro Station at Crows Nest to deliver additional employment capacity
- Grow jobs in the centre
- Reduce the impact of vehicle movements on pedestrian and cyclist accessibility
- Protect and enhance Willoughby Road's village character and retail/restaurant strip
- Deliver new high quality open space, upgrade public areas, and establish collaborative place-making initiatives
- Promote synergies between the Royal North Shore Hospital and other health and education-related activities, in partnership with NSW Health
- Retain and manage the adjoining industrial zoned land for a range of urban services.

The Precinct traverses three local government areas of Lane Cove, Willoughby and North Sydney. With employment and housing growth opportunities associated with a Sydney Metro station, the St Leonards and Crows Nest Station Precinct requires a coordinated approach to growth and the delivery of social infrastructure and open space to support the wellbeing of existing and future communities.

The St Leonards and Crows Nest Station Precinct Social Infrastructure and Open Space Study (this Study) investigates the current social infrastructure in the Precinct and presents opportunities for additional social infrastructure and open space facilities for consideration by the design team to support the needs of the projected future population. This Study also considers improvements in connectivity to surrounding open space.

The purpose of this Study is to:

- Review the existing community facilities and open space facilities within the Precinct
- Assess the social infrastructure and open space needs for the projected population
- Identify gaps in the existing and local and regional community and open space services and facilities in consultation with relevant state and local agencies
- Provide a series of recommendations for additional community and open space facilities to support the needs of the increased population of the Precinct in consultation with relevant state and local agencies.

1.2 Purpose of this report

This report forms the Final Report for the St Leonards and Crows Nest Station Precinct Social Infrastructure and Open Space Study. This report presents the following:

- A review of existing local studies undertaken in the Precinct
- A review of current demographic characteristics of the Precinct and a summary of drivers and potential challenges that may influence the future design of social infrastructure and open space
- Mapping and review of existing social infrastructure and open space assets
- Commentary on accessibility, diversity, quality and capacity of open space and recreation facilities
- A review of the social infrastructure and open space needs for the projected population
- Options for consideration of additional community and open space facilities based on benchmarks and engagement with stakeholders.

1.3 Approach

This Study followed a process to firstly understand the existing social infrastructure and open space environment which was summarised in the St Leonards and Crows Nest Station Social Infrastructure and Open Space Study Background Review Report (NSW Department of Planning and Environment (NSW DP&E), February 2017). This involved consultation with various agencies and Councils to understand future

planning for social infrastructure and open space in the Precinct. This Study brings together the background review, future planning and population projections to develop a set of recommendations for additional social infrastructure and open space in the Precinct. The process is illustrated in Figure 1. This Study adopted the following assumptions:

- Assessment of the Precinct's existing demographic profile is based on information provided by the NSW DP&E
- Demographic estimates are based on 2011 ABS Census data as 2016 Census data was not available at the time of undertaking the baseline
- Understanding the capacity and need for additional community facilities and open space has been informed by consultation with representatives from council and relevant agencies
- Understanding the need for additional educational facilities has been informed by consultation with representatives from the Department of Education and Communities (DEC)
- Projected indicative population, dwelling and employment forecasts have been based on information provided by NSW DP&E (received 13 October 2017)
- At the time of drafting, a preferred built form outcome had not been determined. Accordingly, it was necessary to make assumptions on a range of potential growth scenarios in order to inform the recommendations in this report. The built form recommendations that are to be placed on exhibition would result in a dwelling yield of approximately 6,000 dwellings to the year 2036 and this may alter the recommendations in this report.
- The number of existing dwellings in the Precinct used for this study is 7,600 (received from DP&E October, 2017).

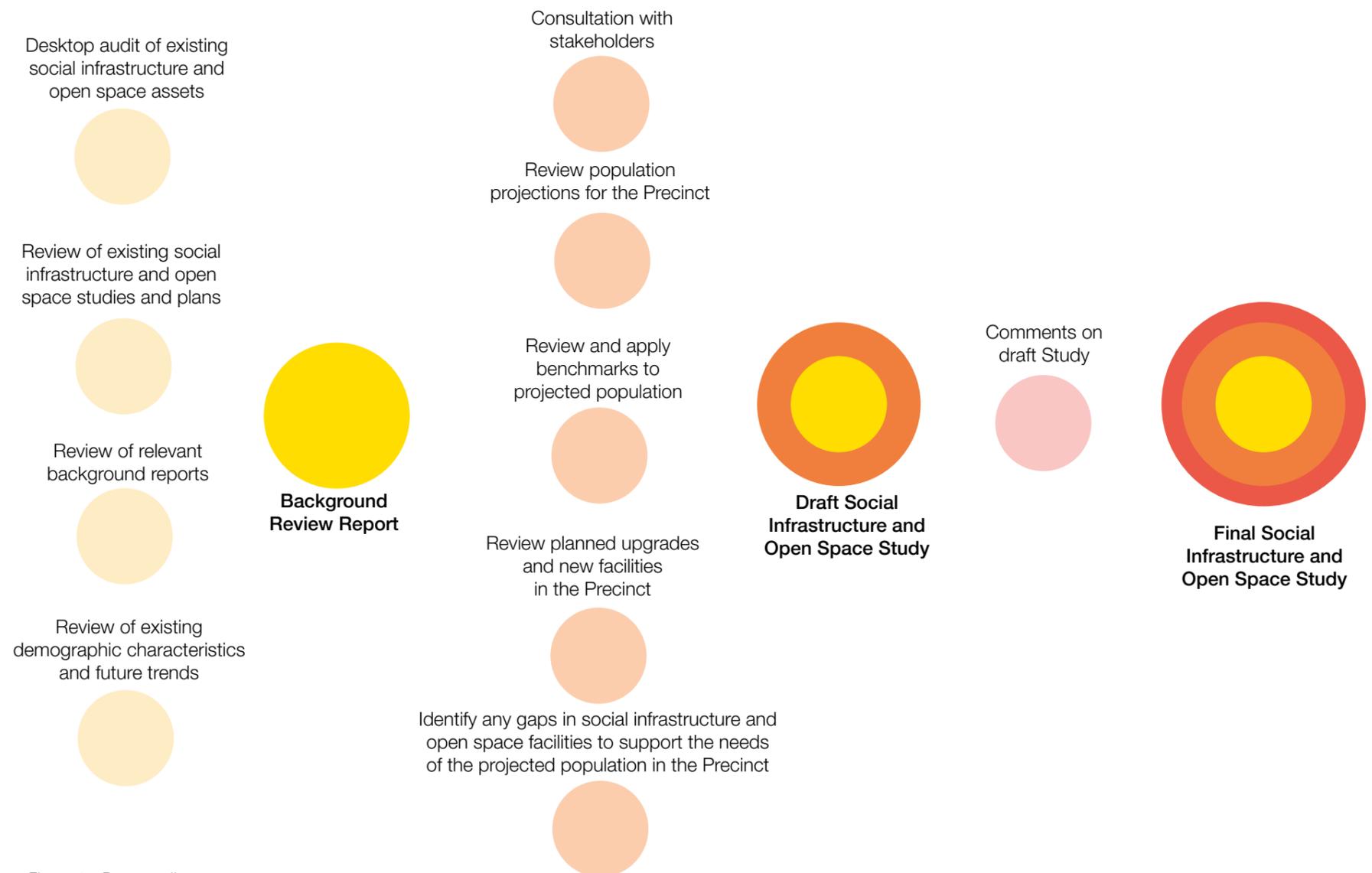


Figure 1 Process diagram

1.4 The Precinct

The Precinct is well connected to employment centres including Sydney CBD, Chatswood and North Sydney with a focus on health and learning with anchor institutions such as Royal North Shore Hospital and Northern Sydney Institute TAFE NSW (see Figures 2 and 3). The Precinct also hosts industrial uses in the Artarmon employment area, residential development and connects to the mixed use activities in Crows Nest Village.

The Precinct was divided into nine existing Character Areas in the St Leonards & Crows Nests Station Precinct Public Domain Proposals Draft (Gallagher Studio, 2017) which are presented in Figure 3 and include:

- Artarmon Employment Area: largely hosting light industrial uses such as car servicing and large lot/bulky goods retail
- Health and Education: including the Royal North Shore Hospital, North Shore Private Hospital, the Mater Hospital and North Sydney Institute TAFE NSW facilities
- Gore Hill Oval and Cemetery
- St Leonards South: currently hosting mostly detached housing
- St Leonards Commercial Core and the future Crows Nest Metro Station: including St Leonards Railway Station, existing bus stops along the Pacific Highway and high density residential and commercial uses
- Wollstonecraft: currently hosting medium density and detached dwellings
- Pacific Highway Corridor: currently in transition with high density dwellings with ground floor retail fronting the Pacific Highway

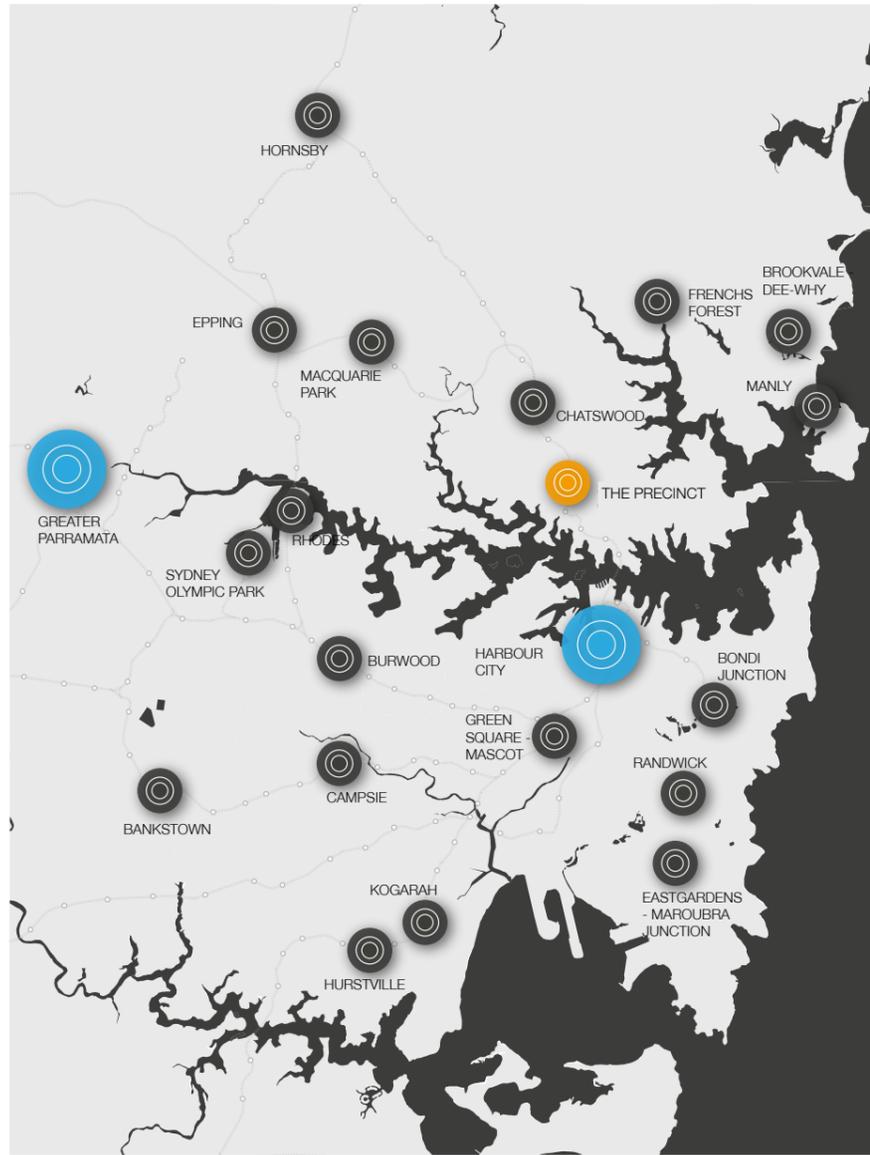
- Crows Nest Village: hosting fine grain retail, hospitality and community uses centred along Willoughby Road
- Naremburn and Crows Nest residential: lower density residential

Employment and housing growth is projected for the Precinct in association with new public transport infrastructure as part of Sydney Metro as outlined in Table 1. Upper and lower population targets are shown for planning purposes.

The Precinct is well connected by public transport and major roads, however, also experiences severance issues. Existing road and rail infrastructure limits east-west and north-south movements in the Precinct and also reduces street level amenity in particularly along the Pacific Highway corridor.

Year	Total dwellings	Total population	Total employment	Source
2016 (existing)	7,600	15,800	47,000	Transport Performance and Analytics LU16
2017 (existing - SJB analysis as at April 17 inc include DAs, sites under construction, and advanced planning proposals)	10,200	17,000	46,469 (SJB, SGS, 2016 LU16)	SJB & SGS analysis
2036 (base projections)	13,600	25,800	54,000	Transport Performance and Analytics LU16, SGS analysis
2036 (mid range residential target)	15,100	30,200	-	SJB Planning analysis
2036 (high residential target)	19,300	38,600	-	SJB Planning analysis
2036 (mid range robs target achievable with Sydney Metro)	-	-	57,500	SGS analysis
2036 (high GSC jobs target)	-	-	63,500	North Draft District Plan, GSC, 2016
Employment beyond 2036 (high target + allow +10%)	-	-	70,000	NSW DP&E for long term planning purposes

Table 1 Dwelling, population, employment projections for St Leonards and Crows Nest. Source: NSW DP&E, received 13th October 2017



-  Metropolitan City Centre
-  Metropolitan Centre
-  The Precinct

Figure 2 St Leonards and Crows Nest Station Precinct in the Sydney context. Adapted from Greater Sydney Region Plan 2018, GSC.

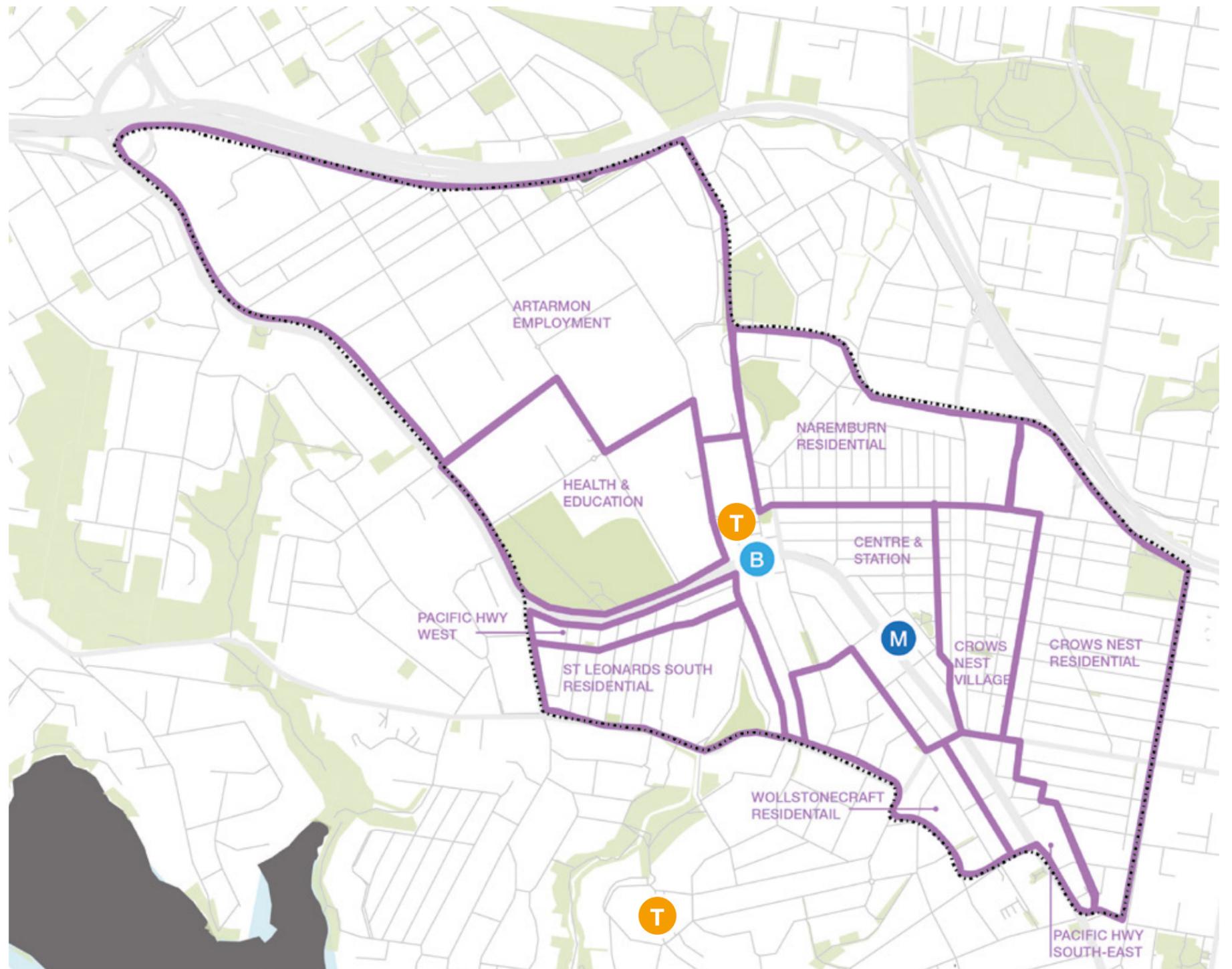


Figure 3 Existing Character Areas. Source: St Leonards & Crows Nests Station Precinct Public Domain Proposals Draft, Gallagher Studio, September 2017

2. Planning and policy context

State and local planning strategies and plans were reviewed to establish:

- The strategic direction and key influences of change in the Precinct
- Existing social infrastructure and open space
- Social infrastructure and open space needs

A summary of the policy and plan review is presented in Figure 4.

	Identifies the strategic direction and key influences of change in the study area	Identifies existing social infrastructure and open space	Identifies social infrastructure and open space needs/ identifies potential social infrastructure and open space
STATE	<ul style="list-style-type: none"> NSW Premier's Priorities, NSW Government A Metropolis of Three Cities - the Greater Sydney Region Plan, Greater Sydney Commission, 2018 North District Plan, Greater Sydney Commission, 2018 Draft Future Transport Strategy 2056, TfNSW, 2017 		<ul style="list-style-type: none"> SEPP Educational Establishments and Child Care Facilities, NSW DP&E Sydney Metro Stage 2 EIS, TfNSW
PRECINCT	St Leonards Strategy 2006, Lane Cove Council, North Sydney Council. Willoughby City Council		
LOCAL	<ul style="list-style-type: none"> North Sydney LEP, North Sydney Council Lane Cove LEP, Lane Cove Council Willoughby LEP, Willoughby City Council 	<ul style="list-style-type: none"> North Sydney Community Strategic Plan, North Sydney Council Recreational Needs Study, North Sydney Council North Sydney Older Persons Plan, North Sydney Council St Leonards/Crows Nest Planning Study - Precinct 1,2,3, North Sydney Council North Sydney Open Space Provision Strategy, North Sydney Council St Leonards Public Domain Strategy, North Sydney Council Crows Nest Placemaking and Principles Study, North Sydney Council Holtermann Street Carpark Study, North Sydney Council Willoughby Open Space and Recreation Plan, Willoughby City Council Willoughby City Strategy, Willoughby City Council Gore Hill Masterplan, Willoughby City Council Lane Cove Community Strategic Plan, Lane Cove Council St Leonards Public Domain Master Plan, Lane Cove Council Lane Cove Open Space Plan 2016-2026, Lane Cove Council 	<ul style="list-style-type: none"> Christie Street Masterplanning Guidelines, North Sydney Council Hume Street Park Upgrade, North Sydney Council St Leonards South Master Plan 2004, Lane Cove Council Lane Cove Delivery Program, Lane Cove Council

Figure 4 Policy and plans review

2.1 State policy and plans

NSW Premier's Priorities | NSW Government | 2017

State priorities are defined by the NSW Government. The priorities are grouped under the following strategies:

- Strong budget and economy
- Building infrastructure
- Protecting the vulnerable
- Better services
- Safer communities

Specific to social infrastructure and open space, the priorities include:

- Accelerating local infrastructure
- Increased attendance at cultural venues and events in NSW by 15% by 2019
- Reducing overweight and obesity rates of children by five percentage points by 2025

A Metropolis of Three Cities - the Greater Sydney Region Plan | Greater Sydney Commission | 2018

The Greater Sydney Region Plan identified St Leonards as a Metropolitan Centre within the Eastern Harbour City. St Leonards is also defined as a Collaboration Area. Collaboration Areas are also Priority Precincts or Priority Growth Areas. The Department of Planning and Environment is facilitating inter-agency engagements with inputs from the Commission. The Plan outlines 10 overarching directions for Greater Sydney. Social infrastructure holds an important role in supporting a series of directions as shown in Table 2.

