

Ingleburn Precinct

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Figure 1: Report Structure

Introduction

Purpose of the Land Use and Infrastructure Analysis

This Analysis forms part of the Glenfield to Macarthur Land Use and Infrastructure Implementation Plan and describes the methodology and evidence base that informed the vision and projected growth for the Ingleburn precinct. Applying the principles of ecologically sustainable development has been intrinsic to this process.

The Analysis has incorporated a review of the character, demographics and economy of Ingleburn.

A comprehensive audit of the precinct's environmental and built form characteristics identified areas to be protected and unconstrained land suitable for development.

The vision and growth projections for the precinct have been informed by economic feasibility and market demand analysis and reflect the long term housing and employment needs for the area.

Recommended improvements to the transport network aim to encourage more people to walk, cycle and use public transport for local and regional trips.

Improved connections to ecological corridors and open spaces have been identified and recommendations made to improve the quality of open spaces and the public domain.

A summary of the infrastructure requirements to support the precinct's growth is also provided to guide more detailed service and infrastructure delivery investigations.

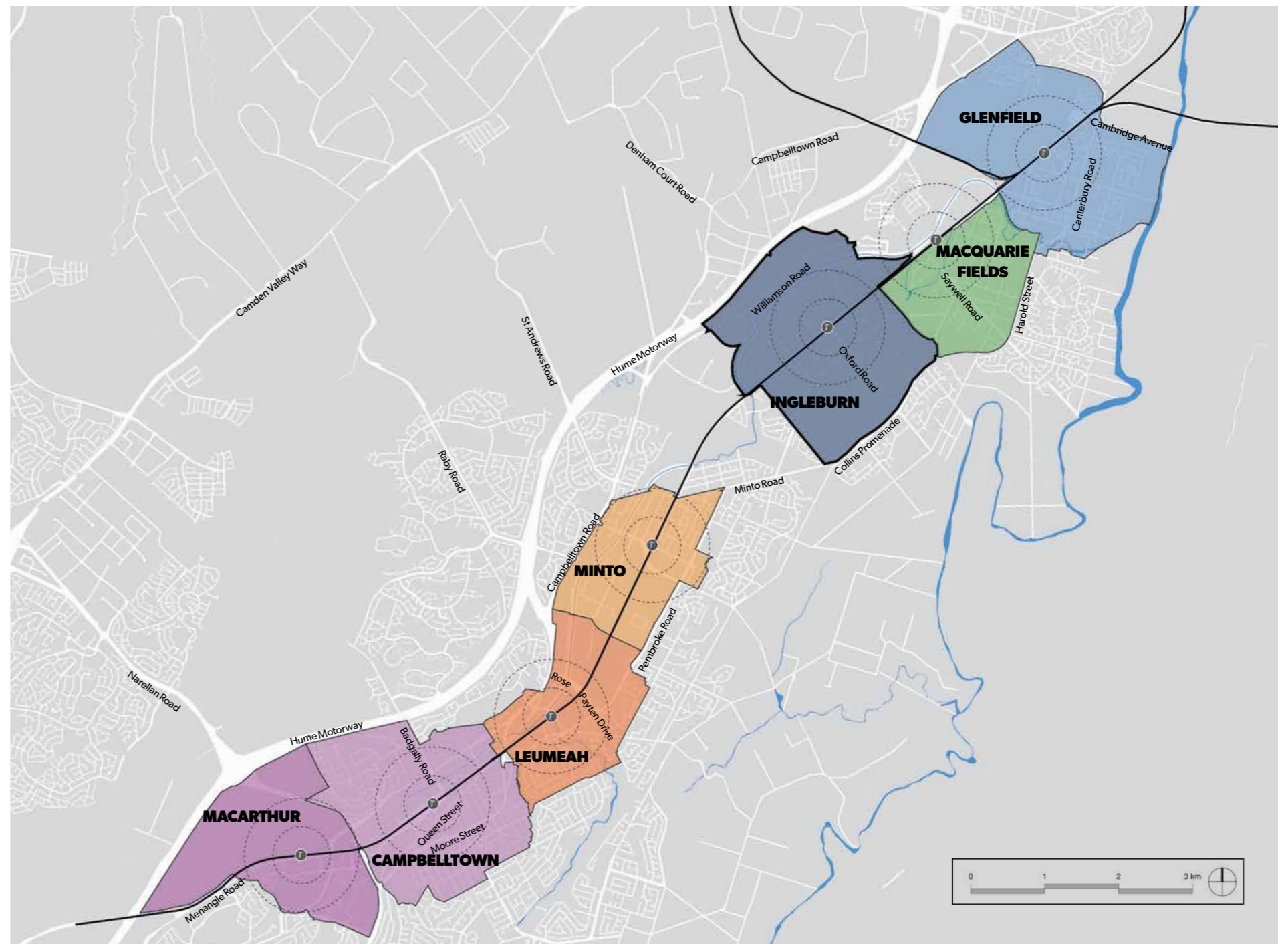


Figure 2: Glenfield to Macarthur Urban Renewal Corridor

Precinct Character

The Ingleburn precinct is bound by Henderson Road in the north, Collins Promenade to the east, Sackville Road to the south and the Hume Highway to the west.

The boundary of the precinct is based on a radius of 800m–1.5km from Ingleburn Station, which represents a 10–20 minute walking trip.

Ingleburn is located 34 kilometres south-west of Sydney between Macquarie Fields and Minto. The precinct is serviced by the Cumberland, Inner West and South Line and Airport Line.

The precinct is the primary commercial and retail centre at the northern end of the corridor. The station serves as the focal point for the precinct, with the town centre located immediately adjacent to the station. The precinct also contains an important industrial area servicing the broader south western Sydney area.

Oxford Road serves as the main shopping strip in the precinct comprising low scale retail shops and commercial offices, generally 1-2 storeys in height. Significant areas of at-grade car parking also feature in the town centre.

Outside the main commercial area, the majority of land to the east of the station is low rise residential, comprising 1-2 storey buildings. A small number of medium rise developments are located close to the town centre.

The precinct has a significant east-west divide with industrial land uses dominating the western side of the rail line and residential, retail and commercial uses the eastern side. There are limited connections between the eastern and western sides of the precinct.

The western side of the precinct is dominated by a range of industrial land uses, with a small scattering of low density detached housing, open space and the Ingleburn Bowling Club located close to the station. Bunbury Curran Creek runs through the industrial areas as a concrete canal.

Macquarie Road, Cumberland Road, Ingleburn Road and Oxford Road form the main spine of the road network. The eastern side of the precinct has a relatively fine grained street network, while on the western side the road network is a large block structure as a result of the industrial land uses.

An aerial image of the precinct is provided in Figure 3. A series of photos that illustrate the existing built form and character of the precinct are provided on Page 7.



Legend		Key Landmarks	
	Precinct Boundary	1	Bunbury Curran Creek
	Station	2	Bow Bowling Creek
	Train Line	3	Ingleburn Memorial Oval
		4	Oxford Road Town Centre
		5	Redfern Creek
		6	Treelands Walk
		7	Koala Walk Reserve
		8	Edna Reserve

Figure 3: Ingleburn precinct, with key landmarks identified

Demographics and Economy

Demographics

Ingleburn is the most populated precinct in the Glenfield to Macarthur corridor. As at June 2016, there were 3,587 dwellings in the precinct, with an estimated population of 9,100 people. The precinct contains more than 20% of the population of the corridor. Key characteristics of the precinct population include:

- ▶ A larger proportion of adults in their 50s and early 60s and fewer young adults in their 20s and 30s compared to Sydney as a whole resulting in a higher median age than both the corridor and broader Sydney
- ▶ A lower proportion of separate dwellings than Campbelltown LGA
- ▶ A greater proportion of semi-detached and townhouse dwellings than Campbelltown LGA and Sydney
- ▶ A lower proportion of families consisting of parents with children than Campbelltown LGA and Sydney as a whole
- ▶ A higher proportion of lone person households compared to both Campbelltown LGA and Sydney

- ▶ A smaller than average household size than both Campbelltown LGA and Sydney, at 2.56 persons per household
- ▶ A higher proportion of dwellings are owned outright or with a mortgage compared to other parts of Sydney
- ▶ The majority of residents travelled to work by car, in 2011, and just over a quarter travelled to work by train.
- ▶ A higher proportion of residents born overseas than Campbelltown LGA but a smaller proportion than Sydney. The top three countries of birth other than Australia include India, Philippines and England

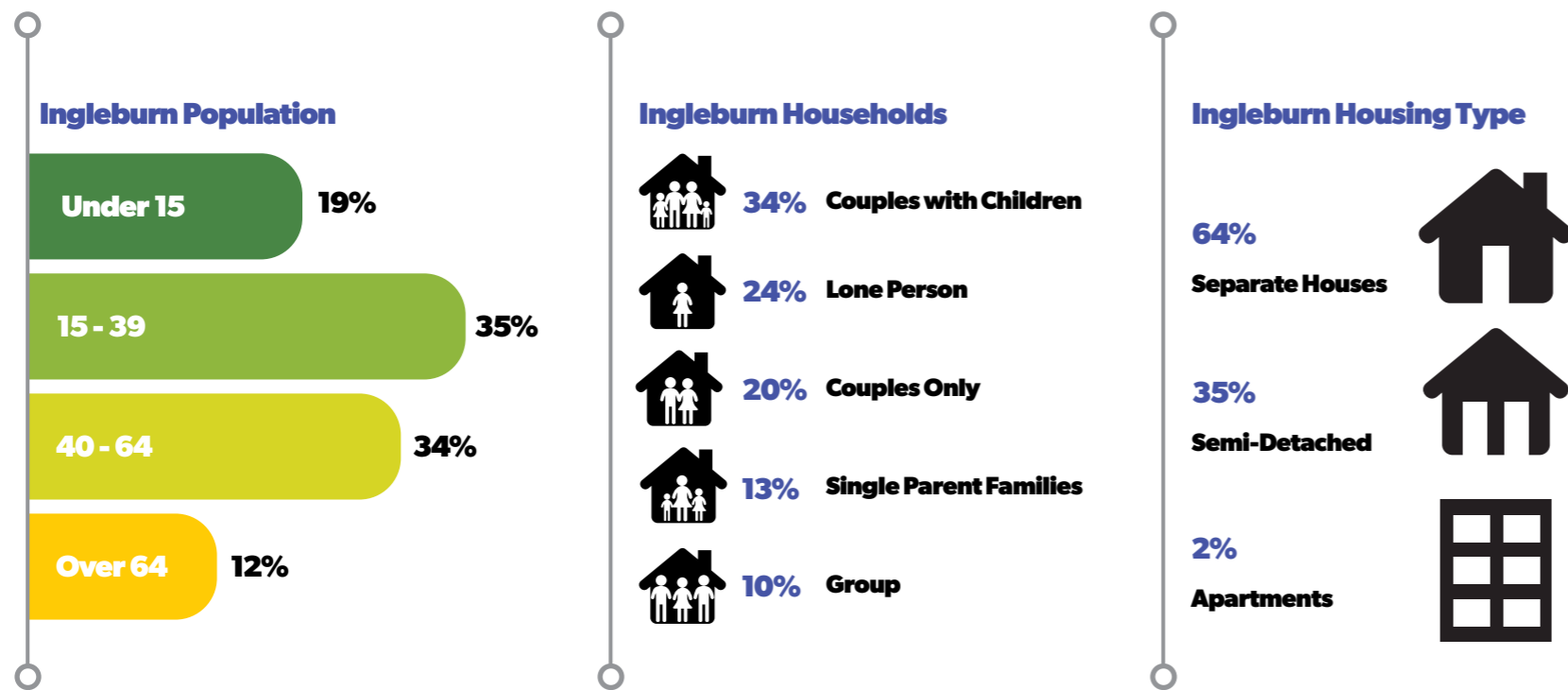


Figure 4: Key demographic facts for the Ingleburn precinct

Economy

Ingleburn is a major employment centre that accommodates a diverse range of jobs. In 2011 there were 10,250 jobs in the precinct.

Industrial jobs are the dominant form of employment with the precinct being a major industrial centre for the region and the broader south western Sydney area.

The precinct has a large and diverse industrial sector which ranges from lighter industries, including warehousing and local services, to more heavy manufacturing, including food processing and metal fabrication.

The precinct also provides for a range of retail and business jobs, attributed to the precinct's position as the primary commercial centre in the northern end of corridor.