Table 2 Greater Sydney Region Plan directions

Directions	Relationship to social infrastructure/open space
A city supported by infrastructure	<ul style="list-style-type: none"> • Infrastructure, including social infrastructure and open space needs to be adequate to support population growth • The adaptability of social infrastructure and potential shared use should be considered during planning
A collaborative city	<ul style="list-style-type: none"> • Collaboration between agencies, industry and local communities will enable best use of resources such as public spaces, school ovals and community facilities
A city for people	<ul style="list-style-type: none"> • Changing demographics of neighbourhoods across Greater Sydney will influence the local demands for social infrastructure
Housing the city	<ul style="list-style-type: none"> • The provision of more housing will occur concurrently with the creation of liveable neighbourhoods close to employment opportunities, public transport, walking and cycling options for diverse, inclusive multi-generational and cohesive communities
A city of great places	<ul style="list-style-type: none"> • Greater Sydney's places will be connected to social infrastructure and open spaces • Places will foster interaction and healthy lifestyles by encouraging exercise, creativity, enterprise and innovation
A well connected city	<ul style="list-style-type: none"> • Localised connections to jobs, schools and services including social infrastructure and open space.
Jobs and skills for the city	<ul style="list-style-type: none"> • Skill development can be supported in centres and local areas through social infrastructure like libraries and art spaces as well as programming to support sharing of knowledge in communities
A city in its landscape	<ul style="list-style-type: none"> • Supporting a network of open space can contribute to improving liveability, create healthy places, and mitigate the effects of climate change
An efficient city	<ul style="list-style-type: none"> • Innovative management of water, energy, resources and waste can be incorporated into social infrastructure and open space upgrades to help reduce costs, carbon emissions and environmental impacts.
A resilient city	<ul style="list-style-type: none"> • Social infrastructure contributes to building resilience in a city due to its ability to bring communities together and celebrate diversity. The built aspects of social infrastructure can provide spaces for gathering and support in times of shock event, or to deliver programs that respond to stresses

Our Greater Sydney 2056 North District Plan | Greater Sydney Commission | 2018

The North District includes the 11 local government area of Hornsby, Hunters Hill, Ku-ring-gai, Lane Cove, Northern Beaches, Mosman, North Sydney, Ryde and Willoughby. Supporting the Greater Sydney Region Plan, The North District Plan, specific to the Study area identified 24 planning priorities under the following categories:

- Infrastructure and collaboration
- Liveability
- Productivity
- Sustainability
- Implementation

Most relevant to social infrastructure and open space are the following planning priorities:

- N3. Providing services and social infrastructure to meet people's changing needs
- N4. Fostering healthy, creative, culturally rich and socially connected communities
- N6. Creating and renewing great places and local centres, and respecting the District's heritage
- N17. Protecting and enhancing scenic and cultural landscapes
- N12. Delivering integrated land use and transport planning and a 30-minute city
- N19. Increasing urban tree canopy cover and delivering Green Grid connections
- N20. Delivering high quality open space

The North District is recognised as the largest district by population and is expected to grow by 196,350 people by 2036 and provide 483,300 jobs by 2036.

Actions for St Leonards have been specifically identified in the North District Plan as:

- Leverage the new Sydney Metro Station at Crows Nest to deliver additional employment capacity
- Grow jobs in the centre
- Reduce the impact of vehicle movements on pedestrian and cyclist accessibility
- Protect and enhance Willoughby Road's village character and retail/restaurant strip
- Deliver new high quality open space, upgrade public areas, and establish collaborative place-making initiatives
- Promote synergies between the Royal North Shore Hospital and other health and education-related activities, in partnership with NSW Health
- Retain and manage the adjoining industrial zoned land for a range of urban services.

Job targets have been identified for St Leonards from the 2016 estimation of 47,100 to a baseline target of 54,000 or higher target of 63,500 in 2036.

Future Transport Strategy 2056 | Transport for NSW | 2018

The Future Transport Strategy 2056 sets the direction for transport planning across NSW and provides a framework for transport policy and investment decisions over the next 40 years to support the estimated 28 million trips per day expected. The Strategy has a focus on 'liveable communities'. This focus highlights the need for agencies, local government and communities to develop integrated transport and land use planning to balance the transport movement needs of the community with high quality urban design that supports community safety, health and wellbeing and enhances community assets and local character.

The Strategy is supported by a number of plans including the Greater Sydney Region Plan.

State Environmental Planning Policy (Educational Establishments and Child Care Facilities) 2017 (SEPP) | NSW DP&E | 2017

This SEPP stated provisions to streamline approval processes for child-care providers, schools, TAFEs and universities and aims to effectively deliver educational establishments and early education and care facilities across the State. It also incorporated good design principles into the delivery of educational facilities.

Sydney Metro City & Southwest, Chatswood to Sydenham, Environmental Impact Statement (EIS) | Transport for NSW | 2016

Sydney Metro was announced by the NSW Government in June 2015 and includes a new 30 kilometre metro line to be constructed and operated between Chatswood and Bankstown. The line would require a new crossing beneath Sydney Harbour.

Within this EIS, a new station is proposed at Crows Nest forming a transport focus at the southern side of the St Leonards commercial core. It will have access points on the corner of Pacific Highway and Oxley Street and on the corner of Hume and Clarke Streets. The station will improve access and act as a 'southern gateway' to Crows Nest village retail and restaurants along Willoughby Road, TAFE, major commercial uses, major hospital and recreation. It will also provide opportunity for urban development. The main transport and access features of the station are described as:

- New pedestrian crossings
- New on-road cycle link on Hume Street
- New bicycle parking
- New kiss-and-ride and taxi bays on Clarke Street
- New station south of the Precinct called Victoria Cross Station

The Sydney Metro EIS identified the following existing community infrastructure in the Crows Nest station precinct, including:

- Cultural facilities and places of worship - Northside Community Church, on the corner of Oxley Street and Pole Lane
- Sport and recreation facilities - North Sydney Indoor Sports Centre, on Clarke Street and Hume Street, and Crows Nest Dance Centre on the Pacific Highway
- Child care facilities - Kelly's Place Children's Centre, on the corner of Clarke Street and Hume Street. This facility is licensed to accommodate 40 children per day
- Healthcare facilities - Crows Nest Day Surgery, Crows Nest Eye Surgery, Dental on Clarke, Special Needs Dentistry Practice, Special Medical Practice, North Shore Oral and Maxillofacial Surgery, and Specialist Endo.

The EIS highlighted that the Sydney Metro would have positive impacts on access to infrastructure for communities and across the greater Sydney region, by improving public transport access.

The EIS further noted that urban renewal and development opportunities near the Metro stations would support the revitalisation of local centres and create opportunities for new facilities and local meeting places. This is expected to have positive impacts on local community cohesion.

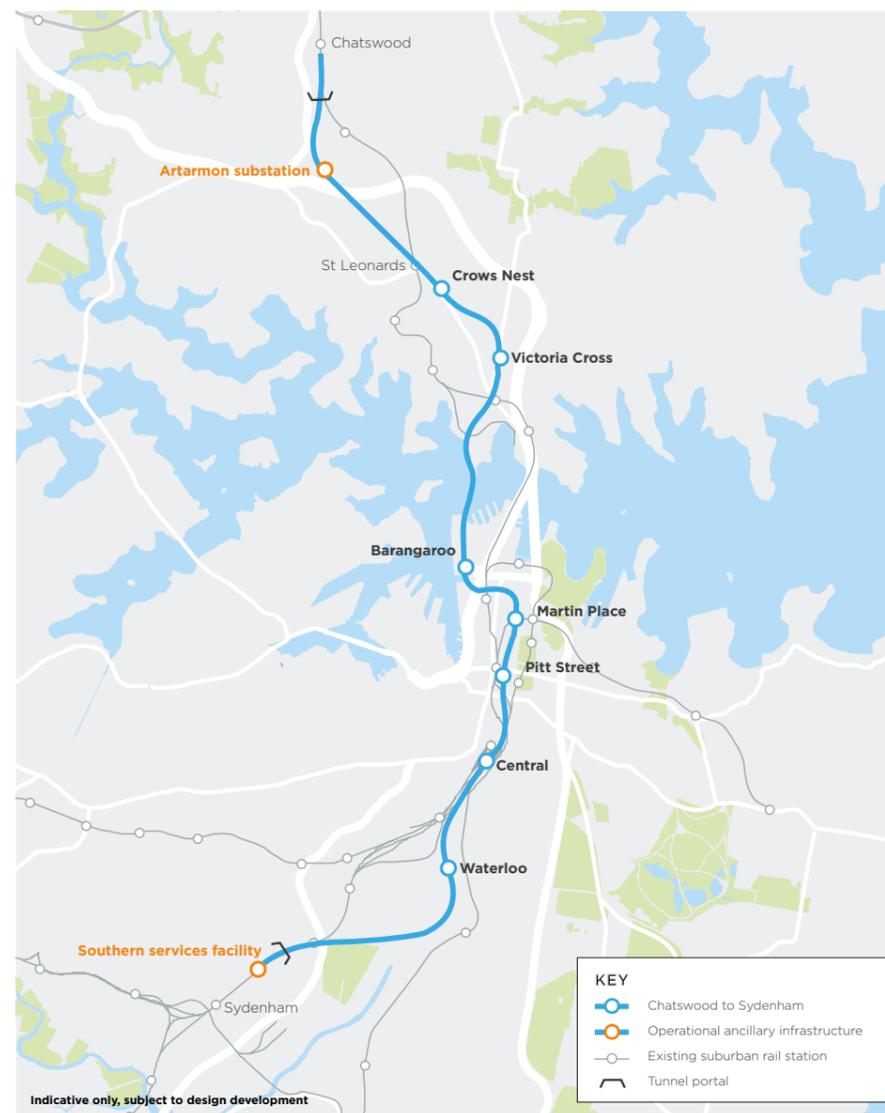


Figure 5 Sydney Metro route from Chatswood to Sydenham
Source: Chatswood to Sydenham EIS, 2016

2.2 Local policy and plans - North Sydney Council

North Sydney Local Environment Plan | North Sydney Council | 2013

The aim of the North Sydney Local Environment Plan (LEP) related to enhancing social infrastructure and open space are as follows:

- Promote development that is appropriate to its context and enhances the amenity of the North Sydney community and environment
- Maintain a diversity of employment, services, cultural and recreational activities.

North Sydney Community Strategic Plan 2013 - 2023 | 2013

The North Sydney Community Strategic Plan was developed with residents, workers, students, government and community groups. The Plan recognised the strengths of the area, as well as the issues to respond to. Five key directions are outlined in the Plan, including:

- Our Living Environment
- Our Built Environment
- Our Economic Vitality
- Our Social Vitality
- Our Civic Leadership.

In relation to social infrastructure and open space, the Plan noted the following:

- Maintaining parks, ovals and bushland areas and improving services offered at community centres were highlighted as important activities by residents and businesses
- Changing population and ageing population was recognised as a challenge for Council for the delivery of appropriate services
- Collaboration with relevant government and community agencies will be required to support resident and worker healthy lifestyles
- There is growing demand for open space and sporting and recreation facilities due to an increasing population (residents and visitors)
- Across the five directions of the Plan, there are a series of strategies that relate to social infrastructure and open space. These strategies relate to:
 - Providing a range of facilities and services that are accessible for people of all ages and abilities
 - Enhancing foreshore access
 - Expanding the capacity of existing community infrastructure
 - Encouraging opportunities for cultural, entertainment and public art activities
 - Promoting active street life, including markets, street parties and fairs using streets, laneways and public spaces
 - Implementing and promoting a diverse range of arts and cultural programs and local arts facilities
 - Providing access to visual arts studio and exhibition spaces
 - Exploring temporary use of unused commercial spaces as affordable exhibition spaces for artists and cultural groups

- Providing networking opportunities and links between the education sector and community services
- Enhancing library services and events
- Providing child care services including family day care and vacation care.

Crows Nest Placemaking and Principles Study | 2016

North Sydney Council prepared the Crows Nest Placemaking and Principles Study as a result of the Metro announcement to understand the community's aspirations and investigate the opportunity for growth in the area. The Study highlights what the community value including:

- Crows Nest has ease of access to amenities and key destinations
- Crows Nest is diverse, vibrant and cosmopolitan: boutique food and retail
- Crows Nest has a village like atmosphere with a sense of community
- St Leonards has ease of access to transport and key destinations
- St Leonards is a major employment destination: jobs closer to homes
- St Leonards is an urban centre with a commercial character.

The Study outlines placemaking principles to guide future growth. A key principle is to prioritise public space with the objectives of:

- Increasing the amount of public open space to better meet the current and future community needs of the Precinct
- Providing a variety of safe and attractive streets, parks, plazas and other recreation settings that can be enjoyed by all throughout the year
- Undertake public domain upgrades that improve the Precinct's appeal as a day and night time destination.

The principles identified specific public domain improvements including:

- Upgrades to four existing reserves and plazas: Christie Street Reserve, Mitchell Street Plaza, Hume Park, Crows Nest Plaza
- Linear parks at Mitchell Street and Oxley Street
- Streetscape upgrades at Pacific Highway, Atchison Street and Willoughby Road.

The Study outlined a series of social infrastructure upgrades and new facilities including the following:

- Provision of an arts centre which may include: art and photography studios, dance rehearsal space, theatre rehearsal and set construction, sound proofed music studios, workshops and exhibitions spaces
- Innovation hub that hosts incubator/accelerator/co-working space
- 60 place long daycare facility.

North Sydney Older Persons Plan | North Sydney Council | 2012

The Plan aligns with Council's Community Strategic Plan as a way to bring together strategies to assist and support older people in North Sydney. In relation to social infrastructure and open space, the Plan:

- Includes strategies to identify new opportunities for older people to undertake paid work and/or volunteer in their local community. Engaging older people in volunteer opportunities could support existing or new social infrastructure
- Outlines that usage of the North Sydney Olympic Pool, North Sydney Men's Shed, the Crows Nest Centre, Community Transport, Neutral Bay Seniors Centre, and membership of the four community gardening groups and of the Waverton Hub are all increasing.

Recreation Needs Study | North Sydney Council | 2015

The Recreation Needs Study explores the current supply of sport, recreation facilities and services. The current and projected demands, potential funding options for the provision and/or improvement of nominated facilities and services are also identified. In relation to social infrastructure and open space, the Study outlined the following:

- There is a good range of recreation facilities in the North Sydney area, however maintaining an adequate supply, quality and diversity of opportunity will be an ongoing challenge.
- A number of trends were highlighted that will impact recreation and open space:
 - Access to public open space will become critical, as private open space in smaller dwellings is becoming more limited

- Increasing trends of lone person households also assert the importance of public space for interaction and companionship
- As cultural diversity increases, additional diversity in recreation and sporting activities will be required
- Ageing facilities will require investment to ensure facilities are inclusive and accessible.

- The Precinct is likely to experience the highest population growth rates. Introducing new facilities in a cost effective way will be challenging
- Participation rates in recreation facilities highlight increasing demand for most activities. Walking and cycling remains the most popular, and will require investment in trail and path infrastructure
- Participation rates are increasing across all facilities with the exception of lawn bowls and golf. These facilities may have additional capacity
- There will be increasing demand for off road trails for walking and cycling for persons over 55 years
- Crows Nest would benefit from social/family recreation spaces. These spaces typically include a play spaces, area for kicking balls, a perimeter path, free access social sports facilities, skate and picnic facilities and possibly dog exercise, tables and seats. These should be accessible, intergenerational spaces

The study recommends that Council pursue opportunities for new open space and recreation opportunities in the Crows Nest/St Leonards Pacific Highway corridor, and in areas without open space within 300 metres of residential dwellings.

St Leonards/Crows Nest Planning Study – Precinct 1 | North Sydney Council | 2011, 2012

This study explored the impact of a series of planning proposals in the Precinct 1 (as shown in Figure 6) and considered opportunity for establishing mechanisms for enhancing existing or providing new open space. The study sought to improve connectivity in Precinct 1, urban design and street level amenity particularly along the Pacific Highway. Improvement in amenity of the public domain was identified as a strategy to decrease commercial vacancy rates in the Precinct area. In relation to social infrastructure and open space, the Study outlined the following:

- The distribution of open space on the Lower North Shore is relatively uneven. Foreshore locations enjoy larger provisions of open space, however the Precinct suffers from relatively low provision of open space despite having some of the highest residential densities
- Gore Hill Park and Newlands Park are identified as major/regional open space
- Local open space is limited due to size, location, furnishing and poor solar access:
 - Christie Street Reserve is a small area of open space with a grassed area adjacent to the St Leonards railway station with good solar access, currently popular with office workers.
 - Paved open space in the area, for example Mitchell St Plaza are underutilised
- Hume Street Park is the main piece of open space in Crows Nest
- Opportunities for the provision of new areas of open space were identified in areas considered underutilised through potential floor space transfers in an area bounded by Albany Street to the north, Hume Street to the east, and Clarke Lane to the west

- Expansion of the Hume Street Park was identified as the preferred option for provision of open space in the area. This would include new open space on the eastern side of Hume Street with a pedestrian link to Willoughby Road, effectively enlarging Hume Street Park and providing improved access to the park via an important link within a broader pedestrian network linking St Leonards and Willoughby Road.

St Leonards/Crows Nest Planning Study – Precinct 2 and 3 | North Sydney Council | 2015

This Study was designed to develop new strategies and initiatives to provide for new open space in Precinct 2 and 3 (as shown in Figure 6), support increased investment in St Leonards and decreased commercial vacancy rates; improve connectivity, particularly between St Leonards/Pacific Highway and Willoughby Road; and improve urban design and street level amenity. In relation to social infrastructure and open space, the Study outlined the following:

- There are limited cultural activities in Precinct 2 and 3 (refer Figure 6 Precinct areas), however there is potential to activate the area with the number of anchor creative activities and laneways
- The Mitchell Street/Albany Lane plaza is underutilised and potential focal point.

Key public domain upgrades included:

- Improving the streetscape
- Transforming Atchison Street into a civic street
- Establishing two linear parks along Mitchell and Oxley Streets
- Upgrading three public spaces: Christie Street Reserve (with public art), Mitchell Street plaza and Hume Street Park (as per the Precinct 1 study).

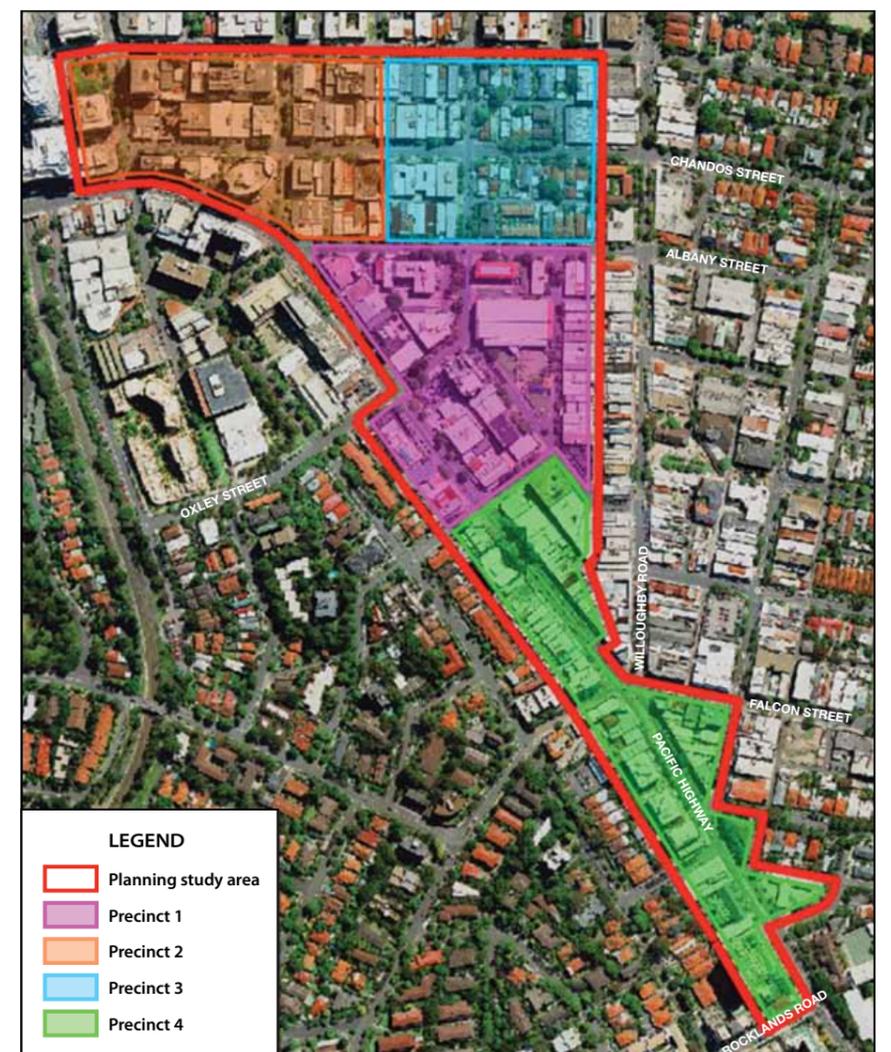


Figure 6 Precincts study area map. Note Precinct 4 did not proceed due to the NSW State Government's announcement that it would undertake a strategic planning investigation of Crows Nest, St Leonards and the Artamon industrial area as a Priority Precinct
Source: St Leonards/Crows Nest Planning Study Precinct 1, North Sydney Council, 2012

North Sydney Open Space Provision Strategy | North Sydney Council | 2009

This strategy was prepared to ensure new land provided for open space met the needs of the population and is closely linked with Council's Section 94 Contributions Plan, which seeks to address existing deficiencies in the open space network through strategic open space acquisitions and embellishments (consistent with Section 94 nexus requirements). In relation to social infrastructure, the study makes the following recommendations:

- To meet the current and future recreational needs of the community additional open space is required in some areas of high and increasing population density, particularly in the Precinct. This Strategy outlines that Crows Nest and St Leonards are high priority areas.
- Planned or opportunistic acquisition of properties for open space purposes is recommended
- Provision of 'hard' open spaces or civic spaces is recommended for areas of high commercial or population density as they can accommodate a large number of users
- The Strategy provides a site assessment framework to facilitate the identification of the most appropriate properties for acquisition.