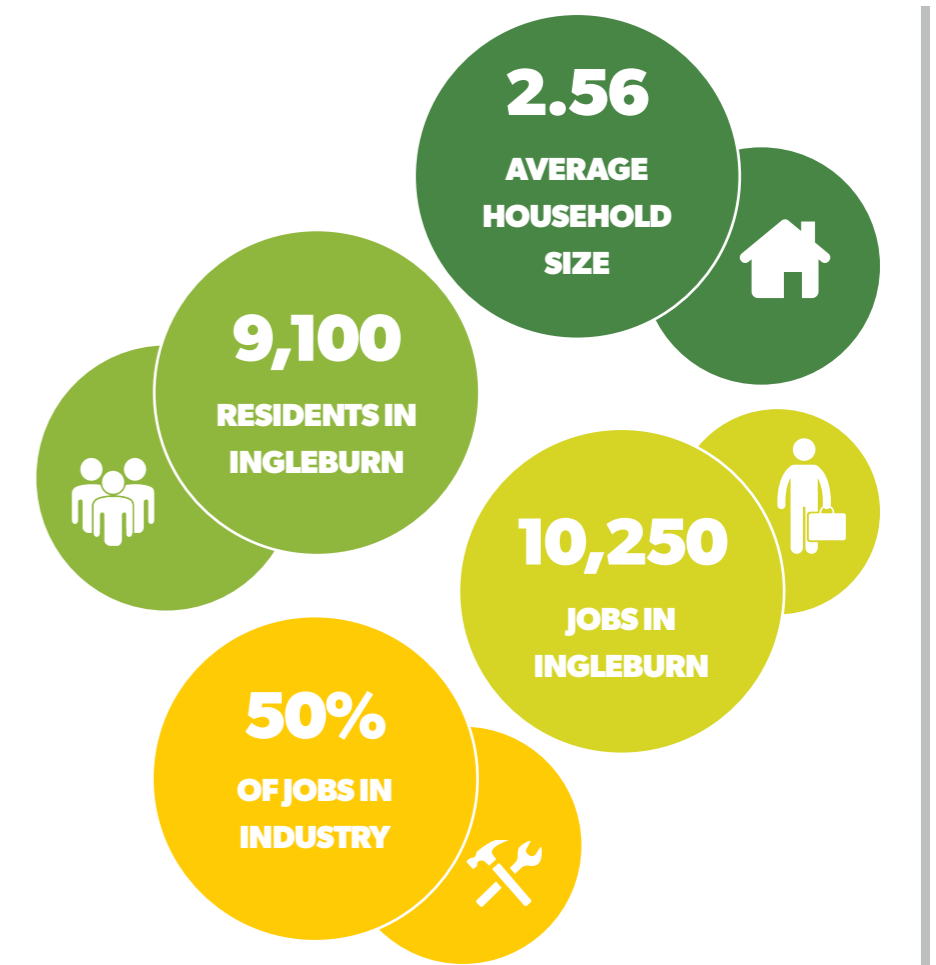


Figure 5: Key demographic facts for the Ingleburn precinct

Constraints Analysis

This section is an assessment of the constraints within the precinct. The physical characteristics of the precinct have been mapped and analysed to identify constrained and unconstrained sites for renewal. These characteristics include: transport and movement; open space; topography; flooding; vegetation; bushfire risk; heritage; recent residential development; land ownership; and social infrastructure.

The combination of these elements reveal the overall level of development constraint within the precinct. However, not all constraints that are identified are necessarily barriers to change, often they are opportunities for renewal in the future.



Figure 6: Images demonstrating the existing character and built form of the Ingleburn precinct

Site Context

Transport and Movement

Cumberland Road and Collins Promenade/Harold Street serve as the primary north-south access ways in the precinct, while the Hume Motorway and Campbelltown Road provide the main regional routes for through traffic in the area. East-west access points include Oxford Road and Chester Road, as well as Macquarie Road which is one of the major gateways into the precinct.

The eastern half of the precinct from Cumberland Road contains a poorly connected local road network, featuring a number of culs-de-sac that create barriers to vehicular and pedestrian movement, particularly in an east-west direction. Barriers to this movement include Redfern Creek, Ingleburn High School, Holy Family Primary School, and a number of linear open spaces.

There are limited connections over the rail corridor. The rail corridor separates vehicular movements between industrial uses on the northern side and the town centre and residential uses on the southern side of the rail corridor. The precinct also experiences high demand for commuter and retail car parking within the town centre.

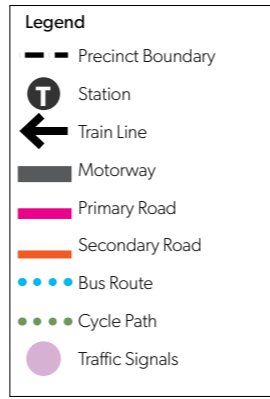


Figure 7: Transport and movement within the Ingleburn precinct

Walking Catchment

Figure 8 below demonstrates the 5, 10 and 20 minute walking catchments from Ingleburn station. Pedestrian and cycling accessibility is greatly restricted by the rail corridor and the lack of dedicated and signalised crossings along Oxford and Cumberland Roads, particularly near the schools and public open spaces.

There are also a number of local streets with limited street lighting and pedestrian footpaths that further restrict active modes of transport.

The rail line forms a separation of vehicular movements between industrial uses on the northern side and the town centre and residential uses on the southern side of the rail corridor. This restricts accessibility to the town centre from the arterial road network.

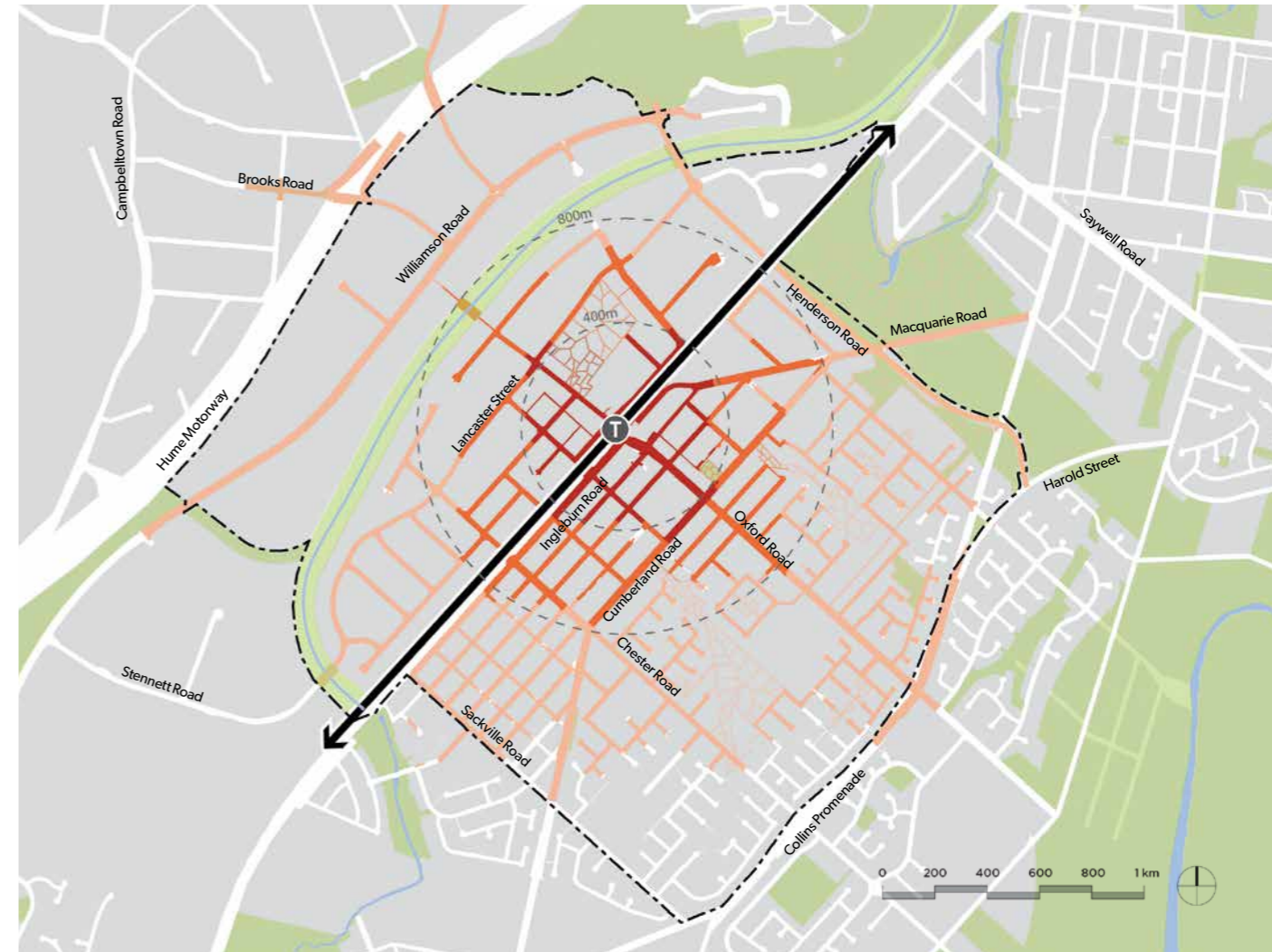
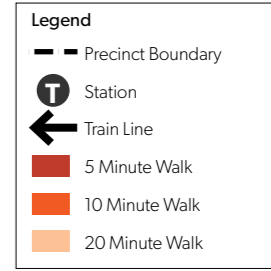


Figure 8: 5, 10 and 20 minute walking catchment within the Ingleburn precinct

Open space network

Ingleburn has a reasonable supply of passive and recreational open space within the precinct. There are a number of local community parks, as well as large tracts of natural vegetation and bushland that surround the precinct.

The precinct has a number of small passive parks and reserves, including Koala Walk Reserve and Edna Reserve. Wood Park and Memorial Oval are the only open space in the precinct large enough for sports and other active recreation.

The precinct is surrounded by regionally significant open space, with both recreational and landscape value, including Milton Park outside the precinct to the north-east and Georges River Reserve to the east.

Although not within the precinct, Milton Park is located close to the town centre and provides significant recreational opportunities and potential for improved connections.

Figure 9 identifies the location of recreational and passive open space in the precinct.

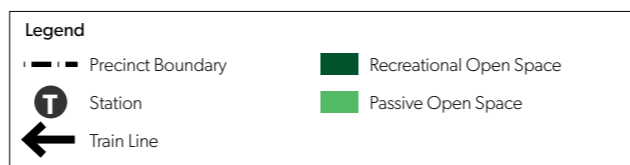


Figure 9: Open space network in the Ingleburn precinct

Site Context

Topography

The topography within the precinct is undulating with a high point in the east of the precinct around Cumberland and Oxford Roads. The far eastern half of the precinct has gentle undulating rises that then slope down to the east to the Georges River and Reserve.

The rail corridor sits in the lowest point of the precinct, with a relatively flat area to the west of the rail corridor in the employment area.

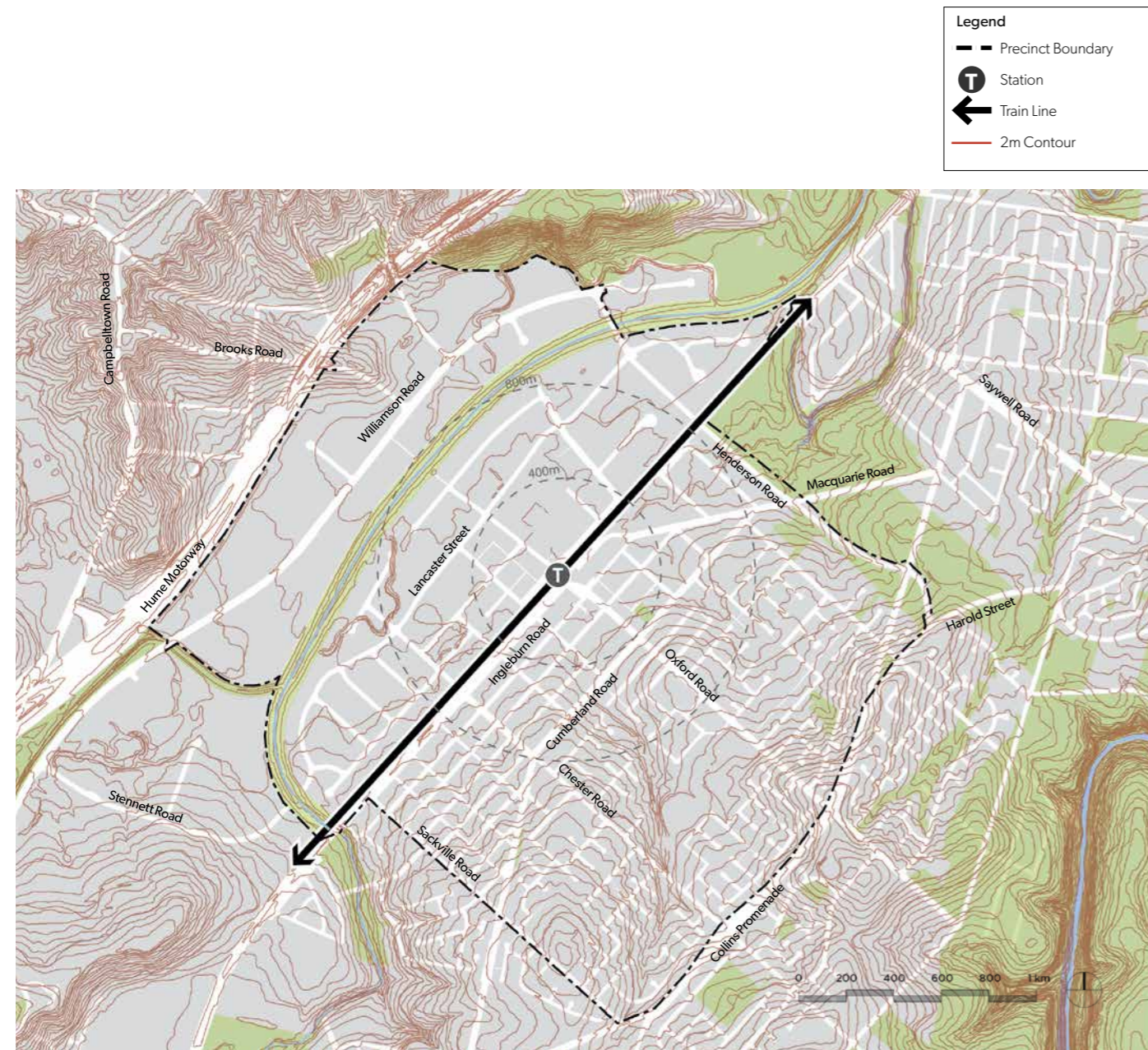


Figure 10: Topography within the Ingleburn precinct

Flooding and Drainage

Figure 11 shows the location of waterways and associated riparian corridors in the precinct.