St Leonards Public Domain Strategy | North Sydney Council | 2003

The Strategy presented recommendations for ongoing improvements to maximise civic benefit over time. Social infrastructure recommendations included:

- Atchison Street as a civic 'high street' providing a safer, more pleasant pedestrian focal point for residents and visitors to St Leonards

- Upgrade landscaping in the Christie Street Reserve
- Mitchell Street Plaza as a focal hilltop plaza.

Throughout the eastern area of St Leonards, the public domain principles outlined by the Strategy include a series of linked public spaces and central civic plazas, strengthened green patterns along main streets and enhanced amenity and function of laneways.

Christie Street Masterplanning Guidelines | North Sydney Council | 2015

The Guideline identified the sites of 100 Christie Street (including the Christie Street Reserve) and 655 & 657 Pacific Highway as a significant landholding that has the potential to transform the St Leonards area. In relation to social infrastructure and open space, the guidelines noted:

- There is opportunity to provide much needed space for local business and a social meeting point for the community. An above ground co-working space is considered to provide a public benefit.
- Christie Street Reserve to be upgraded and enlarged to enhance its attractiveness and useability, with improved sight lines to the northern entry of St Leonards railway station.

Holtermann Street Car Park Study | North Sydney Council | 2015

Council investigated the potential to transform the Holtermann Street Car Park for community uses. The car park is currently co-located with a community centre. The primary land use objectives for the site were established as follows:

- Retain parking supply, possibly underground
- Small scale active recreation space

- Open space
- Affordable housing
- Bicycle parking and end of trip facilities
- Community garden
- Ecological sustainable development initiative

One concept for the site is a rooftop open space and recreation facility with the following key uses identified:

- Outdoor community space at rooftop level
- Outdoor active recreation space at rooftop level
- Potential event space
- Sustainability and public art demonstration space.

Hume Street Park Upgrades | Tonkin Zulaikha Greer Architects + JMD design for North Sydney Council | 2015

This project was a result of the recommendation for expansion and upgrade of the Hume Street Park in the The St Leonards/Crows Nest Precinct 1 Planning Study (2012). In September 2015, Council identified a preferred design including:

- 8,242m² of public open space
- An underground sports facility
- Relocation of the children's centre
- A plaza and laneway connecting Hume Street Park and Willoughby Road
- Potential for an underground cinema.

2.3 Local policy and plans - Lane Cove Council

Lane Cove LEP | Lane Cove Council | 2009

The aims of the LEP related to enhancing social infrastructure and open space are as follows:

- To protect and, where possible, restore all bushland areas, including all rare and threatened species and communities
- To protect and, where possible, restore all riparian land along, and the inter-tidal zones and foreshores of the Lane Cove River and Sydney Harbour and their tributary creeks
- To make more foreshore land available for public access
- To link existing open space areas for public enjoyment
- To provide for the range and types of accessible community facilities that meet the needs of the current and future residents and other users.

Community Strategic Plan – Lane Cove 2025 | Lane Cove Council | 2011

In relation to social infrastructure and open space, the Plan stated the following:

- Organised sport is recognised as playing a role in supporting healthy and active communities
- Targeted programs are supported by Council to support community groups including youth, seniors and people with disabilities
- Lane Cove Library provides a focal point for the community and assists in reducing social isolation
- Council is encouraging multi-use recreational facilities to provide new recreational opportunities, as well as enabling open spaces, villages and facilities to be used for a broad range of arts and cultural activities.

The Plan recognised a series of issues and challenges for future planning for the community:

- An increase in the number of young children aged 0 – 4 years and family households
- A decline in the 15-24 age group
- A need to enable Baby Boomers to remain active
- An increase in those aged 85 years and older.

These trends will impact the way that recreation needs are delivered and designed in the LGA.

Lane Cove Delivery Program 2013 -2017 | Lane Cove Council | 2013

The Delivery program detailed actions Council will undertake to meet the Community Strategic Plan, Lane Cove 2025. In relation to social infrastructure, the Delivery Program outlined a series of activities associated with reviewing, upgrading or identifying new 'hard' social infrastructure, which include:

- Audit venues to identify their suitability for various performances and input into performance requirements for the development of new and existing venues to satisfy areas of need
- Integrate cultural spaces in major developments e.g. Rosenthal Avenue and Little Street
- Consider opportunities to find cultural spaces e.g. 314 Burns Bay Road
- Identify sites suitable for additional child care facilities
- Undertake access audit of all community facilities
- Upgrade at least one playing field to an all-weather field with artificial training surface and lighting
- Acquire land and undertake design process for an open space concept in Lane Cove North to cater for future development
- Provide appropriate open spaces to allow for flexible use of parks and bushland for cultural activities.

St Leonards Public Domain Master Plan | Lane Cove Council | 2014

Following on from the St Leonards Strategy 2006, this Master Plan was developed in response to development proposals for large mixed-use buildings and to guide public domain improvements. The Master Plan recognised that St Leonards has little public domain space, and suggested some public domain spaces have fallen into disrepair. A series of specific strategies identified in the Master Plan include:

- St Leonards Plaza– a bus and rail interchange, south of the current “Forum” development. The Plaza is envisaged to be the social and community centre of the future precinct with landscaping, children’s play areas, water features, public artworks; hard landscaped areas, retail facilities and connections to public transport
- Friedlander Place - connecting two planned developments along the Pacific Highway through a public plaza
- Christie Lane – enhance pedestrian link by providing active frontages such as cafes and shops, public facilities, art spaces
- Marshall Lane – enhance the pedestrian network by connecting the Pacific Highway to Marshall Street, with active retail frontages such as cafes and shops.

Open Space Plan 2016 - 2026 | Lane Cove Council | 2016

The Lane Cove Open Space Plan provided direction for the planning and management of Lane Cove’s open space and associated facilities. The Plan stated that recreational space should be welcoming, accessible, healthy, safe and secure, well maintained and clean. The Open Space Plan reviewed recreation spaces and developed an action plan to respond to the community’s needs. Key objectives outlined by the Plan include:

- Identify and improve links between unconnected open space areas
- Provide parks that are diverse in character and structure, maintaining current provision standards so that residents live within 500 metres of a park or reserve
- Maximise the use of open spaces for a wide range of users, in step with dynamic community demographics and needs
- Expand effective use of open space by encouraging multiple uses.

St Leonards South Master Plan | Lane Cove Council | 2014

Council engaged urban design consultants Annand Associates Urban Design to investigate potential for developing infrastructure and future land use changes within an area bounded by the rail line south of St Leonards Station, Pacific Highway, Greenwich Road and River Road. Regarding open space and community opportunities, the plan supported:

- High density residential development up to Park Road east
- A legible and green east - west pedestrian connection (location to be explored)
- Improved access to the proposed Rail Plaza, Gore Hill Oval and Smoothey Park
- 2 to 5 child care centres
- Over 200 m² of community halls, rooms
- Possible other community facilities such as community gardens
- Pocket parks along Marshall Avenue, Berry Road and Holdsworth Avenue
- Improvements to Newlands Park including upgraded equipment to cater for a range of age groups; new multi - purpose sports court with fencing and fitness station; upgraded park lighting and furniture
- Improvements to Propsting Playground including upgraded equipment to cater for a range of age groups; upgraded park lighting and furniture.

2.4 Local policy and plans - Willoughby City Council

Willoughby LEP | Willoughby City Council | 2012

The aims of the LEP related to enhancing social infrastructure and open space are as follows:

- Maintain and enhance the existing amenity of the local community, and to reduce adverse impacts from development on adjoining or nearby residential properties
- Provide for social, cultural, recreational and community activities to meet the needs of residents, workers and visitors to Willoughby.

Willoughby City Strategy | Willoughby City Council | 2014

The Willoughby City Strategy provided a direction for the Council to deliver services and policy over the next 15 years for services that meet the needs of the community. Actions relevant to 'hard' social infrastructure outlined in the Strategy include:

- Refurbish Willoughby Park Centre and Willoughby Bowling Club to provide art and craft facilities or Artist in Residence space. Investigate the joint use of private sporting facilities such as school ovals and halls
- Provide additional youth recreational areas such as a new skateboard facility, bike tracks and basketball courts. Involve youth in planning for their needs
- Identify improvements to existing walking and cyclist infrastructure to improve connectivity of existing open space and recreation facilities
- Pursue opportunities in new developments to increase public open space areas.

Willoughby Open Space and Recreation Plan | Willoughby City Council | 2013

The Plan provided a review of open space in the LGA and noted that public open space areas have not substantially changed in quantity since 1996. The Plan outlined the following recreation themes relevant to Willoughby and St Leonards:

- Informal recreation:
 - Actively pursue opportunities for additional publicly accessible open space in redevelopments, especially in high density areas along the Pacific Highway corridor in Artarmon, St Leonards and areas adjacent to main roads
 - Implement Gore Hill Masterplan
 - Implement Community Gardens Policy in the vicinity of multi-unit developments
 - Support community gardens on under-utilised land in schools, churches, public housing estates and unmade road reserves in high density areas, as per the Community Gardens Policy
 - Implement new public spaces in St Leonards CBD
- Regional planning for new walking and cycling linkages between foreshore parks and other open space areas:
 - Link walking tracks in Willoughby with tracks in Lane Cove
 - Improve the cycleway network through development of sites including Gore Hill Parklands
- More and better quality district sporting fields and indoor sports and courts:
 - Upgrade synthetic cricket wickets at various cricket fields, including making all synthetic wickets a uniform size like Gore Hill Oval

- Interaction with nature:
 - Upgrade existing walking tracks and linkages, and construct new tracks in bushland according to Reserve Action Plans.

Gore Hill Park Regional Redevelopment - Landscape Concept Report | Tract Consultants for Willoughby City Council | 2016

Outline in the report, the aim of the Gore Hill Park redevelopment is to provide a major regional sport and recreation hub for the lower North Shore. It is a key recreational area that will experience increasing demand by further economic and population growth in St Leonards. Stage 1, expected to be constructed by the end of 2018 involves the following:

- Re-aligning the existing oval and installing a synthetic playing surface
- Construction of a regional playground, outdoor ball courts and gym
- Construction of a perimeter walking track
- Public domain works to facilitate access and public spaces
- Installation of on-site stormwater detention
- Construction of modular buildings including pavilion, change rooms and toilet facilities
- Upgrading and re-aligning the southern car park.

Stage 2 of the Gore Hill Park redevelopment involves the development of a multi use indoor sporting complex with six indoor courts, change rooms, kiosk/cafe and underground car parking. This stage will be funded by a Voluntary Planning Agreement associated with the development of the nearby Gore Hill Technology Park.

2.5 Precinct policy and plans

St Leonards Strategy | North Sydney, Lane Cove and Willoughby Council | 2006

Commissioned by Lane Cove, North Sydney and Willoughby Councils and the then Department of Planning, the Strategy articulated a vision for St Leonards to continue to develop as a major centre, with knowledge based industries, supported by excellent accessibility and co-location with regional scaled health and educational facilities. The vision for St Leonards also supported diverse housing opportunities, coupled with convenience shopping, cafes, bars, entertainment venues, community facilities, a high quality environment and excellent public transport and walking and cycling accessibility. Enhancement of the 'sense of place' of St Leonards is also considered, supported by new development and public domain improvements.

In relation to social infrastructure and open space, the Strategy recommended that:

- Improvements to amenity, including the provision of social infrastructure is critical to attracting people to the area, and projecting a unified sense of place
- Creation of a network of attractive, green, safe and direct pedestrian routes as critical pieces of infrastructure.

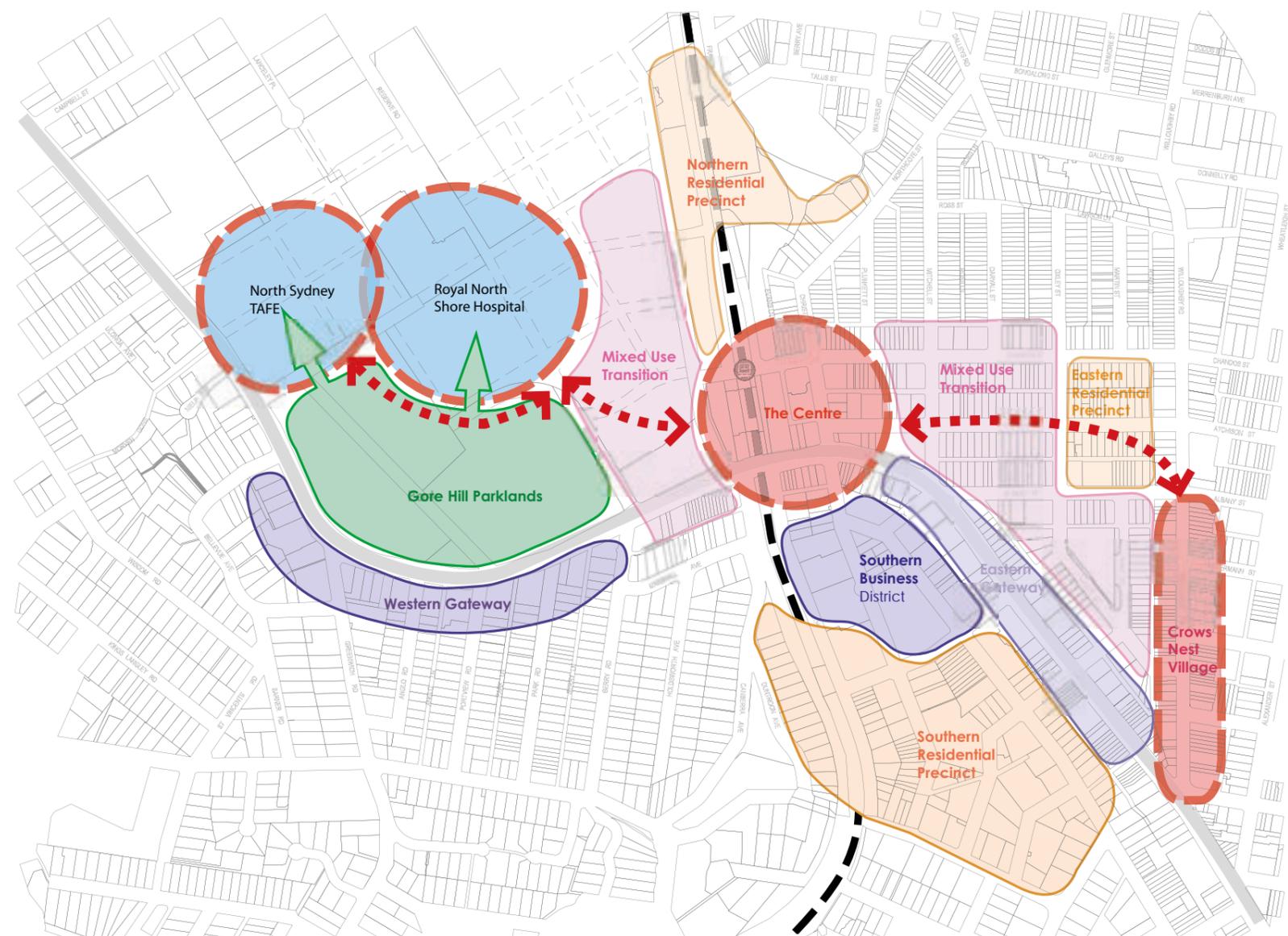


Figure 8 Urban structure of St Leonards. Source: St Leonards Strategy, 2006

2.6 Emergency services planning

Artarmon Paramedic Response Network

The NSW Ambulance organisation undertakes planning for new ambulance infrastructure.

The Artarmon Paramedic Response Network has been identified to support the health of the community. A new Artarmon Superstation will be located at 95-99 Reserve Road. The Artarmon NSW Ambulance superstation is a major investment in local paramedic services, supporting patients in the Artarmon community and surrounding area. Construction for the Artarmon NSW Ambulance superstation is underway and work is expected to be completed in 2018.

NSW DP&E has undertaken consultation with the following agencies to identify social infrastructure needs:

- North Sydney Local Health District
- Ambulance NSW
- NSW Police Force
- Fire and Rescue NSW.

3. Precinct characteristics

3.1 Demographics

Population information for the Precinct was provided by the NSW DP&E and does not include changes as a result of Sydney Metro.

The Precinct lies within the North District. By 2036, the population in the North District is projected to grow from 886,500 in 2016 to just under 1,083,000 people (Greater Sydney Commission, 2018). By 2036 the North District will host approximately 196,000 more people, representing 11% of Greater Sydney's total growth.

In 2011, the Precinct was home to 11,498 people. 53% of the population were living in North Sydney LGA, 33% in Willoughby LGA and the remaining 14% lived in Lane Cove LGA. In 2011, the age profile of the Precinct (refer to Figure 9) shows a high proportion of people of working age (late 20s and 30s) compared to Greater Sydney. The age profile has a smaller proportion of young children and teenagers, suggesting that there are fewer families living in the area compared to the Greater Sydney Region.

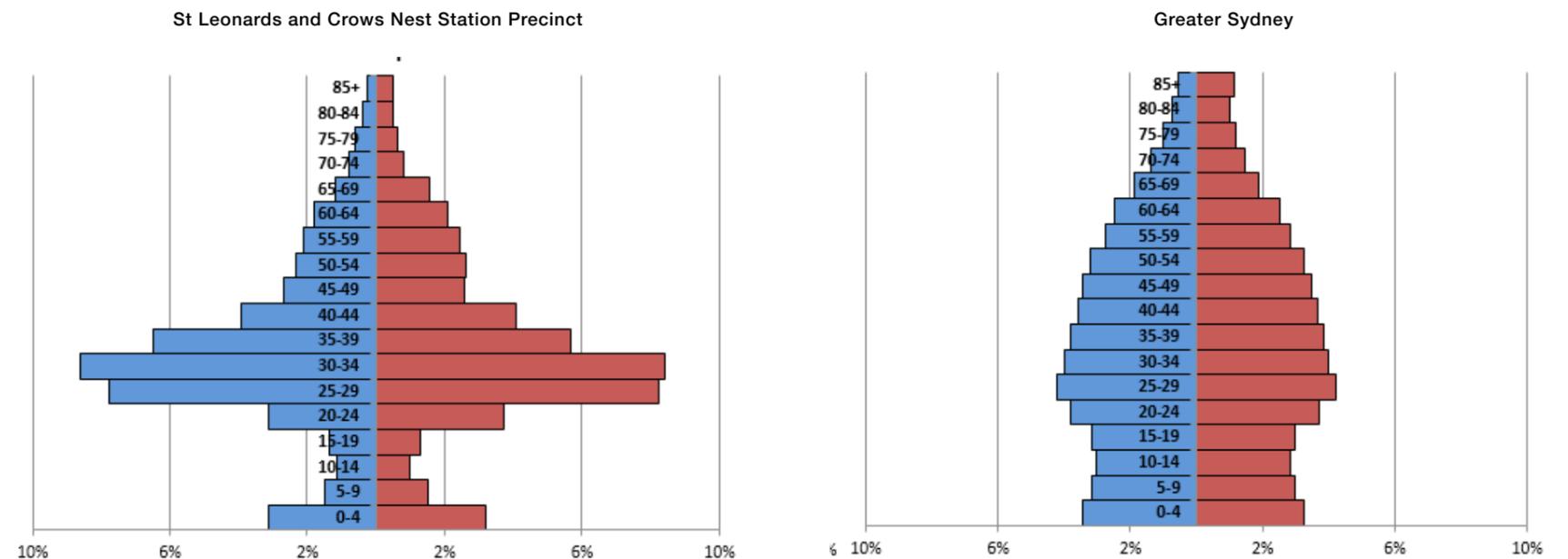


Figure 9 Population age profile 2011 of the Precinct and Sydney. Source: NSW DP&E, 2016

3.2 Growth

Indicative population projections for the Precinct were also provided by NSW DP&E as presented in Table 3.

The Precinct is expected to grow from approximately 15,800 people in 2016 to approximately 25,800 people in 2036 with the introduction of the Sydney Metro project (base projections). NSW DP&E has indicated that planning for a mid range target of approximately 6,000 new dwellings to 2036 is appropriate. For a 'high residential target' in 2036 and beyond, the total population of the Precinct may increase to 38,600 for example if many of the current developer planning proposals are realised.

Alongside residential population growth, the Precinct will continue as a centre for employment. In the Precinct, there were 47,000 jobs in 2016. Employment numbers are projected to increase to 54,000 by 2036 (base projections). For a 'high GSC jobs target' in 2036, the total number of jobs is projected to increase to 63,500.

Analysis was undertaken to consider development of the Precinct beyond 2036. The total population beyond 2036 may increase to a total of 42,500, and jobs to approximately 70,000 subject to future planning.

Within the Precinct, overall population growth is forecast for all age groups, with the largest growth expected in the 65 or older age group to 2031, particularly in the area south of the Pacific Highway.

The working age population (aged 15-64 years) is projected to decrease in proportion from 77% in 2011 to 71% in 2031. The proportion of the population aged 0-14 years in the Precinct is projected to remain stable (increasing only slightly from 11% in 2011 to 12% by 2031).