Campbelltown City Council is currently preparing a Floodplain Management Plan to identify areas subject to flooding. Once finalised, this Plan will be used to manage flood risk and inform future planning for the precinct.

Any development of land within the precinct will need to consider whether the land is flood prone and address any relevant flooding control.

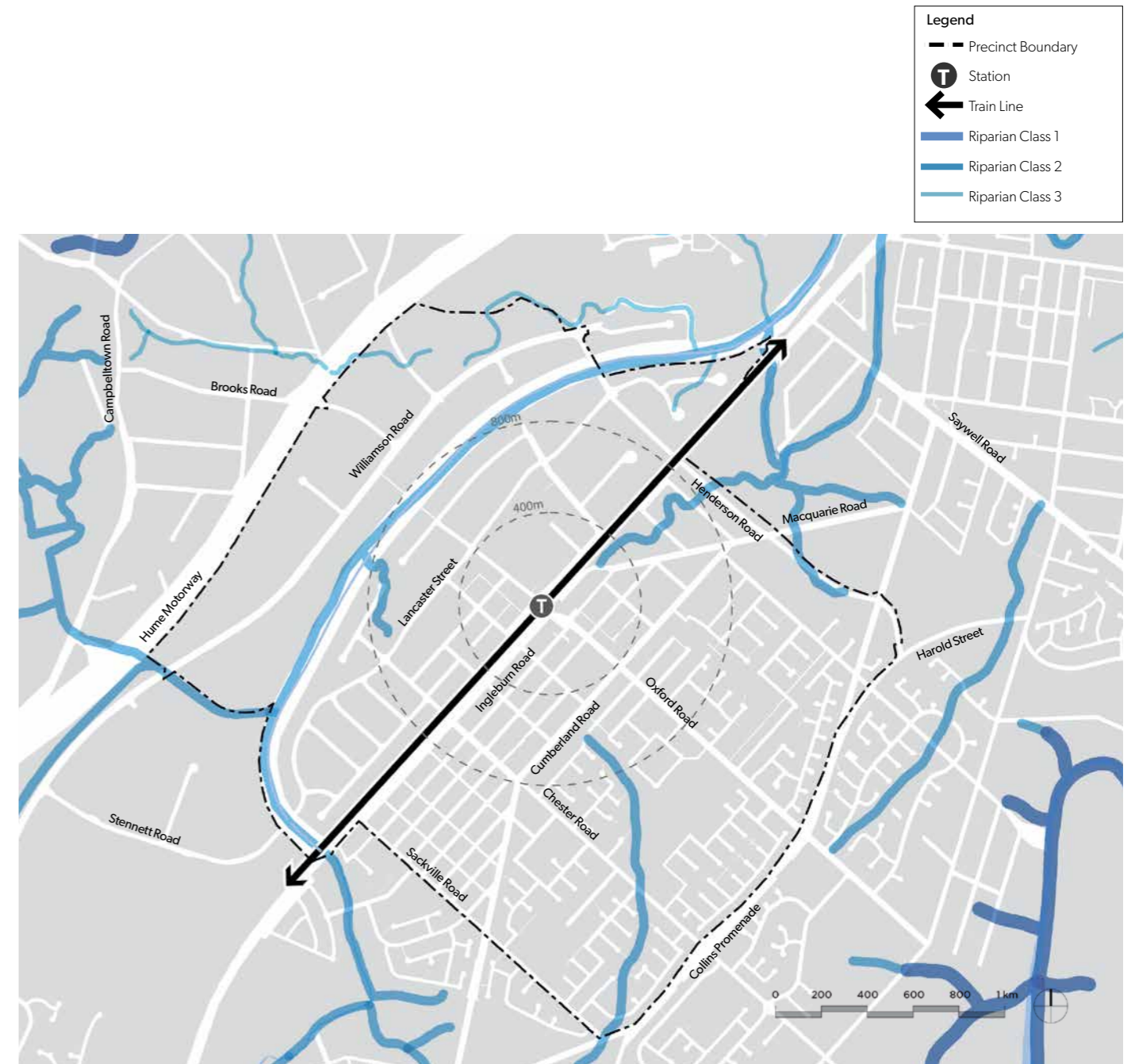
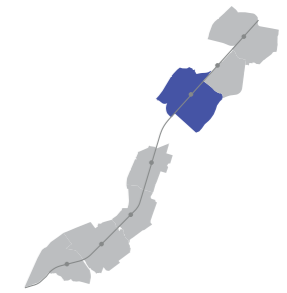


Figure 11: Riparian Corridors and waterways within the Ingleburn precinct



Vegetation and Ecology

The precinct contains some small dispersed areas of vegetation that are classified as Endangered Ecological Communities under the *Threatened Species Conservation Act 1995*. These include areas of Cumberland Plain Woodland and River Flat Eucalypt Forest on Coastal Floodplains.

Most of the vegetation is on the eastern side of the precinct, and is predominately located in riparian corridors and open space.

Riparian corridors are also identified in Figure 12 below, and these are largely co-located with significant areas of natural vegetation.

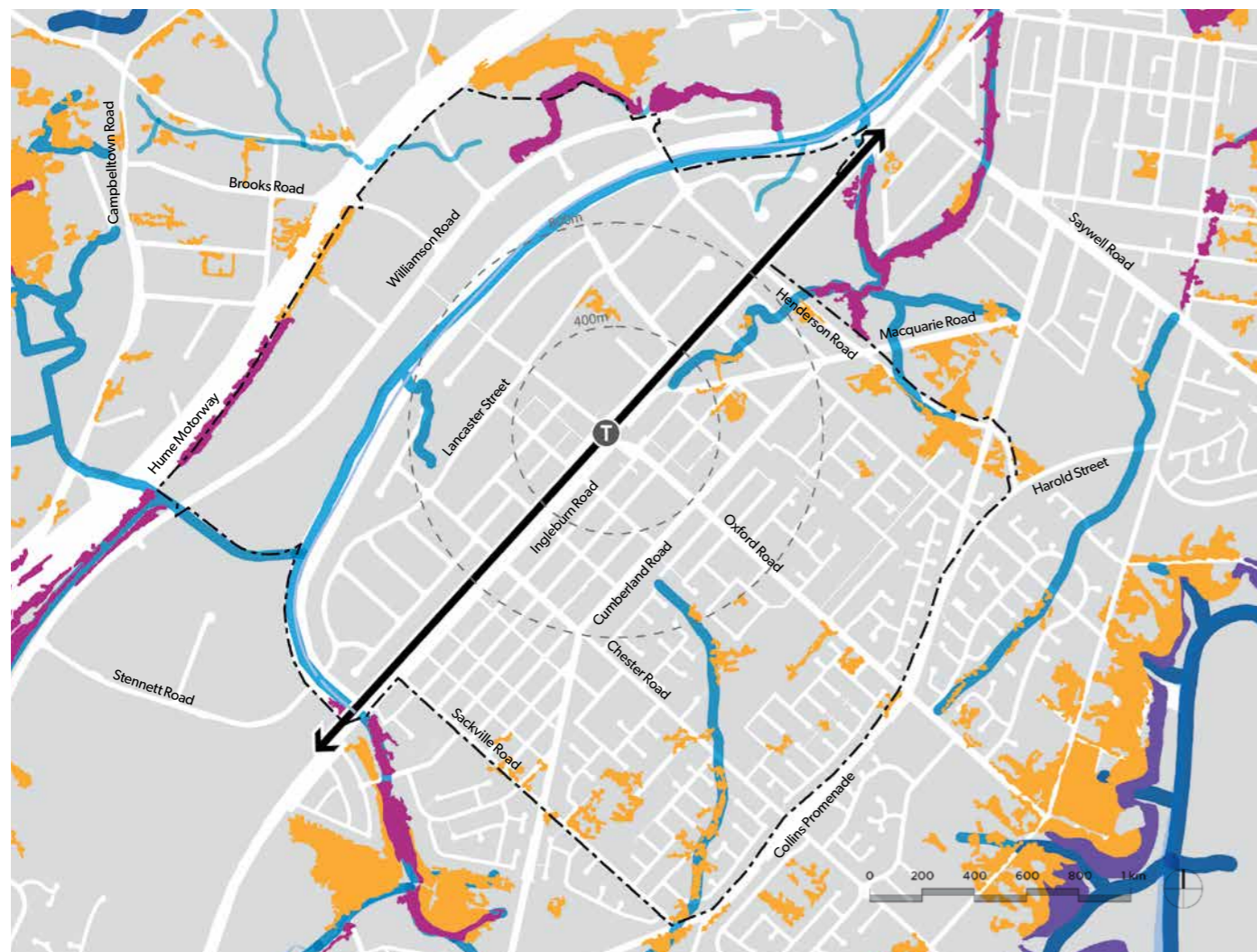
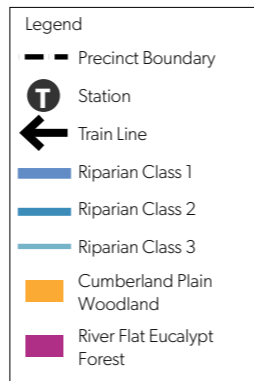


Figure 12: Vegetation and ecology within the Ingleburn precinct

Bushfire Risk

Due to the relatively small amount of existing vegetation and urban nature of the precinct, there is a relatively small amount of land that is subject to bushfire risk. Much of the land is to the north and southern perimeters of the precinct in existing open spaces.

Any redevelopment of land within these bushfire prone areas will need to provide the required asset protection zones in accordance with relevant bushfire protection guidelines.

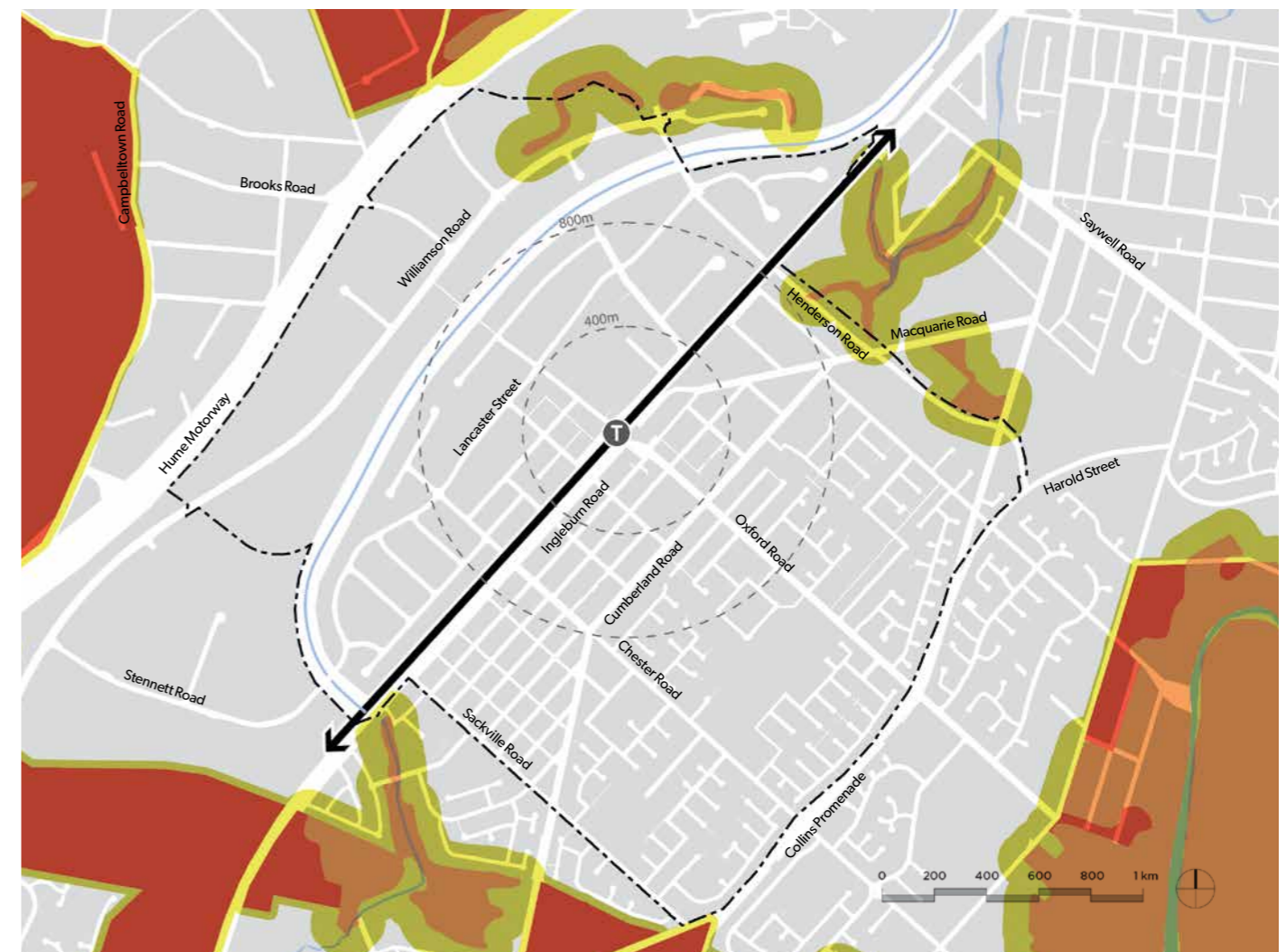
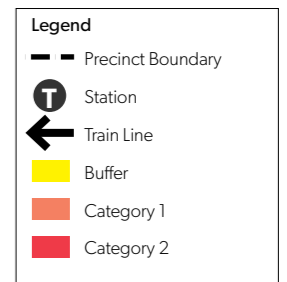


Figure 13: Areas of bushfire risk within the Ingleburn precinct

Site Context

Heritage

The precinct contains relatively few heritage constraints. There are five local heritage items, all located in the eastern half of the precinct.