Table 3 Dwelling, population, employment projections for St Leonards and Crows Nest. Source: NSW DP&E, received 13th October 2017

Year	Total dwellings	Total population	Total employment	Source
2016 (existing)	7,600	15,800	47,000	Transport Performance and Analytics LU16
2017 (existing - SJB analysis as at April 17 inc including DAs, sites under construction, and advanced planning proposals)	10,200	17,000	46,469 (SJB, SGS, 2016 LU16)	SJB & SGS analysis
2036 (base projections)	13,600	25,800	54,000	Transport Performance and Analytics LU16, SGS analysis
2036 (mid range residential target)	15,100	30,200	-	SJB Planning analysis
2036 (high residential target)	19,300	38,600	-	SJB Planning analysis
2036 (mid range jobs target achievable with Sydney Metro)	-	-	57,500	SGS analysis
2036 (high GSC jobs target)	-	-	63,500	North Draft District Plan, GSC, 2016
Employment beyond 2036 (high target + allow +10%)	-	-	70,000	NSW DP&E for long term planning purposes

3.3 Socio-economic

A diverse population

Just under half of the existing population in the Precinct was born overseas. Of those overseas born, England and China (excluding Special Administrative Regions and Taiwan) were the most common countries of birth. Additionally, more Precinct residents were the children of migrants compared with Greater Sydney.

Cultural diversity in the Precinct is also indicated through the high proportion of the population that speaks a language other than English at home (34%) in 2011. There is also a breadth of languages spoken by residents of the Precinct.

High tertiary education attainment

More than 48% residents of North Sydney LGA have obtained a bachelors degree or higher compared to 24% of residents in Greater Sydney.

A low proportion of the population attending primary school and secondary school

The share of students attending primary and secondary school reflected the age profile of the Precinct population. Fewer families in the area means that there is a smaller share of students attending primary school (19%) or secondary school (13%) than Sydney overall (31.5% and 26% respectively) in 2011.

High labour force participation

A large proportion (81%) of the Precinct's population aged 15 years and above participated in the labour force in 2011. This is a higher labour force participation rate compared to Sydney as whole (66%).

More broadly, the North District shows the lowest unemployment rates of any of Sydney's six districts.

Growth in older age groups

By 2031, there may be 14,600 residents aged 65 years or older, making up 17% of its population; this older population made up 12% of North Sydney LGAs' population in 2011. Although the median age of St Leonards (34%) is lower compared to the North Sydney LGA (36%) and Greater Sydney (36%), from 2011 to 2031, people in the 65+ age group are projected to experience the highest growth. This trend in growth in the older age groups is being experienced more broadly in the North district, with just over one third of all population growth in the North district from 2011 to 2031 is expected in the 65 years and older cohort – the largest growth of any age group.

Areas of least relative disadvantage

The Socio Economic Indexes for Areas (SEIFA) of relative disadvantage shows communities that are classified as most disadvantaged within the North District are located in parts of Hornsby, Ryde and the Northern Beaches. Areas of least relative disadvantage are in and around Sydney Harbour, and following the rail line from North Sydney to south of Hornsby, including the Precinct. This is likely related to greater accessibility to services, jobs, education and amenity.

Industries of employment reflect the anchor uses of the area

ABS Census 2011 data shows that the most common industry of employment for the Precinct was Professional, Scientific and Technical Services, with almost a quarter of employed persons in this industry (23%). This was followed by Financial and Insurance Services (14%), and Health Care and Social Assistance (10%). Similar proportions were employed in Professional, Scientific and Technical Services, and Financial and Insurance Services in Greater Sydney and were approximately half that of the Precinct (10% and 7% respectively).

3.4 Transport

High public transport activity

Compared to the Greater Sydney Region, the Precinct hosts a low proportion of people that use private vehicles to travel work.

The Precinct also hosts a higher proportion of people with no motor vehicle or only one motor vehicle per household when compared to Sydney overall. Almost a quarter of occupied private dwellings did not have any registered motor vehicle garaged or parked at their address.

Low private car use is a reflection of high public transport accessibility, and access to employment centres, including St Leonards, Chatswood, North Sydney and the Sydney CBD. It is expected that the use of public transport will increase with the introduction of Sydney Metro.

The Precinct is well serviced by public transport with a major railway station in the heart of the Precinct (St. Leonards Railway Station). The Pacific Highway is a major local bus axis which accommodates 29 bus routes connecting to the CBD, North West Sydney (Macquarie Park and Rouse Hill) and other parts of Central Sydney (Mascot and Woollahra). Other bus corridors in the region are located along the south of the Precinct, along River Road (connecting Chatswood to the CBD) and Falcon Street (connecting to Epping, Chatswood and Manly).

Sydney Metro (expected to be operational by 2024) will provide high frequency and reliable connections to North West Sydney (eg Epping, Rouse Hill), Sydney CBD and South West Sydney (Bankstown) from the Precinct.

Existing cycleways in the area were reviewed based on RMS data. The cycling infrastructure network mostly follows the main roads in the Precinct: River Road and Gore Hill Freeway on the periphery. There are a mix of cycleway treatments in the area, including on street cycleways and separated cycleways. The mix of treatments, along with the steep topography presents challenges for a beginner cyclist or less confident cyclist in the area.

The walking catchment (Figure 10) was also analysed, calculated from three main nodes of St Leonards Station, North Sydney Station and the future Crows Nest Sydney Metro Station. The walking catchments show the areas accessible by walking within 5, 10 and 15 minutes of each of those locations.

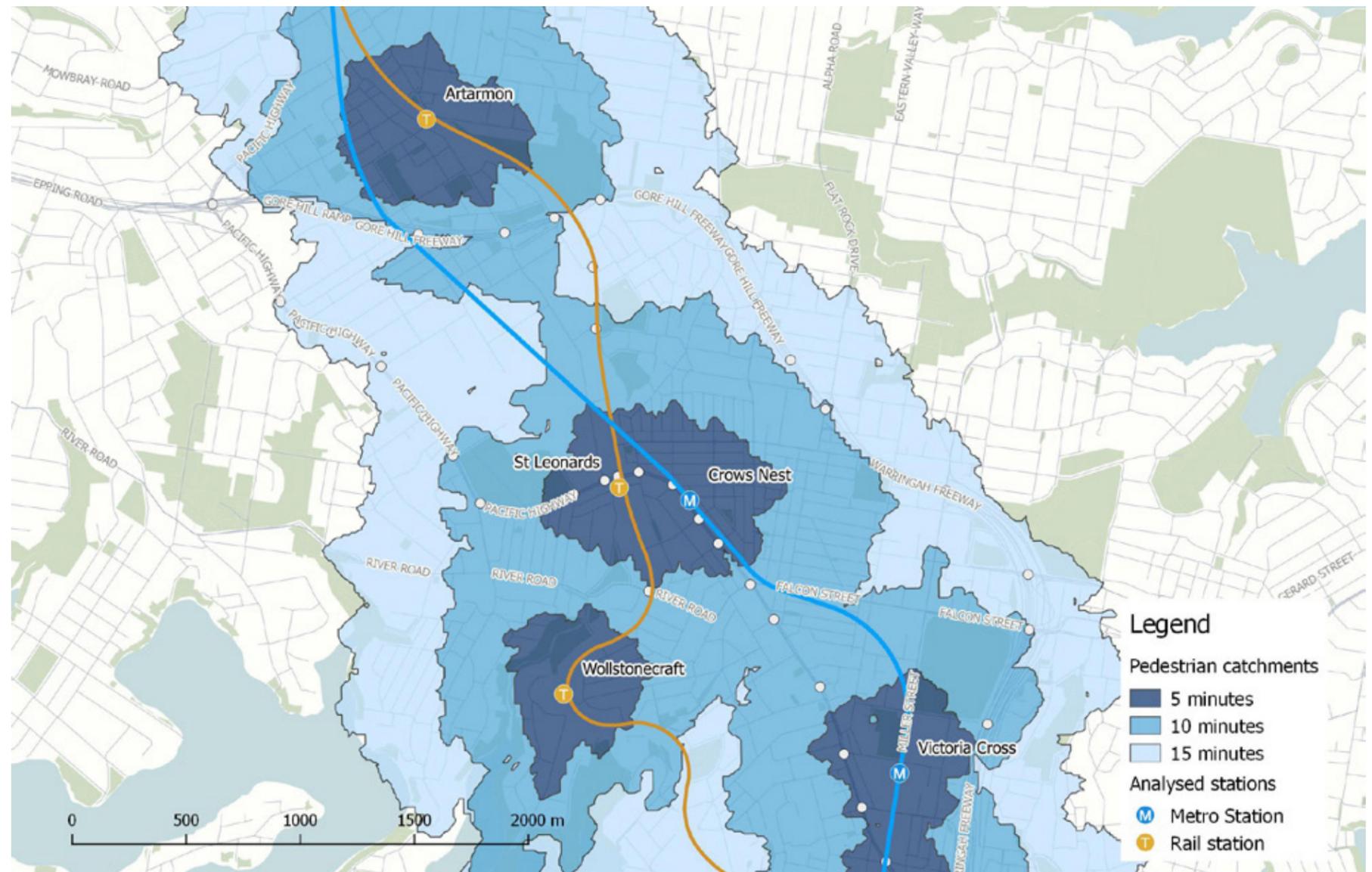


Figure 10 Walking catchment

The analysis shows that limited pedestrian crossings across the Pacific Highway, Warringah Freeway and the rail line create accessibility barriers, along the Pacific Highway near St Leonards Station and at the southern end of Warringah Freeway, around Naremburn.

From St Leonards Station, the five minute walking catchment is constrained due to limited formal and connected pathways through Royal North Shore Hospital and Gore Hill Park.

The Strategic Transport Study (Cardno, 2018) provides further information.

3.5 Housing

High proportion of flats, units or apartments

There were 6,226 private dwellings in the Precinct in 2011 (NSW DP&E, 2016). Almost three quarters of these dwellings (70%) were flats, units or apartments, which was considerably larger than Greater Sydney (30%). The housing stock in the Precinct reflect the household types and population age profile. The household types in the Precinct are shown in Figure 11.

A low proportion of social housing

The North District hosts the lowest proportion of social housing across the Sydney Metropolitan Area. In 2011, there were approximately 6,500 households being provided with social housing, representing 2% of all households across the district. The clusters of social housing in the North District are at Marsfield and Narrabeena.

Housing affordability challenge

A slightly lower proportion of families in the Precinct experienced housing stress (that is, when the household has an income level in the bottom 40 per cent of Sydney’s income distribution and is paying 30 per cent or more of its income on rent) (21.4%) compared to Greater Sydney (36.8%).

As outlined in the City Futures Research Centre’s Sydney Housing Affordability Index, the Precinct hosts property sales that were affordable to less than 20% of households that earned \$100,000 in 2015. The Index shows that there were pockets of housing in the North District that became less affordable over the time frame of 2010 – 2015 including at Lane Cove, Narrabeen and Collaroy.

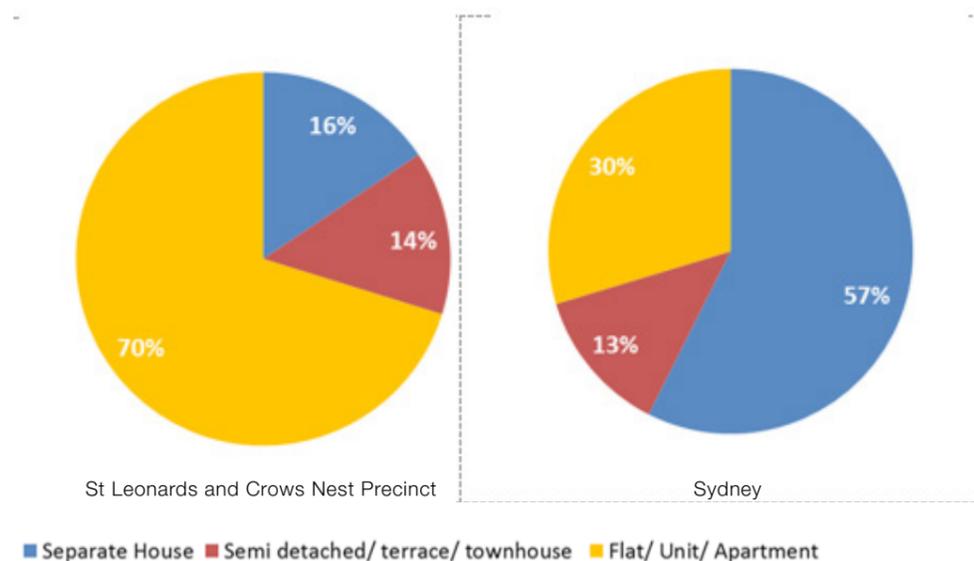


Figure 11 Housing typologies. Source: NSW DP&E, 2016

3.6 Drivers and considerations for social infrastructure and open space

The plans and policies for the area, the demographic characteristics of the Precinct and broader global city wide shifts highlight changes that will influence demand and delivery of social infrastructure and open space in the Precinct.



Smaller homes and shared spaces

Sydney's constrained spatial environment increasingly requires a more compact approach to living and playing. Smaller private space in apartments presents increasing need for high quality, accessible shared spaces.



Increase in lone person households

Increasing trends of lone person households asserts the importance of public spaces/ community centres as spaces for interaction and companionship.



Ageing facilities

With ageing infrastructure coupled with budgets becoming increasingly constrained, efficient and effective use of infrastructure will be increasingly important. This means greater partnerships between government, private and non-government organisations, as well as employing digital technologies to connect, monitor and design services that more closely meet the needs of citizens.



Ageing communities

Greater pressure will be placed on social infrastructure to be accessible and relevant to specific community needs with an aging population.



Health inequity

The rate of obesity across Sydney's population is increasing. Social infrastructure, including access to high quality networks of open space. Spaces for active play remain a strong part of supporting healthy communities.



Housing affordability

Sydneysiders are increasingly experiencing housing stress due to increased house prices and low inflation. Part of a suite of responses to housing affordability is the provision of diverse housing options. This may include small and/or affordable homes in highly accessible areas with access to public transport, public open space and social infrastructure. Requirements for a percentage of affordable housing to be provided in all new developments would also help.



Cultural diversity

As communities become more culturally diverse, the demand for diversity in cultural and recreation space will increase. Flexibility and the ability to share space will become more important.



Global economy

Liveability and place capital have become essential to Sydney's future to attract and retain talent. Access to quality social infrastructure remains fundamental to high quality of life.

4. Existing social infrastructure

A review of the existing social infrastructure assets for the Precinct and surrounds was undertaken. The review highlights that there are limited community facilities (including community meeting places, libraries and primary and secondary school facilities) within the Precinct itself. With a focus on health, the Precinct is well serviced by hospitals and medical centres.

4.1 Community centres and spaces

The existing community centres and places of worship were reviewed for the Precinct. Places of worship have been included as they provide spaces for community use beyond their formal activities.

The Precinct hosts a series of places of worship, however only one community centre is present and is located in Crows Nest.



Figure 12 Community facilities

4.2 Libraries and cultural facilities

The existing libraries and cultural facilities were reviewed for the Precinct. There are no libraries within the Precinct, however, the immediate surroundings of the Precinct contain five libraries, at the edge of all sides of the Precinct as shown in Figure 13. It is noted that the Greenwich Library is a small lending library only with limited other space and facilities.

Within the Precinct lies the Sextons Cottage Museum in St Thomas Rest Park and there are two small museums and arts centre in the surrounding area. Creative uses within the Precinct include the Tanya Pearson Classical Coaching Academy & Sydney City Youth Ballet Company, Jazz Workshop Australia and the Fine Music 102.5 FM. A block party was recently hosted to showcase the emerging creative cluster.

There are no theatres or clubs within the Precinct. Theatre is hosted at The Independent in North Sydney and during summer, the Starlight Cinema is held in St Leonards Park (North Sydney Oval) to the east of the Precinct.

Within the North District area and in the vicinity of the Precinct artistic and cultural experiences are supported by: entertainment facilities such as the Hayden Orpheum Picture Palace, Cremorne and Roseville Cinema, arts and cultural facilities such as The Concourse Chatswood, Ensemble Theatre, Manly Art Gallery and Museum, Ku-ring-gai Art Centre, Mosman Art Gallery and Community Centre, and as well as local libraries (refer North District Plan, Greater Sydney Commission, 2018).

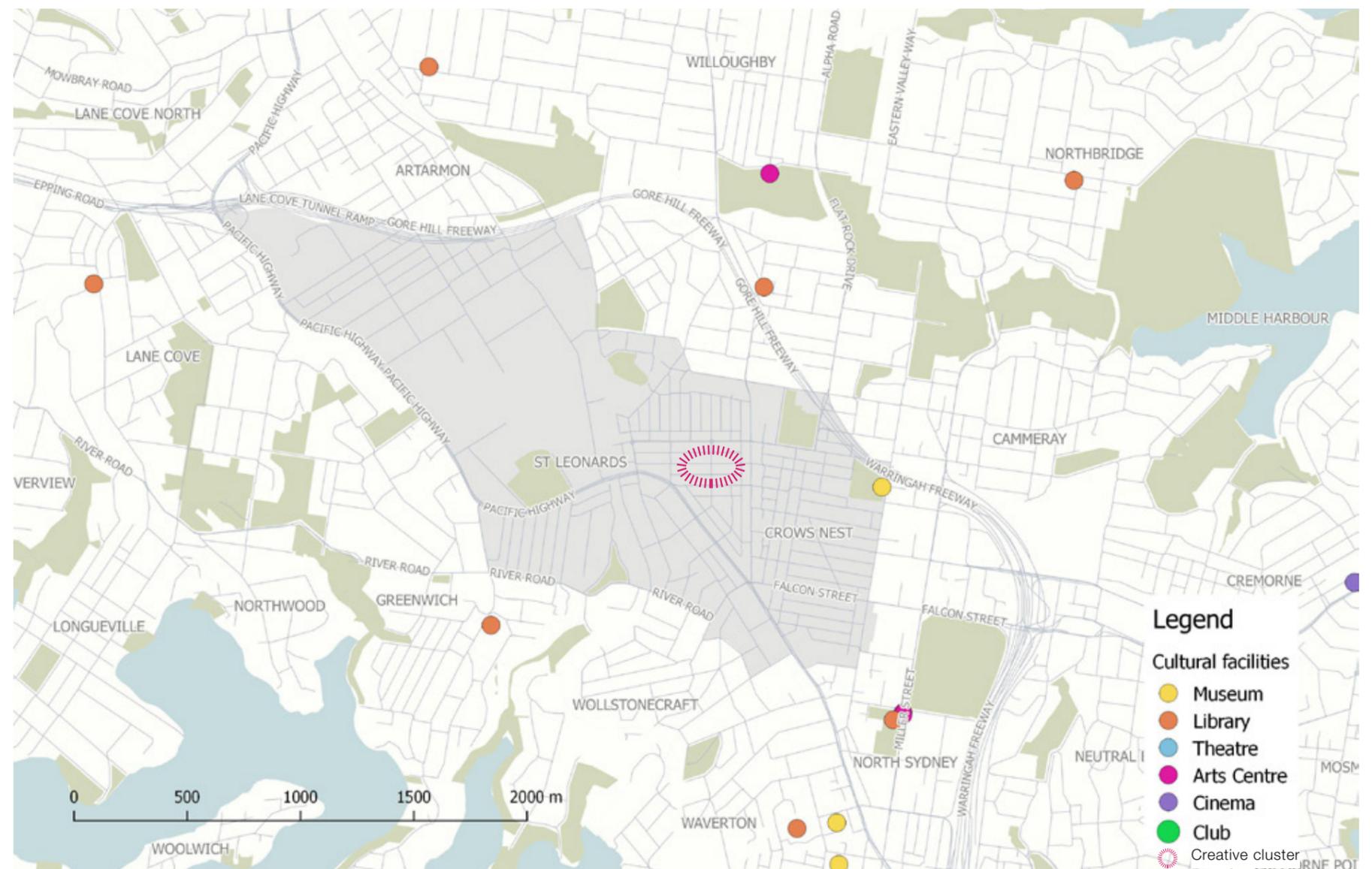


Figure 13 Cultural facilities

4.3 Primary and secondary education

Primary and secondary education facilities within and adjacent to the Precinct are shown on Figure 14. Within the Precinct there are no mainstream primary and secondary schools. Cammeraygal High School, located one block south of the Precinct is a mainstream public high school which opened in 2015. A development application for the development of the Cammeraygal High School Senior campus on the existing Crows Nest TAFE site located within the Precinct was approved in November 2017. St Leonards contains two specialised schools, being the Royal North Shore Hospital School (a school for students admitted to RNSH) and Naremburn School (a school for intensive behavioural support and vocational preparation). North Sydney Girls High School lies within the Precinct. This school is a selective secondary school. Bradfield Senior College, a senior high school specialising in the creative industries is located adjacent to TAFE NSW in St Leonards.

There is a strong cluster of high schools and primary schools in North Sydney, south of the Precinct. These comprise public, private and catholic schools.

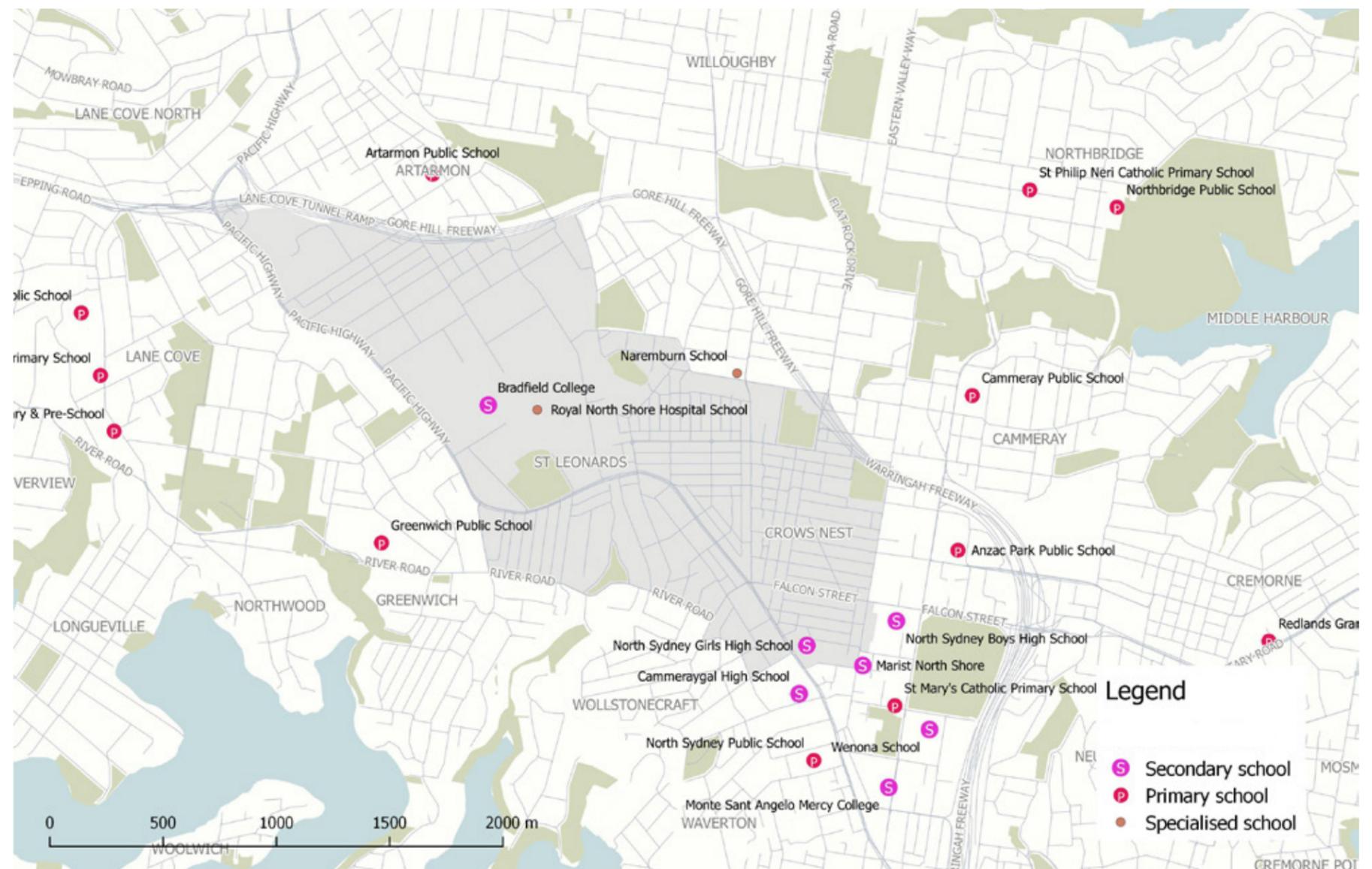


Figure 14 Primary and secondary schools

4.4 Tertiary and vocational education

The Precinct contains the two vocational education facilities as shown on Figure 15. The TAFE NSW, Northern Sydney Institute at St Leonards campus hosts three centres of excellence: health, digital media and information technology. The campus has strong links to the film and broadcast industry with the SBS office close-by. The site of the Crows Nest campus received development approval for the Cammeraygal High School Senior campus in November 2017.

The Australian Catholic University (ACU) has a campus in North Sydney LGA. The College of Law registered training organisation is located in St Leonards. Located south and outside of the Precinct is Safety Corp.



Figure 15 Tertiary education facilities

4.5 Health facilities

The Precinct hosts a number of health facilities as shown in Figure 16. The Royal North Shore Hospital (public) is an anchor institution in the area and is a major teaching public hospital with 600 beds. Located next to this is the North Shore Private Hospital. The Mater Hospital (private) and Greenwich Hospital (public) are within close proximity to the Precinct in Crows Nest and Greenwich respectively.

A number of private health care centres are located in St. Leonards and Crows Nest. One aged care centre is located within the Precinct next to the Royal North Shore Hospital. Two other centres are located just outside the Precinct's boundary.

Planning for medical facilities is undertaken by the Northern Sydney Local Health District.

The Northside Clinic is planning to relocate and expand to a site close to the North Shore Private Hospital.



Figure 16 Health facilities

4.6 Emergency services facilities

There are a number of emergency services located within the Precinct. There are two fire stations and an ambulance service associated with the Royal North Shore Hospital. The North Sydney Police Station lies just beyond the Precinct.

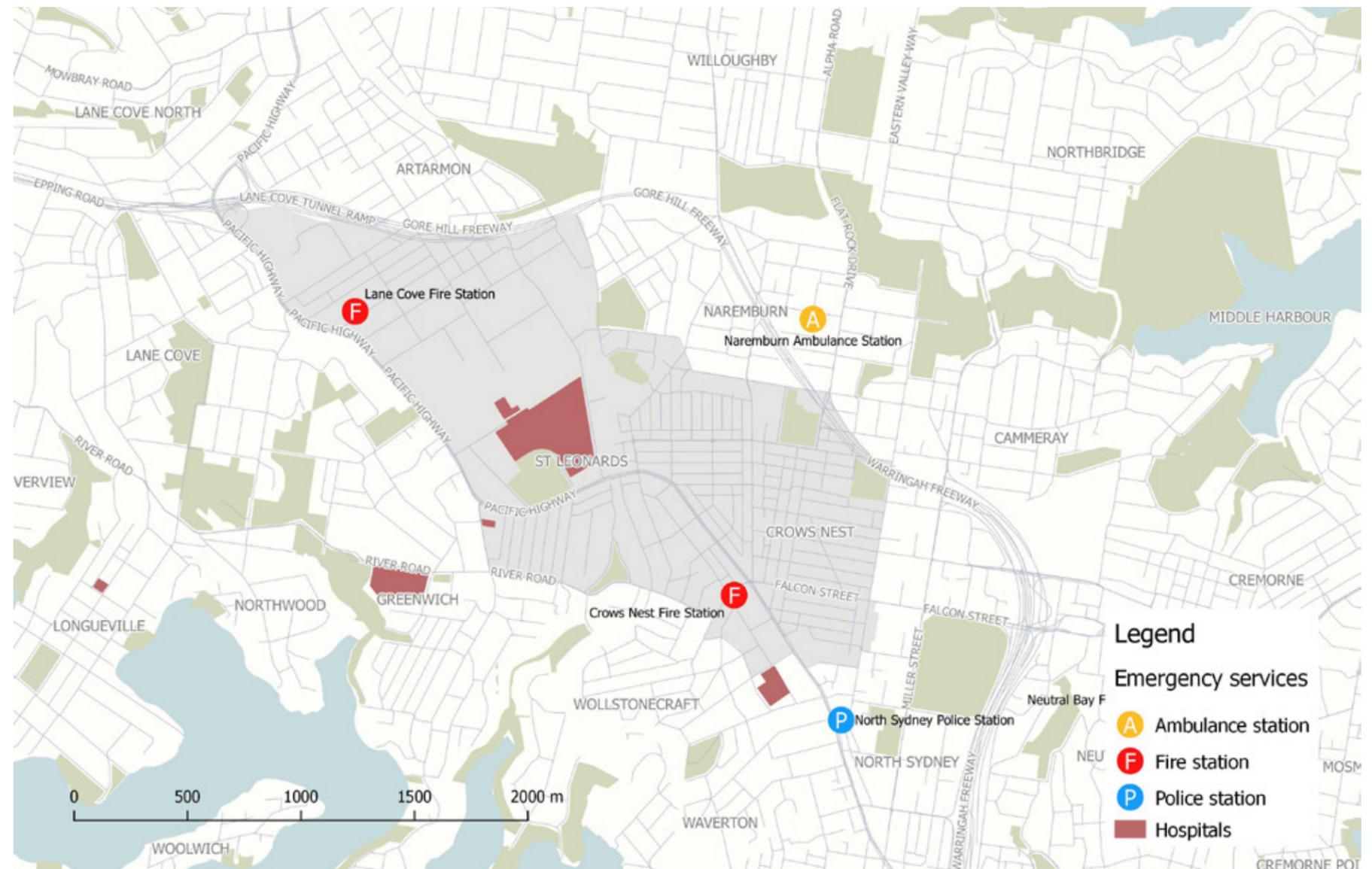


Figure 17 Emergency services

4.7 Child care facilities

Child care facilities located throughout the Precinct as shown on Figure 18. Further discussion with local agencies were undertaken to understand capacity and demand for child care facilities in the Precinct.

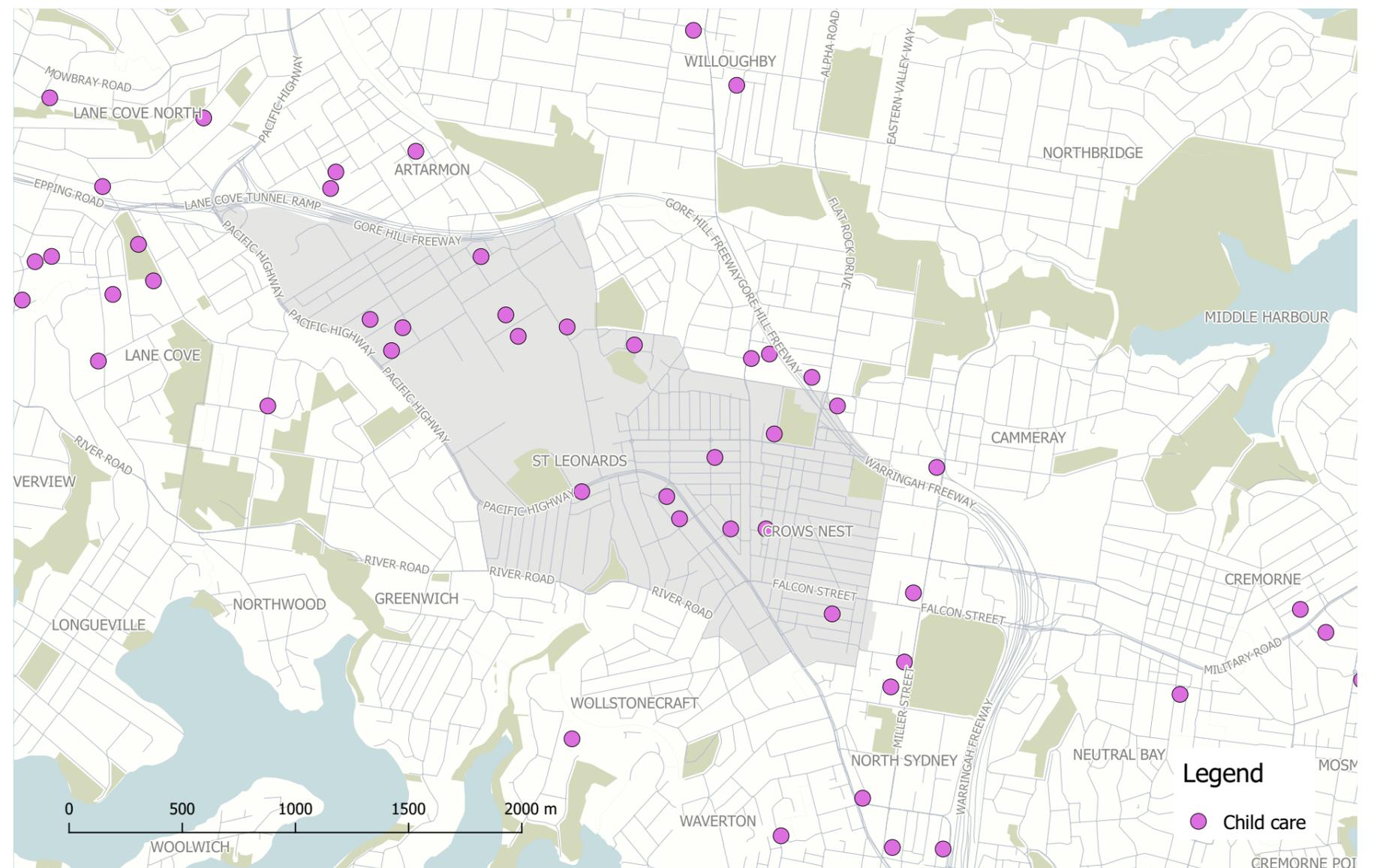


Figure 18 Child care facilities

4.8 Capacity of existing social infrastructure facilities

The capacity of social infrastructure facilities has been reviewed based on consultation with relevant agencies, local government agencies and local government policies and plans. A summary of the capacity of existing social infrastructure is provided below:

- Child care facilities are understood to be at capacity in North Sydney. Child care facilities in the area support families beyond the local area including those that may work in North Sydney and Crows Nest. This presents a high demand for child care facilities, including affordable child care facilities. Consultation with North Sydney Council indicated a shortfall of 870 places in out of school hours care and an acute need for affordable child care. Facilities catering to the 0-2 year age group are critically low.
- After school care facilities are required and may be provided within school grounds
- There is a need for youth facilities in the area, spaces that enable quiet study, spaces for informal recreation, and access to youth services

No further information on the capacity of existing community facilities were provided during this Study.



Figure 19 Anzac Parade School - Example of new school provision in North Sydney. Source: SMH

5. Open space assets

5.1 Existing assets

A network of open space, with each asset holding different form and function, provides residents, workers and visitors with opportunities for rest and pause, to connect with nature and for active play and recreation. The variety of public open space, and their typical function is described below.

- **District or regional parks** | Provide open space that serve regional catchments, usually serving multiple municipalities. They typically host larger facilities, sports, football ovals or larger play facilities. A typical district park is 2 - 5 hectares
- **Local parks** | Provide for the social and informal recreational needs of nearby residents and workers. They provide important spaces for people to exercise, socialise and enjoy. A typical local park is minimum 3,000 m²
- **Playground** | Provide spaces with equipment and facilities for play
- **Pocket parks** | Typically small parks created on a single vacant plot, irregular piece of land or resulting from a road closure providing better use of public space. They typically provide for passive recreation and gathering; as such flexible seating areas and microclimatic conditions are important. Pocket parks should better connect larger parks and provide furniture and space to support surrounding community facilities or heritage. Typical pocket parks are approximately 1,000m²
- **Plazas** | Plazas are typically gathering places, their use is more transitory than parks. The best plazas will evoke a sense of place, are easily accessible, provide a variety of nested or interconnected spaces, are flexible spaces that can be used for a wide variety of activities, are complemented by sympathetic commercial uses (e.g. cafes), and enhance the civic/public domain of libraries, museums and other such spaces — rather than being just ‘afterthoughts or embellishments (Byrne, Jason, Snipe, Neil, 2010).

Different open space typologies provide for different uses and users. Together, connected by high quality walking and cycling links they form the network of open space for a community. A summary of the existing open space assets in the Precinct is presented below:

- Local parks are present throughout the Precinct as shown in Figure 20
- There are playgrounds in Crows Nest, St Leonards and Wollstonecraft. There is limited access to playgrounds in the north of the Precinct
- Artarmon Employment Area has low accessibility to open space
- A series of road closures form small pocket parks in the Precinct – providing rest and opportunities for pedestrian and cycling access
- There are a high number of plazas in the Precinct, concentrated in St Leonards. Some existing plazas have poor solar access with limited flexibility of uses
- There is good access to regional/district parks, with multiple regional parks just beyond the Precinct.

There are multiple considerations for planning for and providing open space in the Precinct including:

- Availability of open space, with a diversity of uses (space for active and passive recreation; spaces for enjoying vistas and views; active play space for children)
- Quality of open space with high quality microclimate, plantings
- Accessibility of open space, within close walking distances to homes and workplaces
- Capacity of open space.

5.2 Quality of open space

A review of the quality of open space was undertaken by Gallagher Studio and highlights the following:

- A majority of the existing parks and linear parks in the Precinct have reasonably good solar access, with the exception of Port View Road Reserve in the St Leonards South area
- Mitchell St Plaza and The Forum Plaza have poor solar access
- Traffic noise affects the amenity of the Gore Hill Cemetery, Gore Hill Park, Hume Street Park, Propsting Playground and Saint Thomas Rest Park
- Of the 14 existing open space areas within the Precinct, six were considered to provide high amenity, seven good amenity and one low amenity score

North Sydney Council has identified that the quality and distribution of open space varies. Although public open space is accessible within 400m, not all play/picnic parks are within walking distance for all people which compromises accessibility of people of all ages and abilities. Additionally, open space is small in size and fragmented. Based on the North Sydney Council’s demand analysis within the North Sydney Recreational Needs Study Discussion Paper (2014), most sports activities are predicted to see an increase in demand due to population increases. This suggests the range of sports ovals, running/cycling paths and other recreational facilities provided and quality of the open space will need to be reviewed and increase to meet future demand.

Figure 20 shows the current existing, proposed and proponent proposed public spaces.

Existing, Proposed and Proponent Proposed Public Spaces

EXISTING PUBLIC SPACES

1. Portview Road Reserve (792 m² / 0.08 ha)
2. Propsting Playground (941 m² / 0.09 ha)
3. The Forum Plaza 2,675 m² / 0.27 ha
4. Christie Street Plaza 1,068 m² / 0.11 ha
5. Mitchell / Albion St Plaza (500 m² / 0.05 ha)
6. Hume Street Park (1,732 m² / 0.17 ha)
7. Ernest Place (1,493 m² / 0.15 ha)
8. Christie Street Reserve (2,001 m² / 0.2 ha)
9. Cahill Park (320 m² / 0.03 ha)
10. Saint Thomas Rest Park (18,599 m² / 1.86 ha)
11. Talis St Reserve (15,564 m² / 1.56 ha)
12. Gore Hill Park (45,289 m² / 4.53 ha)
13. Gore Hill Cemetery (47,683 m² / 4.77 ha)
14. Newlands Park (10,125 m² / 1.01 ha)
15. Naremburn Park (35,290 m² / 3.53 ha)

PROPOSED PUBLIC SPACES

16. RNSH Concept Plan (approx 5,000 m² / 0.5 ha)
17. Mitchell Street Linear Park (approx 600 m² / 0.06 ha)
18. Civic Plaza / Interchange (approx 5,000 m² / 0.5 ha)
19. Friedlander Place (approx 2,500 m² / 0.25 ha)
20. Hume Street Park Extension (approx 3,400 m² / 0.34 ha)
21. Ernest Place Extension (approx 850 m² / 0.09 ha)
22. Willoughby Road South (approx 1,800 m² / 0.18 ha)
23. St Leonards South (approx 2,800 m² / 0.28 ha)

PROPONENT PROPOSED PUBLIC SPACES

24. 101-111 Willoughby Road (approx 415 m² / 0.04 ha)
25. 496-498, 500, 504, 520 Pacific Highway (approx 900 m² / 0.09 ha)
26. 31-37 Herbert Street (approx 1,000 m² / 0.1 ha)
27. 75-79 Carlotta Street (approx 1,800 m² / 0.18 ha)
28. 39 Herbert Street (approx 5,000 m² / 0.5 ha)
29. St Leonards Central (approx 7,500 m² / 0.75 ha)
30. TWT Site (approx 1,500 m² / 0.15 ha)
31. 601 Pacific Highway (IBM) (approx 600 m² / 0.06 ha)
32. 29-57 Christie Street (approx 1,700 m² / 0.17 ha)
33. 308-376 Pacific Highway (approx 500 m² / 0.05 ha)
34. 238-242 Pacific Highway (approx 250 m² / 0.03 ha)

Legend

-  Precinct Boundary
-  Character Area Boundaries
-  Existing Open Space
-  Existing Open Space - Gore Hill Cemetery
-  Proposed Open Space
-  Proponent Proposed Open Space
-  Existing Open Space outside Precinct Boundary

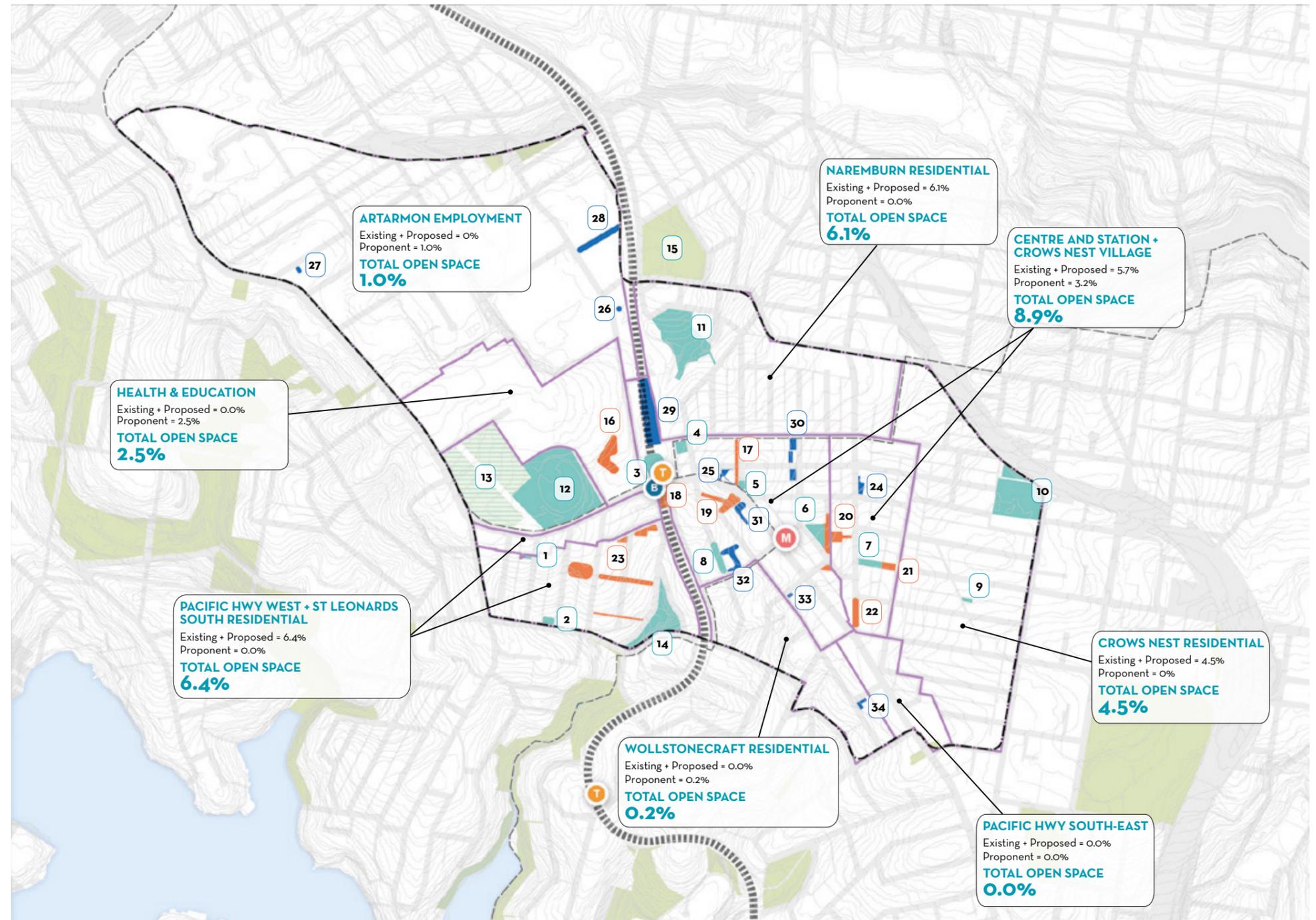


Figure 20 Existing, proposed and proponent proposed public space. Source: St Leonards & Crows Nests Station Precinct Public Domain Proposals Draft, Gallagher Studio, September 2017

5.3 Accessibility to open space

The approach to the analysis of accessibility to open space is summarised below:

- Advice from the Government Architect NSW was applied to inform appropriate access thresholds. This advice notes that all residents are to be within 400m of any open space (open space must be minimum of 1000m², can include plazas). In areas of high density (defined as more than 100 dwellings per hectare), residents and workers are to be within 200m of any open space
- High level analysis only was undertaken using Geographical Information Systems mapping and accessibility by the road network available from Open Street Maps
- Access analysis from the centroid of the open space polygon was applied in Figure 21
- Only open space that is more than 1,000m² is presented on Figure 21.