The Pines is a childcare centre that has been established in a heritage Federation house with aesthetic and architectural value, while Boronia and Woodcrest are similarly Federation Houses that have historic, social and architectural value. Ingleburn Public School and Ingleburn Community Hall are also local heritage items.

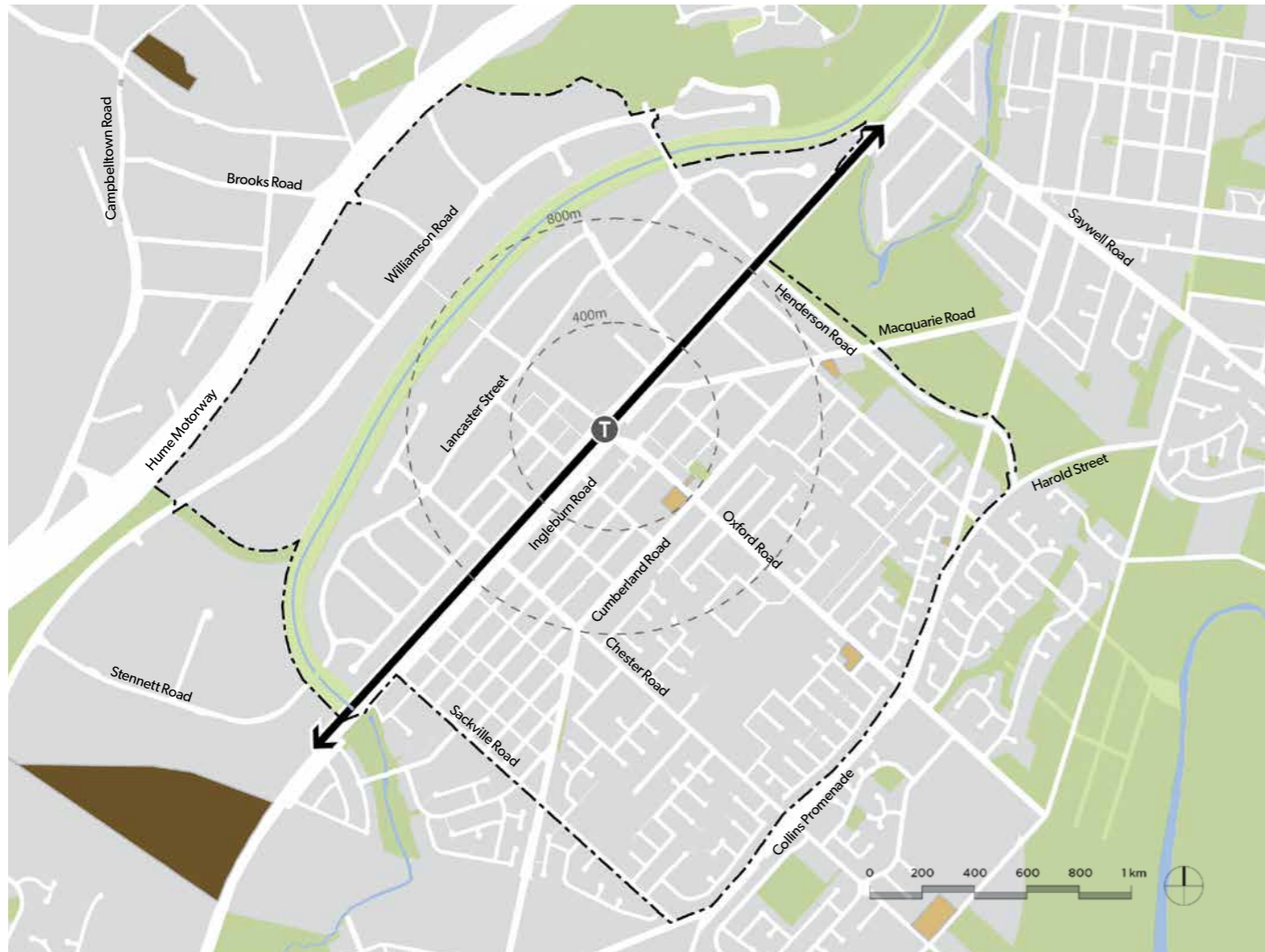
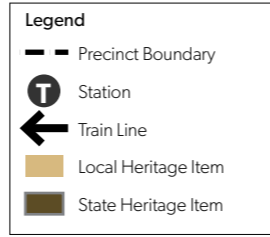


Figure 14: Heritage items within the Ingleburn precinct

Recent Residential Development

Analysis of recent residential development over the last 15 years indicated that incremental low rise development has occurred throughout the precinct. Figure 15 below illustrates where this development has occurred.

There is only a minimal amount of recent development that has occurred in the precinct, and largely in a dispersed manner on single lots or over a few amalgamated lots. This provides opportunities for a large number of sites in the precinct to be redeveloped over the next 20 years due to the condition and age of the existing building stock.

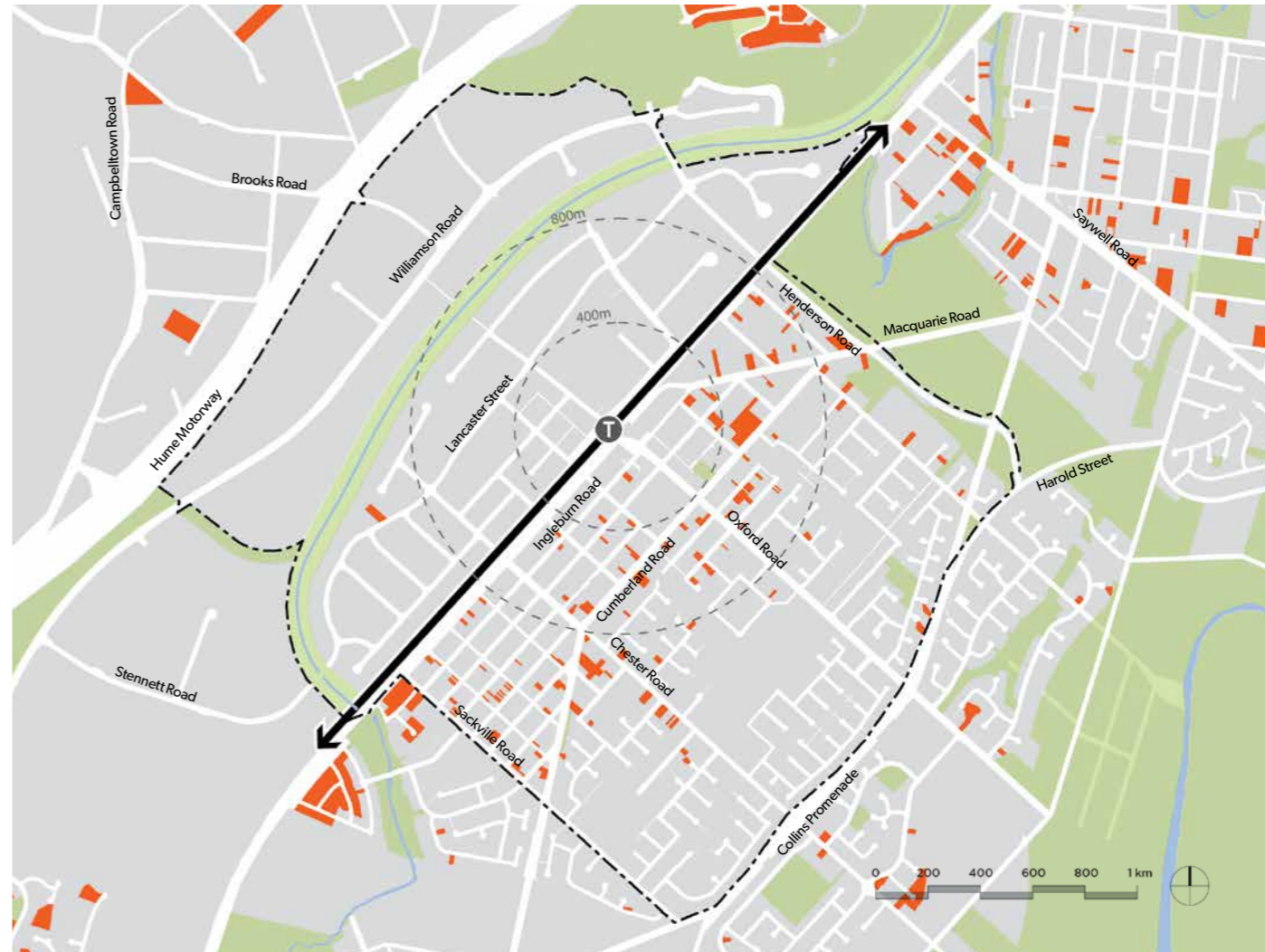
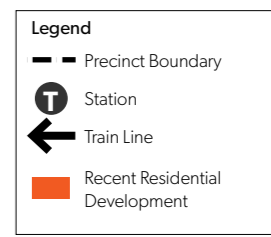


Figure 15: Recent residential development within the Ingleburn precinct

Land Ownership

The following figure illustrates the different land ownership patterns in the precinct. Campbelltown City Council owns a number of land holdings, including the open space corridor to the north of the precinct, and a number of local parks. There are also several land holdings owned by the NSW State Government, including many of the schools and large parks in the precinct.

There is a substantial amount of strata titled land throughout the precinct, dispersed relatively evenly, including the industrial area on the western side of the rail corridor.



Figure 16(a): Land ownership within the Ingleburn precinct, Ingleburn Bowling & Recreation Club

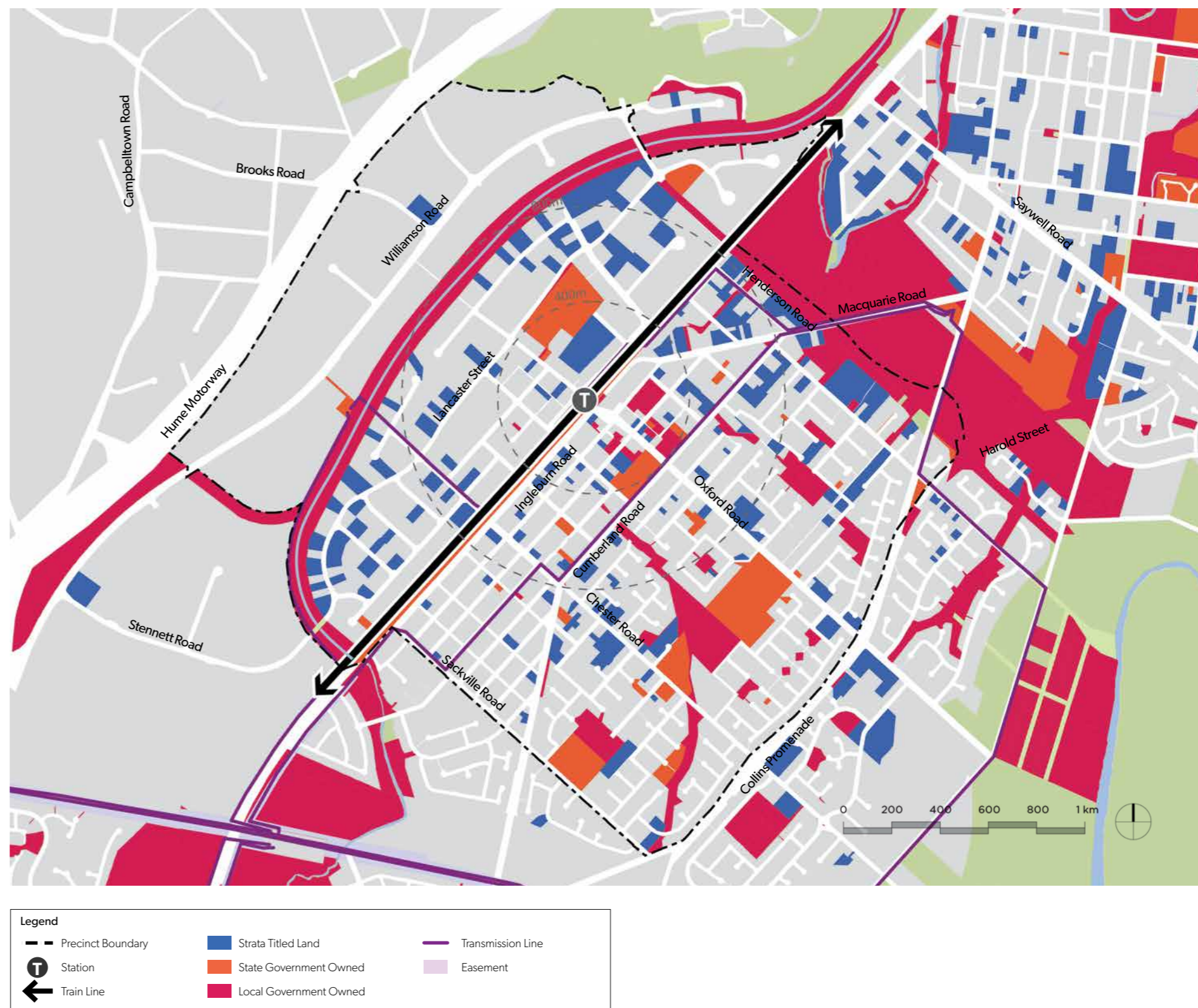


Figure 16(b): Land ownership within the Ingleburn precinct

Site Context

Social Infrastructure

The precinct is well served by community facilities and infrastructure, as indicated in Figure 17. There are a number of local open spaces that provide both passive and recreational open spaces, five schools, as well as many religious centres, childcare and early learning facilities, and community services.