The analysis and Figure 21 highlights the following:

- Accessibility to open space is higher closer to St Leonards Station and in southern areas of South St Leonards due to the presence of Newlands Park, Christie Reserve and Talus Street Reserve
- The high density areas in the ‘Centre and Station’ Character Area, is considered to have poor access to open space as these areas are not within 200m to open space
- There is poor accessibility to open space in the Artarmon Employment Area
- In South St Leonards, west of Berry Lane there is poor access to open space of more than 1,000m². Access to Gore Hill Oval is restricted due to limited pedestrian crossings across Pacific Highway
- On the edge of the Naremburn Residential Character Area there is poor access to open space of more than 1000m².

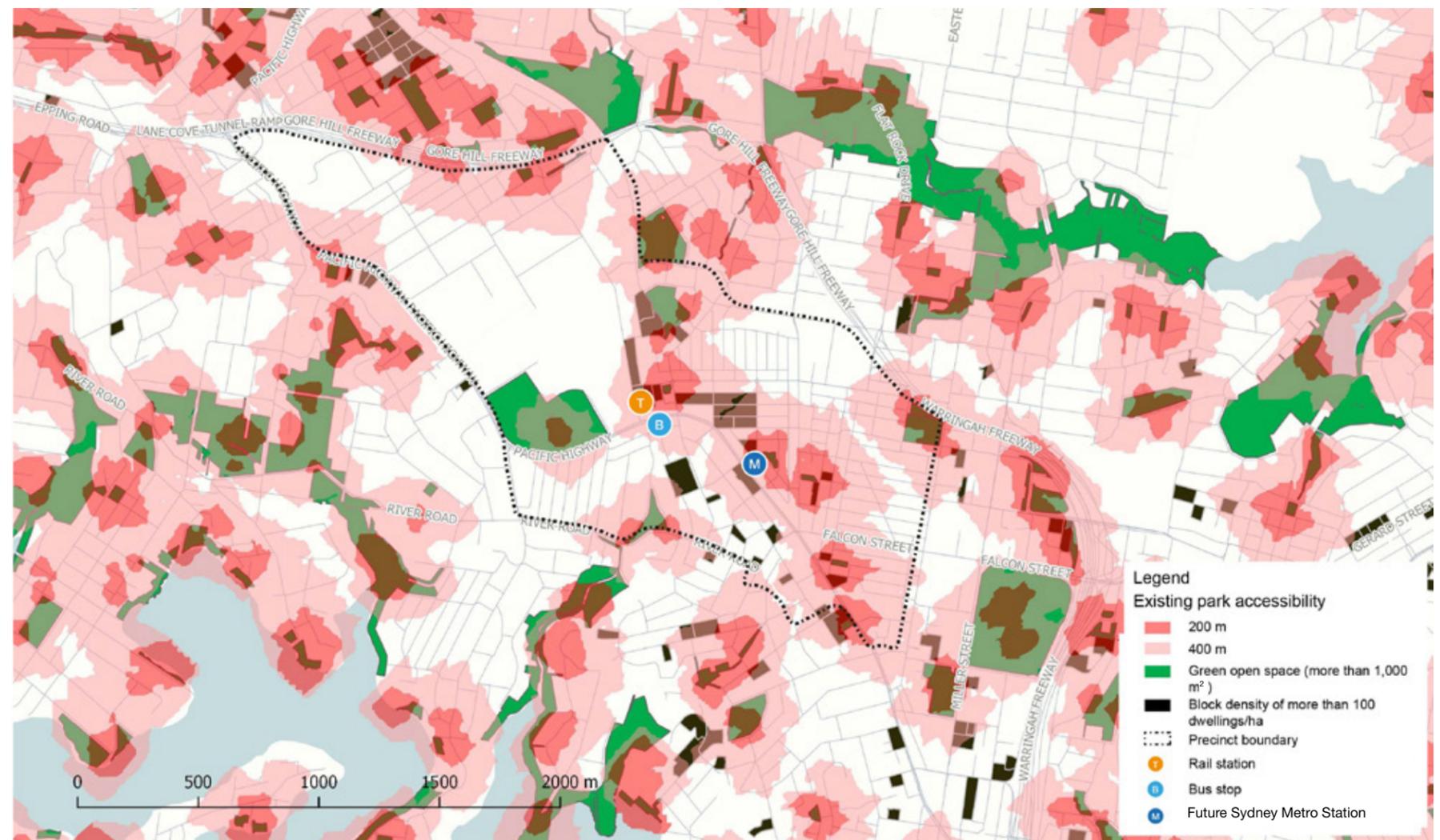


Figure 21 Accessibility to green open space (more than 1,000 m²) - existing

5.4 Accessibility to recreation space

The approach to the analysis of accessibility to recreation space is summarised below:

- Advice from the Government Architect NSW was applied to inform appropriate access thresholds. This advice notes that all residents are to be within 1,000m of any sport and recreation facility. This includes sporting fields and indoor recreation facilities
- High level analysis was undertaken using Geographical Information Systems mapping and accessibility by the road network available from Open Street Maps
- Access from the centroid of the sport and recreation facility polygon was applied.

The analysis highlights the following:

- Accessibility to sport and recreation facilities is high across the Precinct due to the presence of multiple facilities in the area: Gore Hill Park, recreation facilities at Naremburn Park, indoor sport facilities in Crows Nest and Artarmon
- Advice from councils notes that the existing sport and recreation facilities are highly utilised by formal clubs and organisations, and there may be a demand for additional sport and recreation facilities in the area.

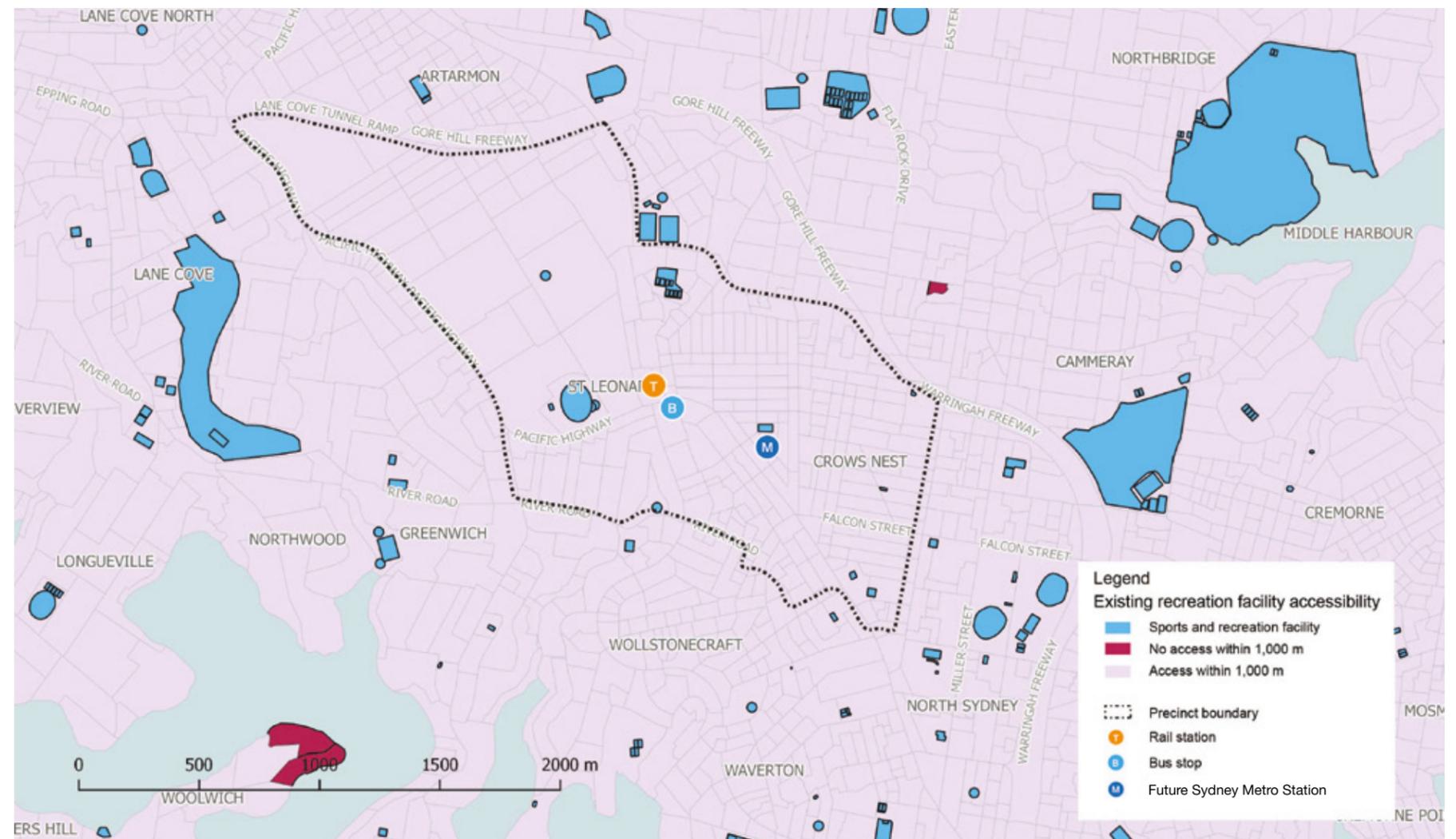


Figure 22 Accessibility to sports and recreation facilities - existing

5.5 Capacity of existing open space and recreation spaces

The capacity of open space and recreation space has been reviewed based on consultation with local government agencies and local government policies and plans. An evaluation of the capacity of these facilities (including trends, usage levels, user preferences, quality, shared/multi use, co-location and any opportunities for augmentation) was not undertaken given the strategic nature of this Study. A summary of the capacity of open space and recreation space, and considerations for additional open space and recreation space needs are summarised below:

- There is increasing demand for most recreation activities, particularly for trails and paths, sportsgrounds, swimming pool, gym facilities and indoor courts (refer North Sydney Recreational Needs Study Discussion Paper (2014))
- Recreation facilities in North Sydney are considered at capacity, including the indoor sport facility at Crows Nest
- There is high use of the Gore Hill Oval by organised sport, limiting ability for space to be used informally by the community
- Walking and cycling is the most popular recreation activity (and is the most frequent activity undertaken for persons over 55 years old), and will require investment in trail and path infrastructure
- Participation rates are increasing across all facilities with the exception of lawn bowls and golf. These facilities may have additional capacity
- Crows Nest would benefit from the provision of social/family recreation spaces. These spaces typically include a place space, area for kicking balls, a perimeter path, free access social sports facilities, skate and picnic facilities and possibly dog exercise, tables and seats. These spaces should be accessible, intergenerational spaces
- New open space is required in close proximity to residents in Crows Nest and St Leonards
- Local open space is limited due to size, location, furnishing and poor solar access. Christie Street Reserve is considered inadequate for the area due its small size. This area has a small grassed area adjacent to the St Leonards railway station with good solar access and is currently popular with office workers
- Paved areas/plazas, for example Mitchell St Plaza and Friedlander Place are underutilised and have poor microclimate including high winds and poor solar access which is likely to prevent use particularly in the winter. A review of these kinds of spaces for amenity and weather resilience would be beneficial to increase use, and better contribute to the public realm and open space network.
- Linear parks, such as those proposed for Oxley Street and Mitchell Street by North Sydney Council would provide important links for the open space network in the area
- It is acknowledged that land in schools, churches, public housing estates and road reserves in high density areas could be utilised for community gardens.

6. Assessment of future needs

6.1 Approach

Planning for social infrastructure and open space

Planning for social infrastructure and open space considers both the existing or legacy infrastructure, future needs and opportunities for the provision of new infrastructure taking into consideration existing provision of assets, quality of assets, capacity of assets and diversity of assets.

In some cases, existing infrastructure may not be fit for purpose (it may not be able to host a diversity of uses or have spare capacity), well located or be of high enough quality given the scale of transformation that is projected to occur. Existing infrastructure may also not represent the type of community infrastructure that may be required for future communities.

Collaborative, integrated and evidence-based social infrastructure planning in urban renewal areas can bring opportunities to improve, renew or provide additional facilities. Understanding existing social infrastructure and its current challenges in detail is necessary to ensure existing assets, no matter ownership or service provider, work together and are leveraged to meet the needs of existing and future communities. To plan for social infrastructure and open space, it is important to understand:

- Who will live and work in these transforming areas
- How localised their movement patterns might be
- What services will they need into the future and how flexible do the spaces need to be
- How will future communities live, work, play and stay healthy.

A network of infrastructure will be required to gain the most benefit from existing and new infrastructure and provide a diversity of experiences. Local communities will use social infrastructure in different ways depending on their particular needs and lifestyle aspirations. Therefore the level of provision does not need to be the same across all areas. Having said this, the amount and quality of community infrastructure delivered in this Precinct must support a minimum level of service to meet basic needs and ensure the health and wellbeing of future communities. A range of social needs can also be met through the private provision of infrastructure.

Levels of provision

Planning for social infrastructure and open space typically considers three levels of provision:

- Local facilities that serve a suburb or an area of between 5,000 to 15,000 people e.g. local community centres, primary schools and local parks
- District facilities that serve a catchment of between 15,000 to 50,000 e.g. libraries, emergency services and district parks
- Regional facilities that serve a population of 100,000 to 250,000 e.g. higher educational institutions and regional parks.

Accessibility and equitable distribution of social infrastructure and open space are critical at all three levels. Planning for social infrastructure and open space requires a strategic approach to location and a thorough understanding of the catchment they will serve. The location of the order of facilities should be reflective of the centres hierarchy outlined in strategic planning documents such as the North District Plan.

As the Precinct spans three LGAs, the social infrastructure and open space requirements for each of the local authorities will need to be coordinated to ensure funding and delivery are optimised. With St Leonards identified as a Metropolitan Centre by the North District Plan, alongside the investment in transport infrastructure, there will be a significant increase in workers and residents to the Precinct. There is an opportunity to consider a series of regional scale social infrastructure and open space facilities associated with this investment.

Consultation

Consultation was undertaken by NSW DP&E and Arup with state and local government agencies to consider likely social infrastructure and open space requirements in the Precinct as well as to identify further analysis and discussions that may be required. Agencies included:

- North Sydney Council
- Lane Cove Council
- Willoughby City Council
- Department of Education and Communities

An evaluation of the capacity of social infrastructure and open space (including trends, usage levels, user preferences, quality, shared/multi use, co-location and any opportunities for augmentation) was discussed. A separate but related analysis of public domain is being undertaken by Gallagher Studios as part of the St Leonards and Crows Nest Station Precinct Land Use and Infrastructure Implementation Plan and has been referenced in this Study.

This Study has focused on a qualitative evaluation based on prior studies, state agency and local council knowledge of the current state of and future needs of these communities as well as the application of benchmarks as they relate to social infrastructure. A summary of the key findings from the consultation process is outlined in Section 6.2.

The assessment of need assumes that existing social infrastructure has no spare capacity to address the additional population growth within the corridor as informed by the consultation process. Where specific needs have not been identified in council or agency studies or through consultation, benchmarks have been referenced to inform opportunities for provision of facilities to support future needs.

NSW D&PE will also consult directly with the local community about their social and open space needs to gain further insights.

Benchmarks

It is widely acknowledged that benchmarks are often outdated or applicable to new communities in greenfield settings. Benchmarks for the consideration for provision of social infrastructure and open space are discussed in Section 6.3.

The limitations of a benchmarking approach are acknowledged and it is anticipated that during further strategic planning of the Precinct that a detailed needs based assessment will be undertaken with knowledge of a projected future community profile. We recognise that when planning for social infrastructure in a renewal area, it is necessary to develop a preferred facility response rather than apply a standard that has been developed for new growth areas.

Section 6.3 identifies benchmark standards outlined by the NSW Growth Centres Commission and the NSW DP&E for the provision of social infrastructure. In the interim, they are a starting point for an ongoing conversation, in particular with service and facility providers.

6.2 Engagement with stakeholders

Engagement with local councils and state government agencies was an opportunity to gain local knowledge regarding the capacity of existing social infrastructure and open space and planning for upgrades or new infrastructure.

Local councils

Overall, there was recognition from local councils that the Precinct itself hosted limited social infrastructure and open space assets, and that existing demand as well as the projected future residents and workers would increase demand for new and upgraded facilities.

Councils provided information on plans for upgraded and new facilities in the Precinct including:

- Gore Hill Park Redevelopment
- The 'Winten Site' - library, plaza, supermarket and carpark on Pacific Highway/Christie Street
- The South St Leonards Masterplan (Lane Cove Council) - open space and social infrastructure
- Hume Street Park - open space, pedestrian upgrades and social infrastructure
- The Crows Nest Placemaking Study - social infrastructure and open space
- Linear parks along Mitchell Street and Oxley Street
- Holtermann Street Car Park. Possible upgrade to include a cultural centre, open space, community garden and car park upgrade.

All councils noted the importance of the creative cluster emerging in the Precinct and stressed the importance of continuing to support the activities of this industry group as it provides opportunities for diversifying the economic base, enables the community (residents and workers) to engage in creative activities including visiting galleries and attending workshops and provides an outlet for local creative expression.

The importance of active and green links between existing and planned facilities was also highlighted. This recognises not only the importance of the facilities themselves, but the benefits that can be achieved through the establishment of a network of facilities for community access. Broader links to active transport networks to Sydney Harbour were also suggested as opportunities for investment.

Childcare is notably deficient, in particular in the North Sydney LGA. The need for after school care was also highlighted and could be provided alongside the development of a new school. Affordable child care options were also discussed. Councils shared experiences of developing Voluntary Planning Agreements with developers for the provision of child care space for not-for-profit child care organisations to operate in commercial buildings.

The provision of libraries, as multi-use, flexible community spaces, was discussed as an opportunity for the Precinct. There was a recognition that multiple functions could be integrated into a library - passive space and programming for youth, programming for digital inclusion and community gathering space.

Interventions such as perimeter paths around recreation facilities like ovals can also provide important facilities for the local community. They provide important layers to 'add value' for specific target groups. Older residents welcome these facilities as they are flat, with a defined path. Parents and carers of children playing sport at ovals found that paths provided an opportunity to undertake exercise.

Opportunities for the Gore Hill Memorial Cemetery to be permeable and enable opportunities for quiet reflection were also identified.

The Precinct was also discussed in the broader context and its relationship with facilities in surrounding areas due to strong existing walking networks. For example, the Naremburn community considered Artarmon Reserve as a part of their community.

The capacity of existing social infrastructure and open space was also discussed.

NSW DEC

Engagement with NSW DEC was undertaken to understand future planning for schools in the Precinct. The Lower North Shore is a high priority area for NSW DEC as the majority of schools are under pressure, with high demand for schools in the Willoughby and Chatswood areas. The recently opened Anzac Park Public School (K-6) in Cammeray is expected to take some pressure off existing schools.

NSW DEC recently acquired the West Street TAFE site in Crows Nest and this site is planned to host an extension of the Cammeraygal High School.

NSW DEC advised that initial pressure from growth in the Precinct is likely to be on primary schools. In areas with high land use constraints, NSW DEC have been exploring a series of models of school provision including sharing of facilities like playing fields with local councils to enable greater utilisation from a series of users. A high level estimate of 1.5 hectares of playing fields is suggested in association with a primary school. NSW DEC have supported funding for the replacement of field with synthetic turf in Lane Cove Council. Further considerations for private school space may need to be considered based on the estimate that 65% of primary school students attend public schools, 35% attend private schools, and for secondary students, 40% attend public schools.

Other agencies

NSW DP&E has undertaken consultation with the following agencies to identify social infrastructure needs:

- North Sydney Local Health District
- Ambulance NSW
- NSW Police Force
- Fire and Rescue NSW.

NSW DP&E undertook consultation with Ministry of Health regarding planning associated with the Royal North Shore Hospital Masterplan. A civic space is proposed as part of the Royal North Shore Hospital Concept Plan process.

6.3 Benchmarks

For the purpose of this Study, benchmarks have been applied to identify an indicative list of needs that can be used as an early guide to the planning of the Precinct. Benchmarking has typically been applied to supporting social infrastructure planning in Sydney's greenfield areas. These processes are well established, however, social infrastructure and open space provision in existing suburban areas experiencing growth and transformation is a relatively new challenge in the Australian context.

The process of understanding social infrastructure needs as a result of urban renewal is not fundamentally different to that applied in greenfield areas, however, there are unique challenges and opportunities associated with existing and changing communities that need to be considered. The importance of understanding the extent and quality of legacy infrastructure and its capacity to help meet existing and future community needs cannot be understated. An in-depth understanding of the role of existing social infrastructure in the transformation is best gained through state government, local government and private sector collaboration and by working with existing communities.

Table 4 identifies benchmark standards outlined by the former NSW Growth Centres Commission, NSW DP&E and the Government Architect NSW for the provision of social infrastructure and open space. It is a starting point for an ongoing conversation, in particular with service and facility providers across government.

As benchmarks and standards are typically applied on the basis of resident population, they do not consider the demands placed by workers and visitors. The City of Sydney Development Contributions Plan for example, has considered the open space needs of workers to the benchmark rate of 20%, of the workforce population.

Table 4 Benchmarks for social infrastructure and open space

Infrastructure type	Benchmark standard	Source
Halls and centres		
Youth centre	1:10-30,000 people	Draft Development Contributions Guidelines (2009)
Multi-purpose community/ neighbourhood centres	Small – 1:3,500-6,000 people Large – 1:15-20,000 people	Draft Development Contributions Guidelines (2009)
Meeting halls	Small – 1:10,000 people Large – 1:20-30,000 people	Draft Development Contributions Guidelines (2009)
Community Service Centre	1:60,000 people	Growth Centres Development Code
Local Community Centre	1:6,000 people	Growth Centres Development Code
District Community Centre	1:20,000 people	Growth Centres Development Code
Libraries		
Library - Branch	1:10,000 people	Draft Development Contributions Guidelines (2009)
	1:33,000 people	Growth Centres Development Code
Library - Central	Central - 1:20-35,000 people	Draft Development Contributions Guidelines (2009)
	District - 1:40,000 people	Growth Centres Development Code
Arts and culture		
	1:30,000 people	Growth Centres Development Code
Child care and education*		
Long day care centres	1: place per 10 children 0 - 4	Lane Cove Children and Family Social Plan (2010 - 2014)
Occasional care centres	1 place: 10 children 0 - 4	Lane Cove Children and Family Social Plan (2010 - 2014)
Family day care	1 place: 10 children 0 - 4	Lane Cove Children and Family Social Plan (2010 - 2014)
Outside of school hours care	1 place; 15 children 5 - 12 years	Lane Cove Children and Family Social Plan (2010 - 2014)

Infrastructure type	Benchmark standard	Source
Health**		
Hospital	2 beds:1000 people	Growth Centres Development Code
Community Health Centre	1:20,000 people	Growth Centres Development Code
Emergency services ***		
Ambulance	Size: To accommodate 12 ambulances	Growth Centres Development Code
Fire Station	Size: 2,000m ² min	Growth Centres Development Code
Police Station	Size: 4,000m ² (for first 10 yrs)	Growth Centres Development Code
Open space and recreation facilities		
Open space (more than 1000m ²) including plazas	Access: 400 m to residents Access: 200 m to residents within high density areas (more than 100 dwellings/ hectare)	Government Architect NSW (initial advice)
Recreation facilities	Access: 1,000m to residents	Government Architect NSW (initial advice)
Regional open space (more than 5 ha)	Access from most homes: 5 - 10km	NSW DP&E (initial advice)
District open space (2 - 5 ha)	Access from most homes: 2km	NSW DP&E (initial advice)
Local - neighbourhood open space (3,000 m ²)	Access from most homes: 400m	NSW DP&E (initial advice)
High density - urban open space (1,500 m ²)	Access from most homes: 200m	NSW DP&E (initial advice)

* Benchmarks for schools have not been cited. Advice from NSW DEC has been considered. It is noted that the market catchments for Lane Cove, North Sydney and Willoughby child care centres do not neatly fit into administrative boundaries. Therefore, application of standards will underestimate demand.

** Benchmarks for health facilities have not been applied to this Study. Advice from Local Area Health District will be provided by NSW DP&E.

***Benchmarks for emergency services have not been applied to this Study. Advice from Local Area Health District will be provided by NSW DP&E.

Benchmarking review - base projections

A review of social infrastructure and open space needs in relation to arts and cultural centres; halls and centres; libraries; child care centres; and open space was undertaken based on the population estimates provided by NSW DP&E (2017). This analysis considers the 'base projections' and utilises the existing age profile of the Precinct as advised by NSW DP&E.

The benchmarking review for 'base projections' to 2036 is based on the residential population projection and age profile breakdown in Table 5.

It is important to note that the results of this review form one part of the analysis for identifying enhancements or new social infrastructure and open space facilities for the Precinct. The benchmarking review was not undertaken for health facilities, schools or emergency services. Advice from relevant agencies has been considered for these facilities. This benchmarking analysis needs to consider existing facilities and planned or proposed facilities and the ways that these may be delivered in context. This is discussed in Section 8. A summary of the benchmark review follows:

- **Arts and cultural centres** | The review highlights the need for an exhibition space/gallery in the Precinct
- **Halls and centres** | A number of halls and centres with multiple functions were identified as required for the Precinct. This includes the need for a district community centre, community centres, small meeting halls, large meeting halls and a youth centre

- **Open space and recreation facilities** | A review of accessibility to existing open space highlights that open space facilities are required across the Precinct. In Character Areas (refer Figure 20) such as St Leonards south west of Park Lane, Centre and Station, Naremburn Residential and Wollstonecraft Residential, access to green open space is lacking. The deficit of active, passive and district open space in the Precinct was highlighted throughout the consultation process.
- **Child care centres** | Specific data on the distinction between long day care centres, outside of school hours care, and pre-schools was not sought as part of this Study. A number of child care facilities across all these functions were identified as required. Information received from consultation highlights that there is high demand for child care facilities in the Precinct, including affordable child care facilities and after school care

Table 5 'Base' population projections to 2036. Source NSW DP&E

Population	Base projections to 2036
Population projection, 2036	25,800
Population growth (2016 - 2036)	10,000
Population, 0-4 years	1,471
Population 5-11 years	1,367
Population 12-17 years	1,651

Facility group	Facility type	Existing facilities within the Precinct	Requirement for additional facility
Arts and cultural centres	Exhibition space/galleries	0	Y
Halls and centres	Local Community Centre	1	Y
Halls and centres	District Community Centre	0	Y
Halls and centres	Youth centre	0	Y
Halls and centres	Small meeting hall	3*	Y
Halls and centres	Large meeting hall	0	Y
Libraries	Library - Branch	0	Y
Libraries	Library - Central	0	Y
Child care and education	Long day care centres	17	Y
Child care and education	Outside of school hours care		
Child care and education	Pre-school		
Open space	Based on accessibility		Y

* places of worship are recognised as providing hire spaces for the community
Legend: Y = Yes, N = No

Benchmarking review - 'mid range residential' and 'high residential target'

A review of social infrastructure and open space needs in relation to arts and cultural centres, halls and centres, libraries, child care centres, and open space was undertaken based on the population estimates provided by NSW DP&E (2017). This analysis considers the 'mid range residential target' and 'high residential target 2036' and utilises the existing age profile of the Precinct as advised by NSW DP&E.

The benchmarking review for 'mid range residential' and 'high residential' to 2036 is based on the residential population projection and age profile breakdown presented in Table 6 and Table 7.

With the additional population estimated in a mid range residential target to 2036 and high residential target/long term, the need for the following additional social infrastructure and open space has been identified:

- **Halls and centres** | Additional community centres were identified as required with additional population in a 'mid range residential target' and 'high residential target/long term' for the Precinct. In addition, for the 'high residential target/long term' scenario, an additional district community centre may be required

- **Child care centres** | Additional child care facilities across long day care centres, outside of school hours care and preschool were identified as required to support additional populations in the 'mid range residential target' and 'high residential target/long term' scenario
- **Open space and recreation facilities** | Additional open space facilities will be required with 'mid range residential target' and 'high residential target/long term' to support greater access to open space in high density areas. Areas planned for further development such as the Centre and Station Character Area (refer Figure 20) in close proximity to the new Metro station will require additional access to open space

Table 6 'Mid range' population projections to 2036. Source NSW DP&E

Population	Mid range projections to 2036
Population projection, 2036	30,200
Population growth (2016 - 2036)	14,400
Population, 0-4 years	1,721
Population 5-11 years	1,601
Population 12-17 years	1,933

Table 7 'High residential target' population projections to 2036. Source NSW DP&E

Population	High residential target projections to 2036
Population projection, 2036	38,600
Population growth (2016 - 2036)	22,800
Population, 0-4 years	2,200
Population 5-11 years	2,046
Population 12-17 years	2,470

Facility group	Facility type	Requirement for additional facility for 'mid range' population in addition to base projection	Requirement for additional facility for 'high residential target' in addition to base projection
Arts and cultural centres	Exhibition space/galleries	N	N
Halls and centres	Local Community Centre	Y	Y
Halls and centres	District Community Centre	N	Y
Halls and centres	Youth centre	N	N
Halls and centres	Small meeting hall	N	Y
Halls and centres	Large meeting hall	N	N
Libraries	Library - Branch	N	Y
Libraries	Library - Central	N	N
Child care and education	Long day care centres		
Child care and education	Outside of school hours care	Y	Y
Child care and education	Pre-school		
Open space	Based on accessibility	Y	Y

Legend: Y = Yes, N = No

7. Proposed upgrades and new facilities

A series of upgrades and new social infrastructure and open space facilities have been identified by Councils for the Precinct to meet the needs of existing and future community, shown in Table 8.

Table 8 Proposed upgrades and new facilities in the Precinct

Facility	Type of facility	Details	Status
North Sydney			
Hume St Park	Park, recreation facilities and community facilities	Council has progressed planning for the Hume Street Park. The upgrade includes new open space (approximately 6,000m ²), pedestrian links, new children's playground, rebuilt child care centre, rebuilt indoor sports centre	Council is pursuing funding, planning for redevelopment/ expansion well advanced
Holtermann St Car Park	Community/ Open space	Includes a cultural centre, open space, community garden and car park upgrade (total of approximately 1,500m ² of additional community and recreation space)	Identified within Council plans, funding not assigned
Co-working space/Innovation Hub	Community/ creative facility	Creative arts space for performing arts and studios Innovation hub/co-working space	Identified within Council plans, proposed as part of a Voluntary Planning Agreement
Childcare centre	Child care facility	60 space child care facility/s	Identified within Council plans, funding not assigned
Ernest Place/Plaza	Open space	In line with the upgrade of Crows Nest village is the Ernest Plaza Public Domain Upgrade. The aim is to extend Ernest Place through to Alexander St to provide a much needed refresh. Further details on North Sydney Council website.	Council prepared tender and construction documents for the Public Domain Upgrade of Ernest Place between Willoughby Ln and Alexander St. Designs and construction started mid-2017. Additional work TBC with Council.
Christie St Reserve	Open space	Proposed design upgrades to improve access to station entry and retain green space	Identified within Council plans, funding not assigned
Linear parks - Mitchell St, Oxley St	Linear parks	Linear parks with opportunity for outdoor dining approximately 2,000m ²	Identified within Council plans, funding not assigned
Crows Nest Plaza	Plaza	Pedestrian only plaza at the end of Willoughby Road approximately 1,000m ²	Identified within Council plans, funding not assigned
Mitchell Street Plaza	Plaza	Public space upgrade, shared zone, identity and character improvements	Project currently underway

Facility	Type of facility	Details	Status
Lane Cove			
St Leonards Plaza Library	Library	1,000m ² Library is proposed via VPA as part of the Winten Site	Proposed as part of the Plaza proposal
Civic Plaza	Plaza	5,000m ² plaza with cafes for activation	Proposed as part of the proposed St Leonards Plaza
South St Leonards	Open space child care facilities	3,800 m ² local park, 1,300 m ² of pocket parks at Marshall Ave, road closures, east - west pedestrian link, 2,400 dwellings, 2 child care centres, 300m ² of community facilities	Proposed by Council
Friedlander Place	Plaza	Plaza connecting ground plan with proposed St Leonards Plaza	Proposed as part of new development
Willoughby City Council			
Gore Hill Park	Recreation facility	Gore Hill Park Concept Plans finalised exhibition: Stage 1 – Reorientation of oval, new youth playground and basketball half court, new shelter and amenities Stage 2 – Multi Use Indoor Sports Complex and car park	Stage 1 funded
Ministry of Health			
Royal North Shore Hospital Concept Plan	Civic space	Details on civic space have not been received	Unknown

8. Recommendations for new facilities in the Precinct

8.1 Guiding principles

A series of guiding principles have been developed to inform the planning for and location of social infrastructure and open space. The principles respond to the drivers of change identified in Section 2.4, respond to development objectives of Metropolitan Centres and recognise that the creative ways of delivering social infrastructure and open space is required in infill development areas.

It is important that the planning and design process for the provision of community facilities and open space should be undertaken to meeting a range of place-specific objectives such as those set out in relevant strategic documents from North Sydney, Lane Cove and Willoughby Councils and the North District Plan.

Social infrastructure

Shared spaces that support functional diversity

School facilities are shared with the community providing space for recreation, markets, arts studios, creative spaces and room for associated administrative requirements.

Opportunities for school halls to be used for community meetings and functions help activate quiet areas outside school hours. Spaces need to be reviewed and are flexible to change with changing community needs. Community facilities can be integrated into development subject to negotiation with developers.

Ideally, shared spaces, streets, public spaces should meet disability standards and support the accessibility needs for people of all ages and abilities.

Libraries as community hubs

The role of libraries will significantly change in the coming years, driven by demographic changes, rising urban migration and technological advances. In the future, libraries will serve more culturally diverse and physically dense communities under the pressure of limited resources. Libraries are flexible spaces, inclusive spaces – welcoming abilities, cultural backgrounds, local and worker communities. Integrating a wider range of public and commercial services into libraries will help them remain vital and relevant to their communities.

Pop up libraries/mobile collections may be implemented to share access to the library's collection. Physical interaction will remain a key demand of users, despite the opportunity for ubiquitous and constant information access offered by technology. Digitally, a library's online presence also serves as a community touchpoint beyond the physical facility. A series of programs can be hosted at the library, including digital inclusion activities, mentoring for youth, arts, integrating cultural and social services and providing space for community events can be incorporated into the design of a flexible, resilient and adaptable central library.

Intergenerational spaces and programs

Community spaces link to the creative cluster of the Precinct and host programs to explore creativity, including workshops to share and develop skills across generations. Spaces and programs to engage older people and support learning, development, activity and socialisation such as outdoor giant chess games in public plaza's, community gardens, art's programs or organised local events. Community meeting places such as the 'Men's Shed' can be promoted. Equitable access to these places will be vital to their success.

Streets as part of the network of social infrastructure

Public art integrated into the public domain provides an opportunity to reflect the local community and emerging creative district in the Precinct.

Stations as places

Social infrastructure is hosted at public transport stations as they are highly connected and accessible and provide spaces for communities to interact.

Education

Mixed use, integral part of the community

Some school facilities and grounds are multi functional spaces, available to be used by the whole community (e.g. playing fields, halls) and ideally located next to open space. Open space should provide for multiple activities and a mix of uses, respectful of scenic/cultural importance.

Supporting facilities may be distributed, connected by the Green Grid

Supporting facilities, such as open playing fields, may not be co-located, but are in close proximity, connected by a safe and enjoyable experience, along the Green Grid. Additional green links and corridors may be enhanced to provide tree canopy coverage to support the Green Grid.

Child care facilities are co-located with schools. After school care is hosted in some school facilities for ease of access by students and carers.

Connected into the active transport network

Schools are located in close proximity to active transport networks, enabling students to walk, cycle or take public transport to and from school. Dedicated safe routes to schools should be provided for within the network (for example, considering footpath maintenance, signage, wayfinding, shade and shelter along a route).

Open space

A network of green spaces, liveable streets and plazas

Focus not just on the quantum of open space provided during urban transformation, but also the quality, diversity and connectivity to local and regional public open space. Open space is considered part of the Green Grid: green roofs - green walls - green streets - pocket parks - communal open space - playgrounds - local parks - district parks/ playing fields - national parks. Open space could include publicly accessible rooftop open space. The quality of streets are an important part of accessibility to parks. Increased tree canopy coverage where possible is vital to supporting the Green Grid network. Climate change resilience considerations will be required for the health and longevity of plant species in open spaces.

Existing facilities are supplemented and enhanced

The strength of existing facilities is built on to provide further opportunities and function to the community. Facilities may provide a range of services and amenities to avoid redundancy in the future. Connections to nearby regional assets outside the Precinct are established or enhanced.

A focus on function

Spaces are flexible to support multiple uses, with functions beyond Monday to Friday. Open space is shared or co-located with schools where appropriate. Ongoing maintenance is supported to ensure quality of space is maintained, and to support programs that are relevant to users. Spaces are activated with programming that responds to community needs, including cultural diversity.

Orientation is important

Consider microclimate, including solar access for quality and attractive spaces and air movement, to reduce effect on thermal environment. Tree canopy within open space networks is considered as part of the infrastructure to reduce urban heat island effect.



Figure 23 Doklab, Delft. Library concept in the Netherlands creating play places for children, allows visitors to choose music, hosts interactive media, involves visitors in actively in creating new stories, hosting diverse offers for the users

8.2 Supporting state and local planning policy

The North District planning priorities will be met through the proposed opportunities to deliver

- New, upgraded or improved social infrastructure that is resilient and flexible, such as additional child care facilities
- Fostering healthy, creative, culturally rich and socially connected communities through increased access to social infrastructure and increased open space
- Protecting/enhancing scenic and cultural landscapes through additional and upgraded public open space
- Supporting the integration of land use and transport through increased accessibility and revised land zoning
- Delivering Green Grid connections and increased canopy coverage through additional and upgraded public open space, including linear parks/green corridors
- Delivering high quality open space opportunities

At a local level, the opportunities proposed will support DP&E and North Sydney Council to deliver the required social infrastructure and open space required to support the local community into the future. Key opportunities have been summarised in section 8.5 with the local planning documents from North Sydney Council, Lane Cove Council and Willoughby Council reviewed with further opportunities identified and detailed in section 2 of this document.

8.3 Social infrastructure and open space needs - base projections

Based on existing facilities, stakeholder engagement, information on existing capacity received from stakeholders and plans and strategies, future population projections, drivers of change, proposed upgrades and new facilities, a series of social infrastructure and open space needs have been identified for the Precinct. Upgrades to existing facilities or new facilities have been suggested in the context of applying the guiding principles.

Arts and cultural centres

The benchmarking review and local councils highlighted the need for one creative or cultural centre. The provision of an arts centre is proposed at 621 Pacific Highway as part of a planning proposal in St Leonards. Voluntary Planning Agreements currently under negotiation also includes Christie Street Reserve to be upgraded and placed in Council ownership, streetscape works and cycling infrastructure.

This Study supports the provision of an art/creative centre proposed at this location. The arts or cultural centre may host a local community centre/small meeting hall functions that were identified as part of the benchmarking review analysis.

In addition, through the consultation process the creative uses currently clustered on Chandos Street were identified as of high value to the Precinct. It is suggested that continuing these creative uses will be important in the future, and affordable studio space, workshop or gallery space may be required.

Halls and centres

A number of halls and centres with multiple functions were identified as required for the Precinct based on the benchmarking review, future population needs and gaps in existing facilities. The need for one district community centre was identified. It is suggested that a district community centre could be hosted through a shared facility like a Central Library or public school hall.

A number of smaller community halls and centres are proposed in the Precinct as outlined in Section 7. These include:

- Holtermann St Car Park upgrade (including a cultural centre, open space, community garden and car park upgrade)
- St Leonards South Berry Road community centre (150m²) and Canberra Avenue community centre (150m²)
- Community space designed as part of Sydney Metro station.