Many of the community facilities are located in the eastern half of the precinct within an 800m radius of the station. A large majority of Ingleburn's residents live in this eastern half of the precinct.

Local Government Social Infrastructure

1. Apex Community Park
2. Edna Reserve
3. Greg Percival Library and Community Centre
4. Koala Walk Reserve
5. Memorial Oval
6. Westland Memorial Park, contains Ingleburn Scout and Guide Halls
7. Wood Park
8. Treelands Walk

State Government Social Infrastructure

9. Ingleburn Community Health Centre
10. Ingleburn Fire Station and Ingleburn Early Childhood Health Centre
11. Ingleburn High School
12. Ingleburn Public (K-6)
13. Sackville Street Public (K-6)

Private and Non-government Infrastructure

14. Foxdale Kindergarten
15. Happy Clown Child Care
16. Holy Family Catholic Church and Primary School
17. Ingleburn Bowling and Recreation Club
18. Ingleburn Medical Centre
19. Ingleburn RSL
20. Ingleburn Uniting Church and Uniting Church Child Care, and Ingleburn Baptist Church
21. Little Einsteins Child Care
22. Myrtle Cottage (caring and respite services)
23. Scarba Health Service
24. St Barnabas Anglican Church
25. The Pines Child Care

Nearby facilities servicing the precinct

26. Billy Bear Child Care
27. Kingfisher Reserve
28. Symonds Reserve
29. Digger Black Reserve
30. Macquarie Fields Reserve
31. Bob Prenter Reserve
32. Bensley Road Reserve/Hazlett Park
33. Macquarie Links Flora and Fauna Reserve

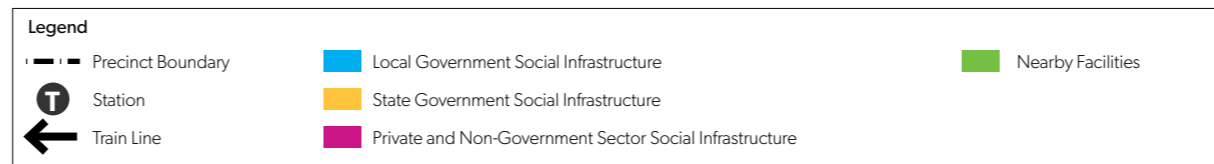
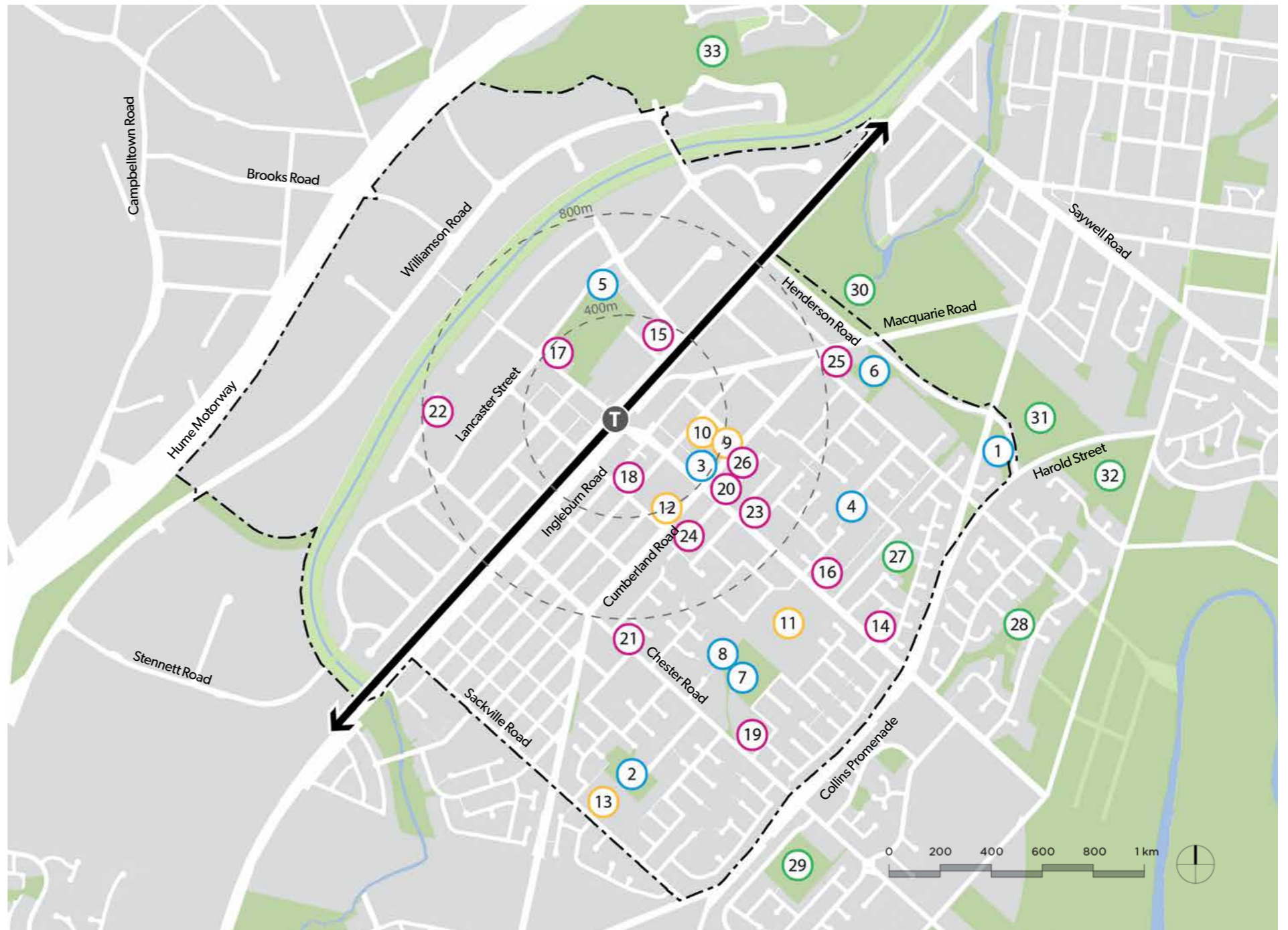


Figure 17: Social Infrastructure within the Ingleburn precinct

Combined Constraints

The combined constraints mapping indicates that a number of sites contain some form of constraint for development.

Some parts of the town centre and surrounding lands contain flooding constraints. The extent of flooding impacts would be informed by Council's Floodplain Management Plan, and may require further flood analysis at the development application stage.

Unconstrained Land

Unconstrained land provides the most potential for renewal over the next 20 years, subject to further investigations.

The eastern half of the precinct is relatively unconstrained and has potential to contribute to the future renewal of the precinct.

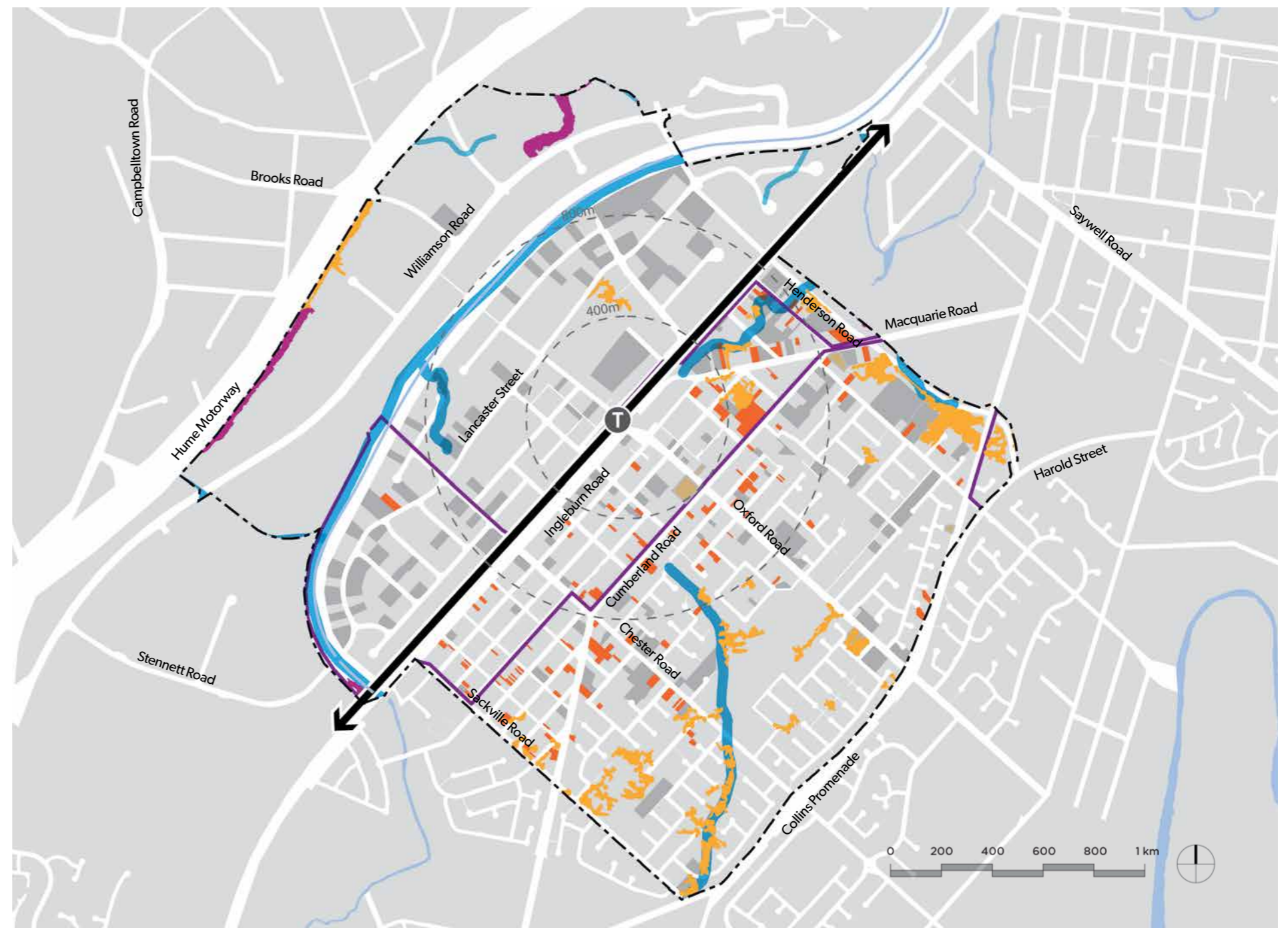


Figure 18: Combined constraints within the Ingleburn precinct

Ingleburn Vision

Housing

- Provide a variety of housing types within walking distance of the station to cater for all members of the community.
- Provide for increased building heights close to the town centre and station
- Retain the existing character of areas south of Chester Road, with a mixture of detached dwellings and townhouses.



Jobs

- Oxford Road to be strengthened as a prominent retail and commercial centre for surrounding suburbs.
- Reinforce Ingleburn as a major industrial centre for south western Sydney.
- Encourage renewal, intensification and diversification of some employment lands over time through the emergence of a business park with direct access to the station.



Movement Network

- Promote cycling and walking by providing new shared pathways, separated cycleways, footpaths, pedestrian refuges, street tree planting, bicycle storage facilities and lighting.
- Develop a continuous, safe regional commuter and recreational cycle route from Glenfield to Macarthur adjacent to the rail corridor.
- Introduce new local cycle routes to improve connections with Ingleburn station and the surrounding area, including to Koala Walk Reserve and west through the employment area.
- Improve east-west connections and accessibility to the town centre by investigating a potential new vehicle connection over the rail line between Devon Road and Chester Road.



Figure 20: Existing character for the Ingleburn precinct, Oxford Road

Open Space and Public Domain

- Promote Oxford Road as a vibrant, safe, pedestrian friendly street with widened footpaths, street tree planting, inviting public gathering spaces, outdoor dining, attractive street furniture and barrier free access.
- Establish a quality open space and public domain network that provides better linkages to and upgrades of existing open spaces.
- Provide a new green link along Redfern Creek connecting Wood Park and the town centre.



Figure 19: Existing character for the Ingleburn precinct, Oxford Road

Built Form

- Maintain the scale and village feel of Ingleburn town centre by restricting buildings fronting Oxford Road to two storeys, with higher storeys set back from the street.
- Enable residential, commercial and mixed use buildings between 4 and 8 storeys close to the station and surrounding the town centre to maximise pedestrian activity and increase trade for local businesses.