It is suggested that these proposed facilities would be able to provide for the needs identified in the benchmarking analysis for the base projection of future residents in the Precinct to 2036.

The need for a youth space was identified through the benchmarking analysis and the consultation process with local councils. It is suggested that a youth space could be hosted through a shared facility like a central library or an indoor recreation facility.

Libraries

The consultation highlighted that a 1,000 m² branch library is proposed within the Precinct as part of the Lane Cove Council Plaza proposal. There was recognition that with additional population in the Precinct and the role of St Leonards as a Metropolitan Centre, there may be a need for a central library with the flexibility to host a number of programs and spaces (including hall spaces considered under halls and centres) and provide for community needs/services.

In addition to this, the libraries on the periphery of the Precinct may also contribute to the network of library spaces available to the community in the Precinct and provide for the branch facility needs of the additional population for the Precinct.

Child care centres

Child care facilities across long day care centres, outside school hours and pre-school were identified as required, in addition to the two child care centres proposed by Lane Cove Council in the St Leonards South Masterplan. Information received from consultation highlights there is high demand for child care facilities in the Precinct, including affordable child care facilities. Outside of school hours care should be provided in the schools proposed for the Precinct. Long day care centres and pre-schools are increasingly provided by private companies and not-for-profit companies.

Supporting the provision of child care facilities to manage the current shortfall through mixed use zoning within the Precinct is recommended to enable private developers to provide for future demand for child care spaces in the Precinct.

Open space and recreation facilities

New open space, enhanced connections to existing open space within the Precinct and beyond, as well as updates to existing open space facilities have been identified as required to support additional population as part of the base population projections to 2036. A number of proposed upgrades and new open space facilities will support some of the requirements for open space needs of the additional population under the 'base projections' to 2036. These include:

- Christie St Reserve upgrade
- Hume St Park upgrade including new open space, pedestrian links, new children's playground, rebuilt child care centre, rebuilt indoor sports centre, new cinema complex
- Gore Hill Park upgrade including Stage 1 – Reorientation of oval, new youth playground and basketball half court, new shelter and amenities and Stage 2 – Multi Use Indoor Sports Complex and car park
- Ernest Place extension and enhancement
- Holtermann Street Car Park upgrade to include cultural centre, open space, community garden and car park upgrade
- Mitchell St, Oxley St linear parks
- Crows Nest Plaza at the end of Willoughby Road

- Civic Plaza (5,000m²) proposed as part of St Leonards Plaza by St Lane Cove Council
- South St Leonards open space including a local park (3,800m²), pocket parks (1,300m²), road closures at Holdsworth Ave and Berry Road (2,320m²) and an east - west pedestrian link
- Friedlander Place Plaza (approximately 1,500m²)

In addition to these upgrades, the following additional spaces or upgrades are suggested to support the additional population projected under 'base projections' to 2036 based on the accessibility analysis, information received from consultation regarding capacity of existing open space and stakeholder input and engagement:

- Provide additional open space, such as a local park or neighbourhood park in areas of low accessibility, for example in the Naremburn area on the edge of the Precinct
- Provide additional open space through linear parks in areas where low accessibility was identified including Naremburn and Artarmon Employment Area
- Provide additional indoor multi-purpose recreation facility in the Precinct as it is understood that existing facilities, although accessible to people within the Precinct, are currently highly utilised
- Potential to extend existing plans of Hume St Park to enhance quantity of open space in high density areas
- Potential to extend Naremburn Park to increase open space for informal uses and or enhance existing facilities including a playground and small scale active uses e.g. exercise stations
- Enhance existing linear parks for example, Lithgow St, with play facilities or seating

- Enhance Gore Hill Cemetery with lighting, wayfinding and street furniture to provide greater pedestrian permeability through the Cemetery
- Upgrade access through the provision of a walking and cycling path, lighting and street furniture within Talus Reserve
- Provide additional active transport links (cycleways, crossing points and shared paths) to build up active street network to facilities within and beyond the Precinct e.g. links to harbour, links to national parks and links along the Green Grid
- Provide large open space, approximately one hectare, to be developed to support potential new public school within the Precinct. Location to be determined in consultation with NSW DEC and other parties. It is understood that this facility would be a shared facility.

Schools

NSW DEC advised it is likely that population growth in the Precinct would provide pressure on primary schools. The advice from NSW DEC suggests the following needs for schools in the Precinct to meet the needs of the 'base projection' populations to 2036:

- Potentially two primary schools
- Potentially one high school

Locations for these facilities have not yet been identified, however further investigations are being undertaken to determine whether the TAFE NSW St Leonards site may be the right location for a primary or secondary school.

8.4 Social infrastructure and open space needs - mid range and high target/long term

In addition to the upgrades to and new facilities suggested to meet the needs of 'base projection' population to 2036, a series of additional facilities have been suggested that may be required to support populations in the mid range and high target/long term scenarios. These needs have been informed by a review of existing facilities, stakeholder engagement, information on existing capacity received from stakeholders and plans and strategies, future population projections, drivers of change, proposed upgrades and new facilities.

Arts and cultural centres

As population increases in the Precinct, it is recommended that the opportunity for additional arts and cultural centres or multi-functional creative spaces is considered, in addition to the 'base projections'. This will support variety of activity and 'things to do' within the Precinct and increase diversity of social infrastructure. A review may be undertaken by North Sydney Council at a later stage to consider this recommendation.

Halls and centres

Additional community centres were identified as required with additional population in a 'mid range residential target' and 'high residential target/long term' for the Precinct. The additional community centres and meeting halls could be provided through small meeting spaces alongside

the existing and proposed plazas in the area (see Figure 24 to 27 for examples). In addition, for the 'high residential target/long term' scenario, an additional district community centre may be required.

Child care centres

Additional child care facilities across long day care centres, outside of school hours care and preschool were identified as required to support additional populations in the 'mid range residential target' and 'high residential target/long term' scenario. As with the 'base projection' scenario needs, it is expected that these facilities may be provided by private providers. Supporting the provision of child care facilities through mixed use zoning within the Precinct is recommended.

Open space and recreation facilities

Additional open space facilities will be required with 'mid range residential target' and 'high residential target/long term' to support greater access to open space in high density areas. Suggested facilities include:

- New local or neighbourhood parks in areas of higher density
- District level open space including playing fields, playgrounds of approximately 2 - 3 hectares to support additional population. Acquiring a suitable site will be challenging. There may be opportunity to provide this facility in the Artarmon Employment Area.



Figure 24 Melbourne Arbory Bar & Eatery as an example of small installations creating space for community gathering



Figure 25 Parklet pop up, temporary arts studio, San Francisco



Figure 26 Winery Observatory designed by Cumulus Studio in Australia for the Brown Brothers



Figure 27 Pop up meeting space, Co Design Studio, Melbourne

8.5 Opportunities for social infrastructure and open space provision

A summary of social infrastructure and open space that may need to be planned for to address the identified shortfalls arising from the future population and workforce projections for the 'base projection' is presented. This summary is based on a review of the existing context, review of benchmarks and consultation with relevant agencies and service providers.

Existing plans or initiatives identified by state or local agencies have been included, as well as new opportunities that have been identified through this Study. These opportunities have been identified for discussion purposes only and will be subject to further analysis, investigation and consultation with relevant stakeholders.

Existing opportunities identified by state or local agencies

Opportunities for enhancement to or new social infrastructure or open space facilities have been identified by local councils and state government agencies and have been discussed in section 2 of this document. In summary these include:

1. Gore Hill Park Redevelopment
2. Civic Space as part of the Royal North Shore Hospital Masterplan
3. Linear Parks - Mitchell St and Oxley Street
4. Friedlander Place - St Leonards
5. St Leonards Plaza - proposed plaza by Lane Cove Council
6. South St Leonards open space and community facilities

7. Hume St Park
8. Ernest Place enhancement and extension proposed by North Sydney Council (NSC)
9. Holtermann Street Car Park (under investigation by NSC)
10. Christie Street innovation hub/co-working space
11. Christie Street Reserve upgrade (under negotiation by NSC)
12. Mitchell Street Plaza
13. Crows Nest Plaza upgrade (unfunded)
14. 60+ place long day care in St Leonards (location TBA)

The locations of these opportunities and those that follow identified in Table 9 are located in Figure 28.

Table 9 Potential opportunities for social infrastructure and open space

No.	Opportunity	Commentary	Benefits	Challenges
15a	Opportunity for school	TBD with further investigation with NSW DEC and other parties.	<ul style="list-style-type: none"> • Adjacent to large open space • TAFE site forms large site for potential redevelopment 	<ul style="list-style-type: none"> • Gore Hill Park is highly utilised, capacity for public school use is unknown • Strong walking networks need to be established to support connectivity between public transport and school
15b	Opportunity for school	TBD with further investigation with NSW DEC and other parties.	<ul style="list-style-type: none"> • Current land zoning - low density - acquiring land 	<ul style="list-style-type: none"> • Topography is steep, may be challenging for playing ground • Strong walking networks across the Pacific Highway would be required to enable access to open space and access to public transport (pedestrian link across the Pacific Highway would be required)
15c	Opportunity for school	TBD with further investigation with NSW DEC and other parties.	<ul style="list-style-type: none"> • Adjacent to large open space that may be developed at this location 	<ul style="list-style-type: none"> • Topography is steep, may be challenging for playing ground • Acquisition of land surrounding parklands will be costly • Strong active transport links between new dwellings and proposed location would need to be developed
15d	Opportunity for primary school in the Health Precinct	TBD with further investigation with NSW DEC and other parties.	<ul style="list-style-type: none"> • Adjacent to large open space • Engagement with Ministry of Health is required to discuss integration with current plans 	<ul style="list-style-type: none"> • Gore Hill Park is highly utilised • Planning process requires alignment between agencies
16	Enhancement to wayfinding, lighting and street furniture in the Gore Hill Cemetery	Provide greater permeability to the Cemetery, and provide more opportunities for pause and reflection	<ul style="list-style-type: none"> • Open space in close proximity to the St Leonards Centre • Enhance pedestrian permeability in the area • Enhancing existing assets 	<ul style="list-style-type: none"> • No challenges identified
17	New indoor multi - purpose recreation facility	High demand for indoor recreation facilities. This may include a Youth Centre	<ul style="list-style-type: none"> • Opportunity to bring activity into the edge of Artarmon industrial area 	<ul style="list-style-type: none"> • Walking and cycling networks to connect Centre and Artarmon will need to be enhanced

No.	Opportunity	Commentary	Benefits	Challenges
18a	Central library facility	Opportunity to extend current proposal of library at St Leonards Plaza to a Central Library facility: multi use, flexible library space hosting learning, lending, services and gathering	<ul style="list-style-type: none"> Space provides for multiple target groups - older, younger, families, and community space Opportunity to utilise plaza space for community facilities from the library to 'spill out' onto the plaza 	<ul style="list-style-type: none"> Management and sharing of services and facilities across Council areas would require coordination
18b	Central library facility or additional branch facility for 'mid range' to 'high target/long term' scenario	Opportunity to consider library as part of the community space being designed as part of the Sydney Metro station. Central Library facility: multi use, flexible library space hosting learning, lending, services and gathering and other community uses (amphitheatre/theatre for events)	<ul style="list-style-type: none"> Space could provide for multiple target groups - older, younger, families, and community space High accessibility to social infrastructure, adjacent to Metro Station Could be considered as an ancillary service to library facility proposed at St Leonards Plaza Could host a district community hall for the 'high target/long term' scenario 	<ul style="list-style-type: none"> Management and sharing of services and facilities across Council areas would require coordination
19	Enhancement active networks, following the Green Grid	Enhance green space through public domain improvements, street trees, shared paths and bicycle lanes following the Green Grid	<ul style="list-style-type: none"> Provides connectivity between the Precinct, national parks and the waterways 	<ul style="list-style-type: none"> No challenges identified
20	Potential extension to Hume St Park plans	Opportunity for extension of current Hume St Park plans for greater provision for open space in the area	<ul style="list-style-type: none"> Opportunity to extend green open space in area proposed for high density 	<ul style="list-style-type: none"> High costs of acquisition of land may be prohibitive Potential complexity with substation location - new substation unlikely to be relocated
21	Additional open space, potential to be delivered through linear parks	Low accessibility to open space in Naremburn was identified	<ul style="list-style-type: none"> Provide access to open space through additional green space 	<ul style="list-style-type: none"> High land values present challenges to acquiring land for open space
22	Supporting creative uses	Provide affordable studio space or workshop and gallery space to support creative cluster in addition to existing proposal	<ul style="list-style-type: none"> Support existing creative cluster 	<ul style="list-style-type: none"> Engagement with developers for provision of space and ongoing management will be required
23	Active transport links to harbour	Link existing regional spaces and waterways with pedestrian and cycling links	<ul style="list-style-type: none"> Provide greater walking networks to existing open space 	<ul style="list-style-type: none"> Challenging crossing locations at points due to high traffic and topography
24	Potential extension to Naremburn Park	Extend Naremburn Park to increase open space for informal uses and or enhance existing facilities including playgrounds and small scale active uses including exercise stations	<ul style="list-style-type: none"> Enhance existing open space, increase canopy coverage 	<ul style="list-style-type: none"> High costs of acquisition of land

No.	Opportunity	Commentary	Benefits	Challenges
25	Enhancement active networks, following the Green Grid	Enhance green space through public domain enhancements, street trees, shared paths and bicycle lanes following the Green Grid	<ul style="list-style-type: none"> Provides connectivity between the Precinct and the waterways 	<ul style="list-style-type: none"> No challenges identified
26	Enhancements to public domain and inclusion of local parks to support worker population	Enhance green space through public domain enhancements, street trees, shared paths and bicycle lanes to provide better connections to St Leonards Centre. Provide additional local parks to support worker population	<ul style="list-style-type: none"> Provides connectivity between commercial area and accessibility and amenities provided in St Leonards Centre 	<ul style="list-style-type: none"> No challenges identified
27	Support fine grain on street retail and high amenity public domain	Enhance amenity for worker population through greater activity at the street level. Enhance public domain and connections to St Leonards Centre. Potential to provide studio space to encourage small to medium enterprise activity in the health and education precinct	<ul style="list-style-type: none"> Provides connectivity between commercial area and accessibility and amenities provided in St Leonards Centre 	<ul style="list-style-type: none"> No challenges identified
28	Additional play/recreation space	Provide new recreation space: local neighbourhood park (approx. 3,000m ²)	<ul style="list-style-type: none"> Provides access to active open space in area of deficiency 	<ul style="list-style-type: none"> Property acquisition required to support provision of active open space
29	Provide a new active linear park link	Provide a north-south connecting linear park, potentially along Mitchell Street and/or Oxley Street with seating and lighting etc. Provide for active recreation space/picnic space/ play equipment	<ul style="list-style-type: none"> Provides access to active open space in area of deficiency 	<ul style="list-style-type: none"> Location TBC
30	New district open space for a 'high target/long term' scenario	Playing fields and other related active uses including playgrounds for a supporting a broad range of children's ages. Approximately 2 to 3 hectares	<ul style="list-style-type: none"> Provide access to district level open space for additional forecast population 	<ul style="list-style-type: none"> Property acquisition required to support provision of active open space Finding a suitable site may be challenging. Suggested location is Artarmon Employment Area
31	Enhancements to Talus Reserve	Upgrade access and walking and cycling paths, lighting and street furniture	<ul style="list-style-type: none"> Provide improved pedestrian links to open space in the area 	<ul style="list-style-type: none"> No challenges identified
Precinct wide	Support child care facilities in mixed use development	Support the provision of child care facilities in the area	<ul style="list-style-type: none"> Provides access to child care facilities in the area 	<ul style="list-style-type: none"> Provision of affordable child care remains challenging in the area
Precinct wide	Increase tree canopy coverage across the Precinct	Seek locations to provide increased street trees and protect existing mature trees	<ul style="list-style-type: none"> Support the Green Grid Reduce urban heat island impact Provide shade and shelter for walkers/cyclists Increase amenity 	<ul style="list-style-type: none"> No challenges identified

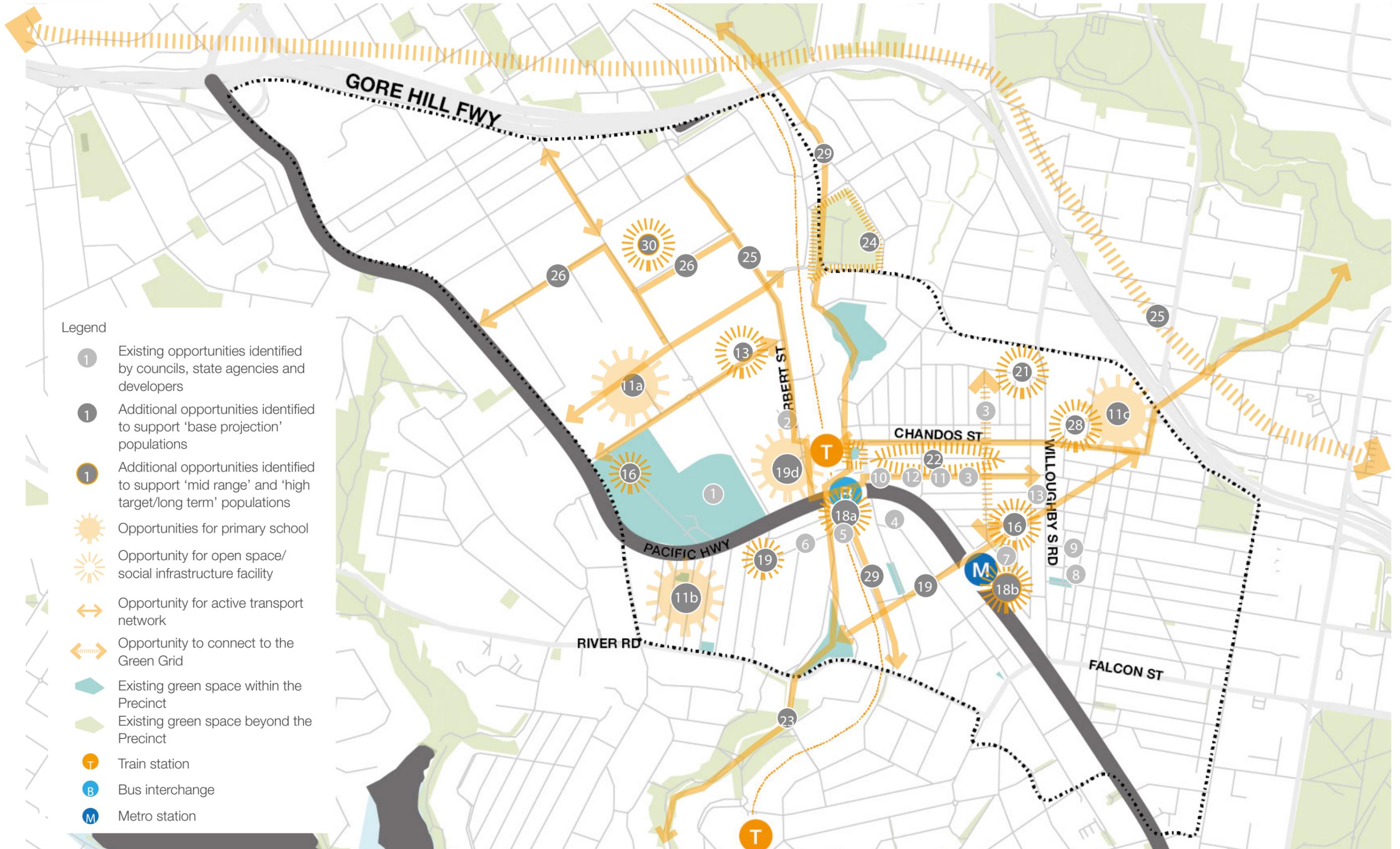


Figure 28 Opportunities for social infrastructure and open space facilities in the Precinct

9. Conclusion

9.1 Conclusion

A summary of social infrastructure and open space that may need to be planned for to address the identified shortfalls arising from future population and workforce projections has been presented in this Study. This summary of opportunities is based on a review of the existing condition, a review of benchmarks and consultation with relevant agencies and service providers.

Planning and provision of social infrastructure and open space should be undertaken in accordance with the guiding principles described within this Study and should include further consultation with relevant agencies, including state and local government agencies and service providers.

9.2 Next steps

To ensure social infrastructure and open space is delivered to support the future population growth and their needs, the following further work is recommended:

- Ongoing engagement with state delivery authorities, councils and other stakeholders to inform more detailed social infrastructure planning, funding and delivery across the Precinct
- Explore opportunities to fund open space enhancements to existing facilities beyond the Precinct as part of the Land Use and Infrastructure Implementation Plan (LUIIP). Active transport links would need to be enhanced to ensure existing open space is highly accessible
- Undertake a comprehensive evaluation of the capacity of the existing social infrastructure
- Integrate suggested social infrastructure and open space into the Special Infrastructure Contributions system and local contributions plans to ensure delivery
- Prepare a consolidated and comprehensive future social profile to understand the potential particular needs of the new residents, workers and visitors within the Precinct based on indicative age profile and other key demographic indicators
- Identify and engage with the privately-operated community facilities operating within and servicing the Precinct to determine their level of contribution to addressing existing and future needs
- Continue tracking of population and worker growth, community needs, infrastructure capacity and provision and the staging of development to ensure timely implementation is realised and the needs of the existing and emerging community are addressed
- Identify locational criteria for new community facilities to reinforce accessibility by public transport and to reinforce the hierarchy of centres in the Precinct

ARUP