"A vibrant town centre that strengthens Ingleburn's unique urban village character and desirability as a place to live"



Figure 21: Desired future character for the Ingleburn precinct, Oxford Road

Precinct Plan

Legend

- Precinct Boundary
- Station
- Train Line
- Existing Connection
- Proposed Connection
- Green Link
- Proposed Green Link
- Active Frontage
- Precinct Gateway
- High Rise Residential (7 storeys and over)
- Medium Rise Residential (3 to 6 storeys)
- Low Rise Residential
- Mixed Use Retail & Residential
- Community Infrastructure
- Commercial & Retail Core
- Industry & Innovation
- Business Park
- Open Space
- Private Open Space
- Public School
- High School

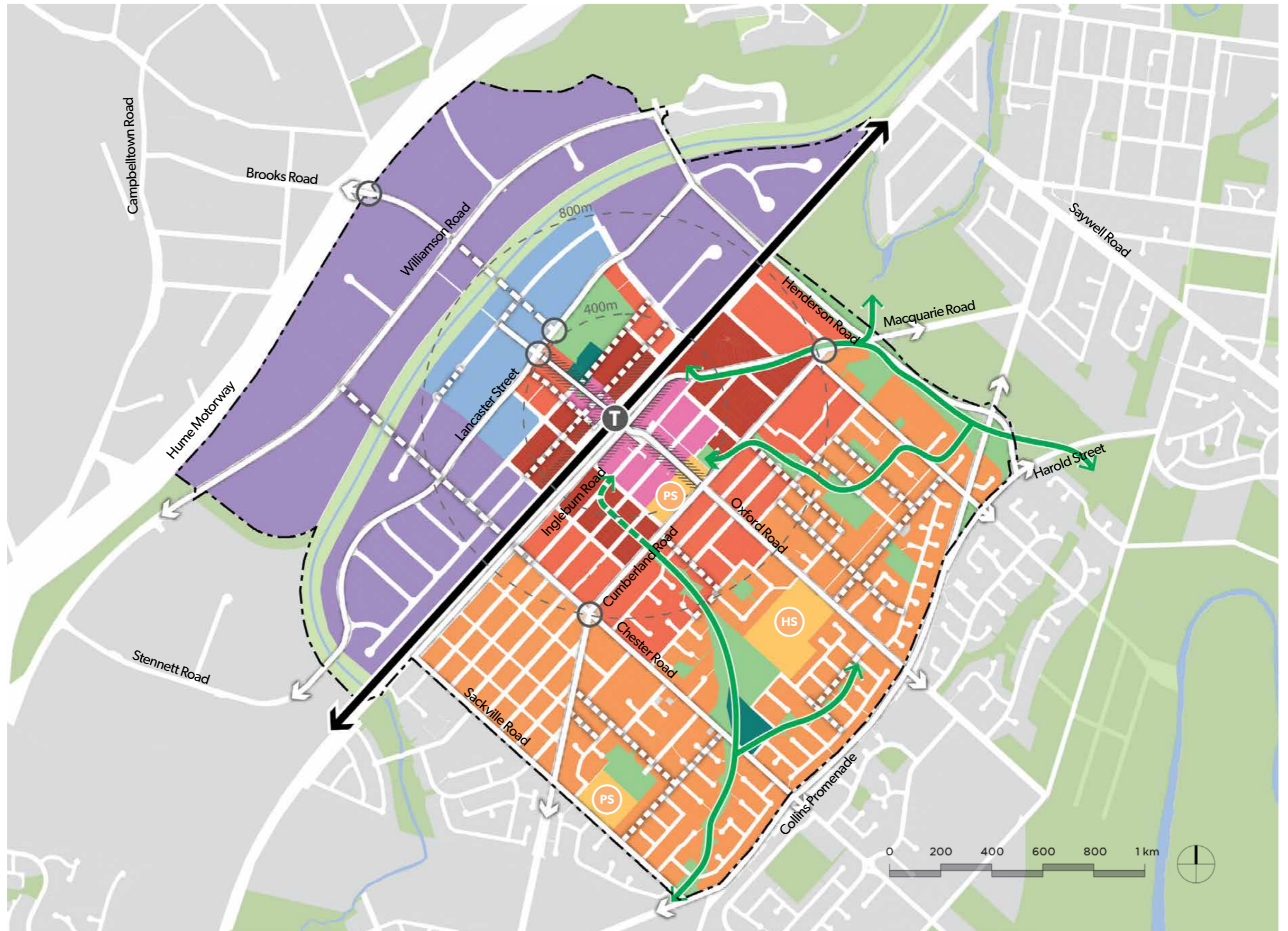
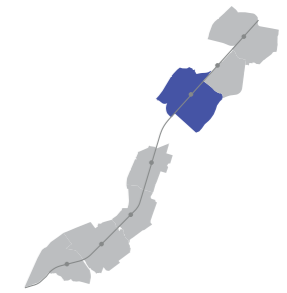


Figure 22: Ingleburn Precinct Plan



Future Precinct Character

The following diagrams and images demonstrate the desired future character for each area in Ingleburn precinct.

Low Rise Residential

This area will largely retain its existing character and dwelling mix. Single-detached dwellings will remain the dominant housing type, however over time there is potential for renewal of building stock to provide a mixture of duplexes, townhouses and terraces.

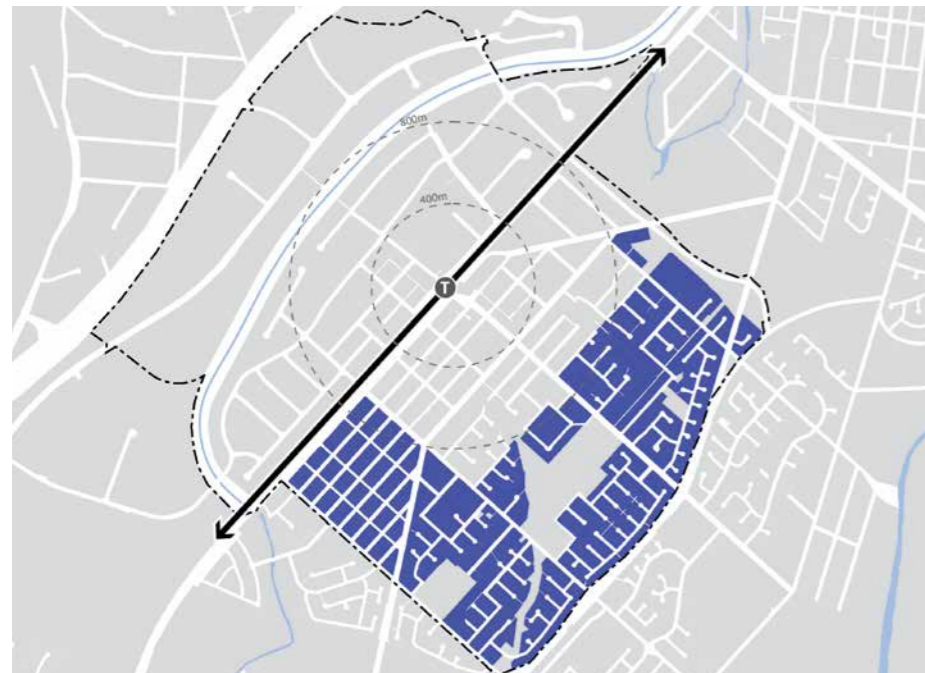


Figure 23: Proposed location of low rise residential, and desired character and built form

Medium Rise Residential

This area could accommodate town houses and medium rise apartments only where the site is an appropriate size to deliver a higher level of amenity. This could comprise 3-6 storey apartment buildings, with landscaped setbacks to enhance the existing streetscape. Land east of the rail corridor provides the most ideal opportunity for such density and increased amenity.

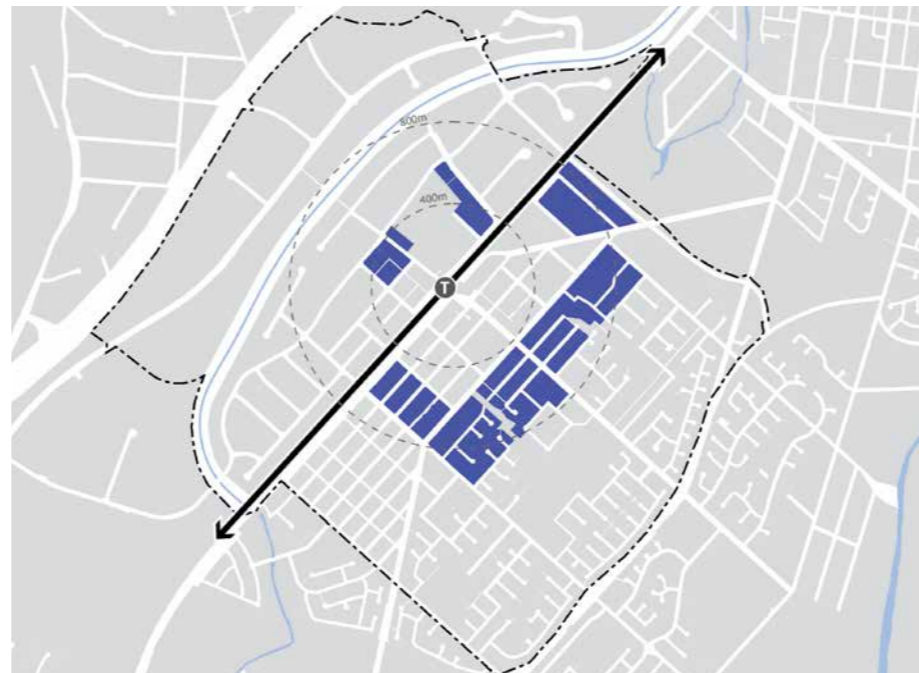


Figure 24: Proposed location of medium rise residential, and desired character and built form

High Rise Residential

This area could accommodate apartment housing to deliver a high level of amenity for the existing and future residents. This could comprise 7+ storey apartment buildings, with potential for communal open spaces and shared facilities. Detailed planning would be required to identify appropriate height and built form outcomes for high rise housing. New dwellings should be carefully designed to integrate with the existing streetscape. Retail uses could be permitted at ground level on Ingleburn Road, Stanley Road and Macquarie Road to activate the street frontages. Building design should maximise climate control and amenity for occupants and capitalise on district views.

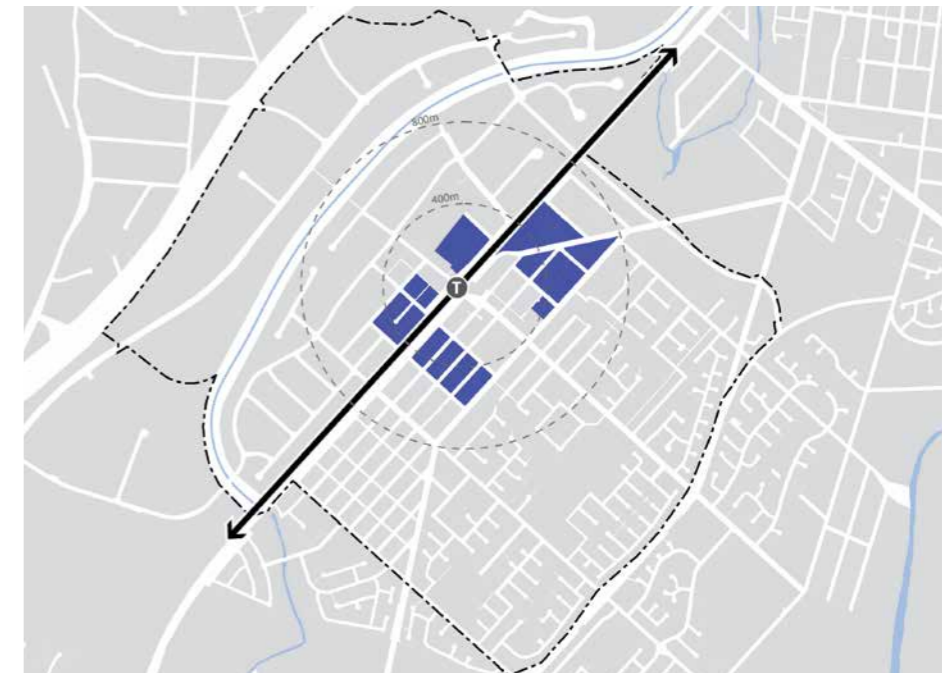


Figure 25: Proposed location of high rise residential, and desired character and built form

Precinct Plan

Mixed Use Retail & Residential

This area could accommodate a mix of retail, commercial and residential uses. It is envisaged that this centre will evolve to become a prominent retail and employment centre within the corridor. New buildings should be carefully designed to integrate with the existing streetscape, and would be set back from the street to ensure the scale and feel, especially on Oxford Road, is maintained. Along Oxford Road, mixed use development is to be stepped back, with two storeys fronting Oxford Road and additional storeys ranging up to 7+ storeys set back to maintain an appropriate scale and amenity. Detailed planning would be required to determine appropriate heights and setbacks along Oxford Road.

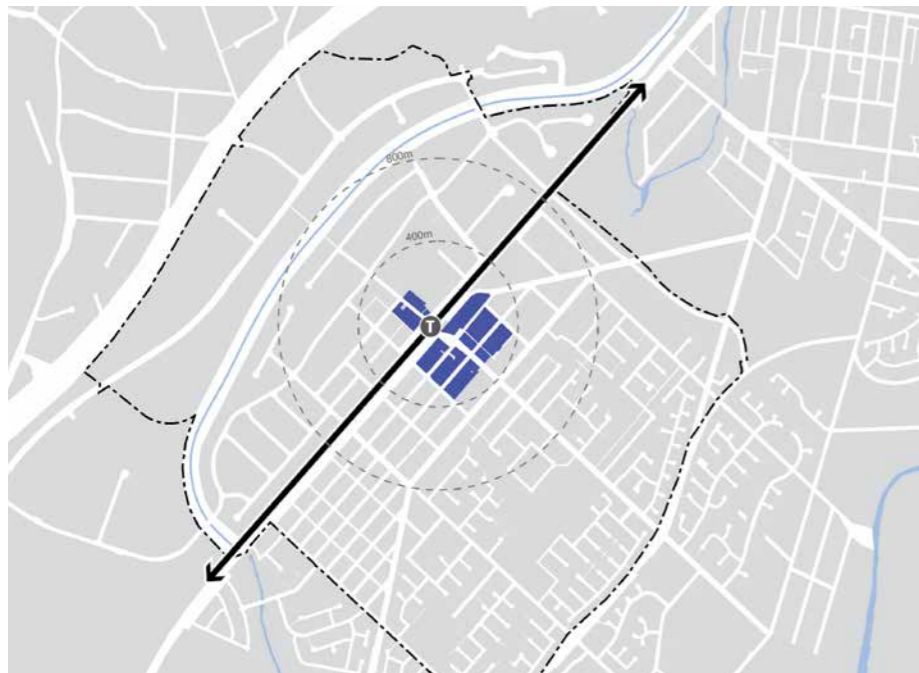


Figure 26: Proposed location of mixed use retail & residential, and desired character and built form

Industry & Innovation

This area could accommodate large floorplate industrial offices and workshops on sites that are carefully designed to integrate with the existing streetscape.

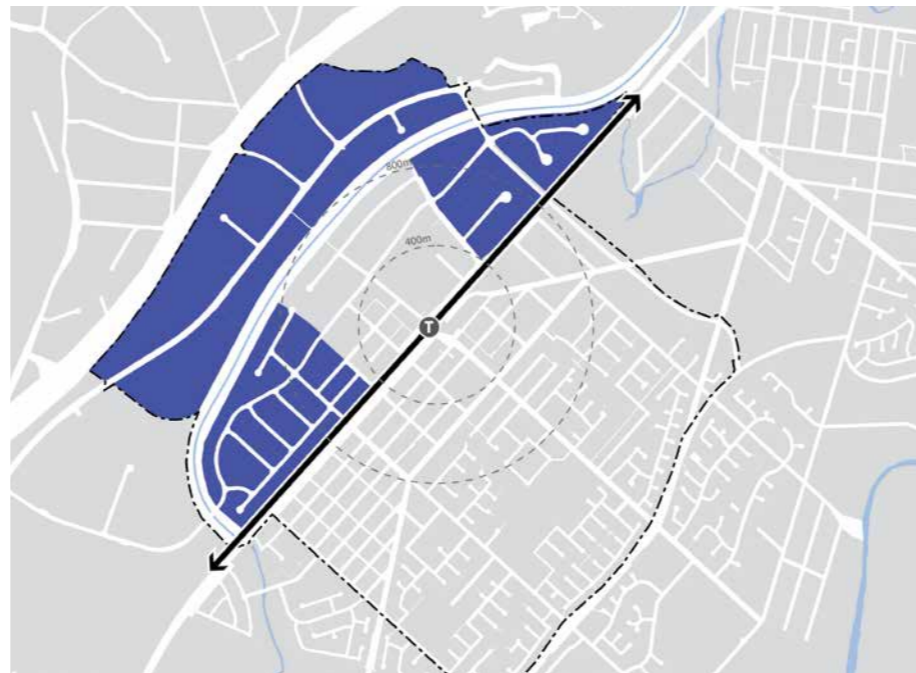


Figure 27: Proposed location of industry & innovation, and desired character and built form

Business Park

This area could accommodate office and business park uses to allow for renewal and intensification of industries and employment uses.

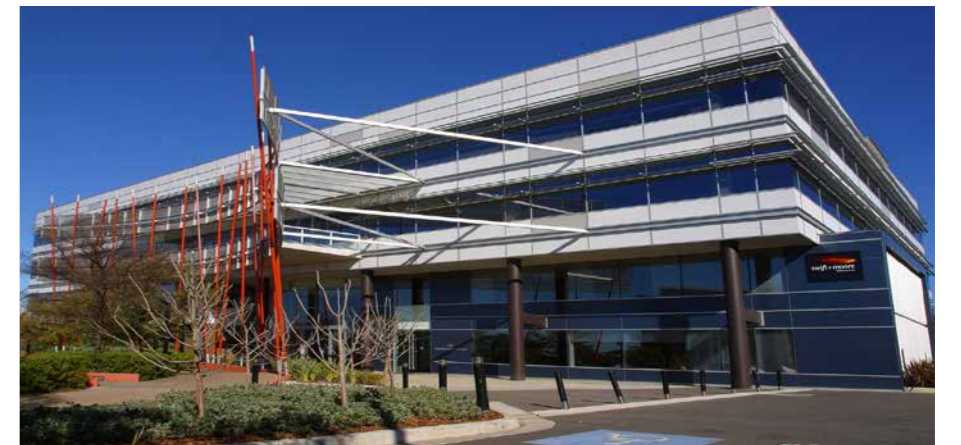
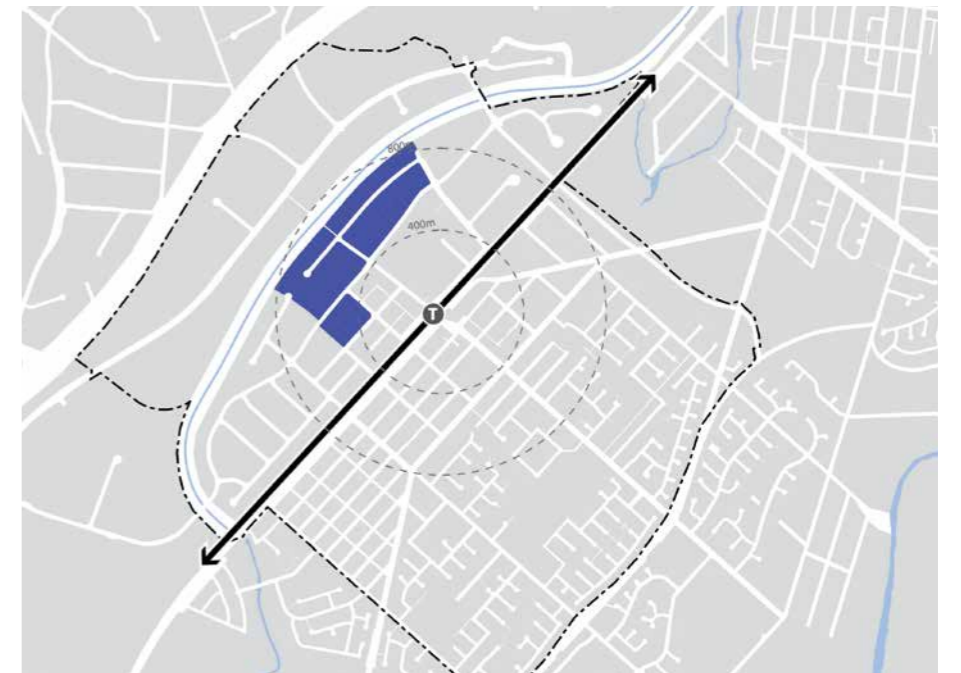


Figure 28: Proposed location of business park and desired character and built form

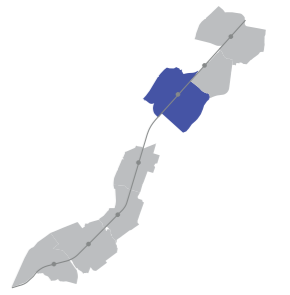


Figure 29: Desired future character for the Ingleburn precinct

Transport and Movement

The proposed transport network aims to:

- ▶ Improve walking and cycling connections to Ingleburn Station and the town centre;
- ▶ Increase direct bus routes and improve suburban bus route travel times to centres; and
- ▶ Improve road and street legibility and permeability throughout the precinct.

Key network improvements are identified in Figure 30 and include:

Roads

- ▶ Potential connection of Devon Road and Chester Road to improve east-west connections and accessibility to the town centre, subject to more detailed transport analysis

Public Transport

- ▶ Investigate opportunities to improve direct connections and reduce travel times for the suburban bus network to create a more connected system that provides direct routes to, from and through the corridor
- ▶ Two kiss and ride facilities on each side of Ingleburn Station

Walking and Cycling

- ▶ New regional cycle route parallel and perpendicular to the railway line to provide better connections to the station and surrounding area
- ▶ Series of local cycle network improvements, including;
 - Stanley Road, Aero Road, Devon Road and Broadhurst Road to the west of the railway line
 - Norfolk Street, Chester Road and Cumberland Road to the east of the railway line
- ▶ Streetscape works, such as footpath improvements and pedestrian crossings, to improve station connections and pedestrian environments.

Parking

- ▶ Undertake a parking study for the precinct to identify commuter and retail parking demand, develop appropriate parking management strategies and identify opportunities for improved mode share to increase walking, cycling and public transport use.

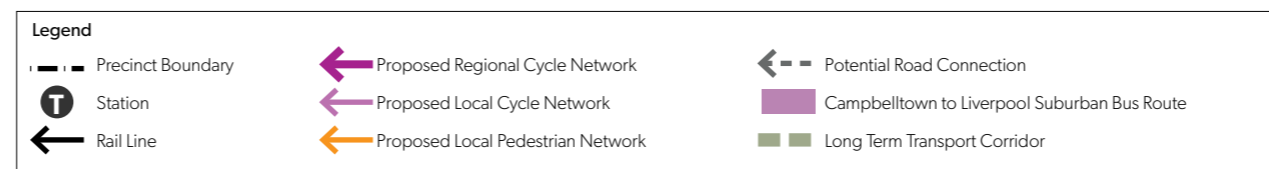
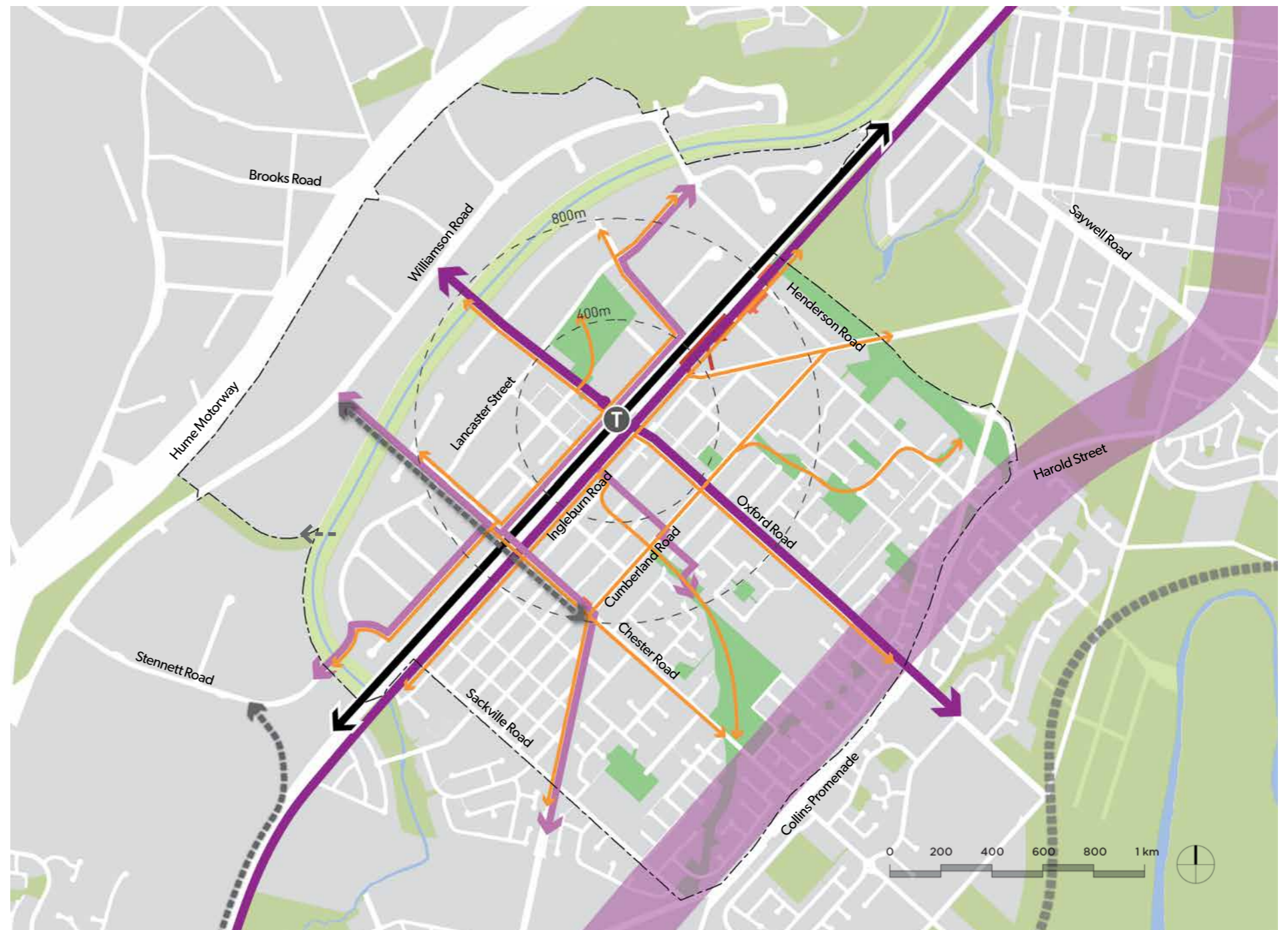


Figure 30: Proposed transport infrastructure improvements in Ingleburn

Environment and Open Space

Open space in the precinct is relatively limited. This is particularly true of the eastern side of the railway line which contains the bulk of residential development and social infrastructure.

The precinct is bordered by regionally significant open space to the north, including Milton Park. Improving connections between the town centre and Milton Park provides opportunities to improve access and useability.

Community use of green space in Ingleburn Public School for passive recreation at weekends should be explored to help provide additional open space options. On the western side of the railway line, Council has identified opportunities to embellish Memorial Oval to provide improved connectivity with the industrial areas and the station.

Opportunities for improvement and enhancement of existing open spaces and public places in the precinct include:

- ▶ Provide a green link along Redfern Creek connecting Wood Park and the town centre;
- ▶ Supplement existing street trees and footpaths to increase biodiversity, shade and to encourage walking;
- ▶ Enhance the activity centre around Ingleburn Station with pedestrian friendly streets and introduce an urban plaza for small-scale community gathering and outdoor dining;
- ▶ Encourage green streets linking parks within the precinct;
- ▶ Provide regional and local cycle and walking connections within the precinct;
- ▶ Improve connections to regional significant open space, such as Milton Park.

Community Facilities

The Greg Percival Library and Community Centre is a recently renovated, multipurpose facility which acts as a service and meeting hub for the area. The community facility is not staffed, and the library and community facility function as entirely separate facilities.

Over time, there is an opportunity to better integrate the two community spaces, reconfigure and expand their floor space to enhance the sites' activation to cater for the projected growth within the precinct and surrounding area.

Education

The NSW Department of Education has advised that any school expansion required in the longer term is likely to be accommodated within existing school sites. The precinct is already well served with two high schools within the precinct and two public schools just outside the precinct. The Department of Education will monitor student numbers to ensure existing school facilities can be updated and upgraded to respond to increases in demand.

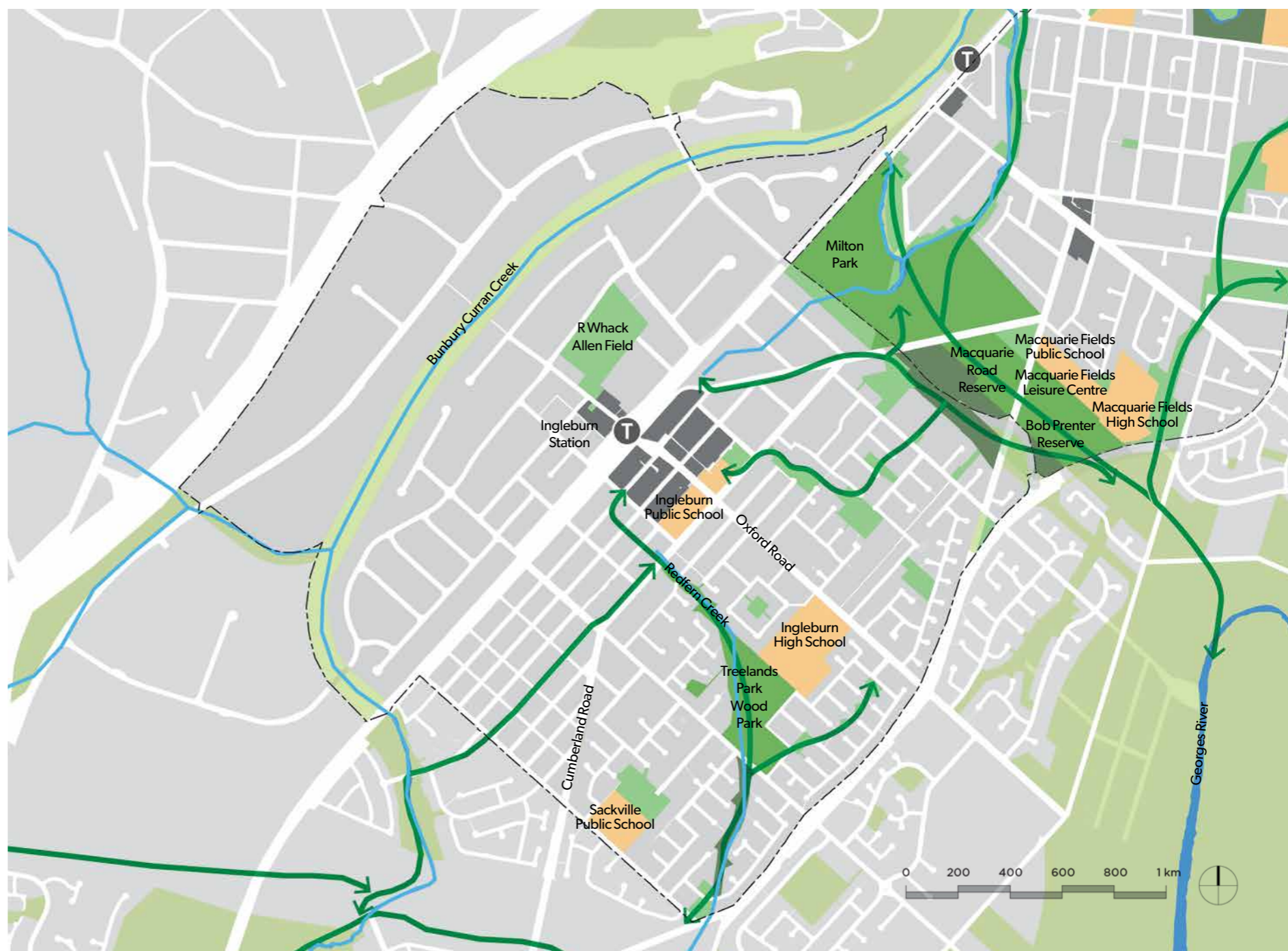


Figure 31: Proposed social infrastructure improvements in Ingleburn

Public Domain Options

Oxford Road Public Domain Vision

Significant streetscape upgrades on Oxford Road would transform the area. An active and attractive mainstreet would respond to the needs of the community and reflect the natural landscape. The existing vegetation character would be enhanced and a relatively small number of on-street parking spaces removed to improve amenity. A shaded seating space and lawn within the generous centre island of Oxford Road would also improve the areas amenity. The streetscape improvements would be informed by the following design principles:

Design Principle 1

Focus on using generous corner spaces and a widened Oxford Road median to facilitate the 'everyday experience' - shared places for the community to sit, interact and linger, as well as additional footpath cafe and dining will create a busy, friendly and more commercially viable streetscape.

Design Principle 2

Provide streets and a streetscape and gathering spaces with a high quality pedestrian amenity, including comfortable micro-climate conditions, wide and accessible footpaths, street trees, good lighting and additional road crossings.

Design Principle 3

Reveal the precinct's unique natural and cultural qualities through interpretation, such as footpath inlays, materials selection, use of eucalyptus that strengthens existing trees.

Design Principle 4

Establish a consistent materials palette that is attractive and robust and responds to local precinct character and the practical demands of everyday use.

Design Principle 5

Create a safe, vibrant pedestrian friendly mainstreet by providing additional marker crossing, locally raising the street level to slow traffic, introducing alternative roadway materials at intersections (such as cobblestones) and providing excellent lighting throughout.

Design Principle 6

Implement best practice environmental and social sustainability by first, creating a quality design with longevity and physical robustness, through appropriate materials selection and maximising tree planting including local species.

Public Domain Character

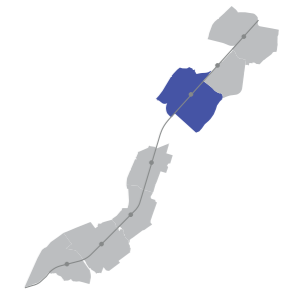


Figure 32: Desired public domain outcomes for the precinct

Materiality



Figure 33: Desired material finishes for the precinct



Ingleburn Mainstreet Concept Plan



Figure 34: Proposed Oxford Road and Streetscape Concept

Projected Growth

Projected Growth

Ingleburn precinct's projected growth is a calculation of the amount of residential and employment development that is expected to take place by 2036. The outcome of these projected growth calculations is provided below.

Residential

The Department applied the Urban Feasibility Model (UFM) to determine the precinct's development potential under existing market conditions. The analysis indicated potential for townhouses, multi-dwelling housing and some medium rise developments to be feasibly developed in the current market. Additional market demand analysis indicated that in the short to medium term, feasibility may increase as land values and property prices increase and the availability of detached homes decreases.

It is anticipated that around 1,000 additional dwellings could be delivered in the precinct by 2036. This equates to around 50 dwellings per year, which has been used to assess future infrastructure requirements in the precinct. Low rise residential housing will continue to be the predominant housing type to be developed throughout the precinct in the short term.

However, over time there is likely to be increasing demand for a greater diversity of housing close to the station, which will facilitate more residential, retail investment and employment opportunities in the town centre. This is consistent with broader market trends. Further from the station, low rise housing will remain the predominant housing type. On the western side of the station, there are opportunities for mixed use and medium rise residential development close to the station. This will support the significant industrial and employment uses in this area.

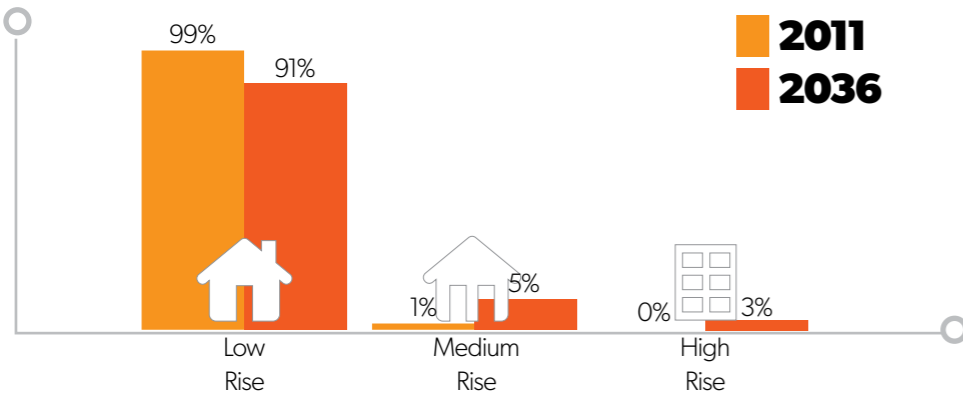


Figure 35: Existing and projected dwelling growth by typology in Ingleburn

Dwelling Type	2021	2031	2036
Low Rise	400	550	650
Medium Rise	0	0	200
High Rise	0	50	150
Total Dwellings	400	600	1,000

Figure 36: Cumulative projected dwelling growth in Ingleburn

Employment

An employment lands analysis projected demand for an additional 194,000m² of employment lands within the precinct to 2036. This will deliver around 3,700 additional jobs, predominately in industry (100,000m²) and retail (40,000m²).

The Precinct Plan provides appropriate employment floorspace to ensure there is capacity to accommodate this employment growth. The preservation of the industrial area, and proposed business park on the western side of the rail corridor, will allow for additional employment floorspace through renewal and intensification of industrial and employment uses.

The mixed use commercial and retail town centre on Oxford Road will provide additional floorspace to meet future demand. The proposed small mixed use area to the west of the station will, also accommodate a range of supporting retail and business uses.

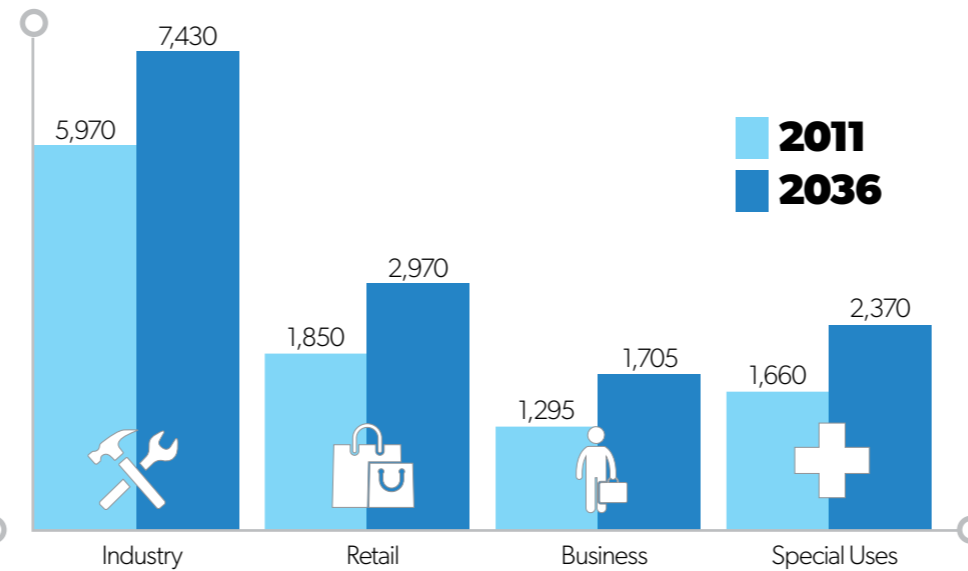


Figure 37: Existing and projected jobs growth by typology in Ingleburn

Job Type	2021	2031	2036
Industry	650	1,260	1,460
Retail	600	950	1,120
Business	200	330	410
Special Uses	300	580	710
Total Jobs	1,750	3,120	3,700

Figure 38: Cumulative projected jobs growth in Ingleburn

Calculating Growth Potential

Ingleburn precinct's projected growth is a calculation of the amount of residential and employment development that is expected to take place by 2036. The projected growth calculations take into consideration the following factors:

- ▶ **Development on unconstrained sites.** Development is projected to occur on the unconstrained sites identified on page 15 of this plan.
- ▶ **The Proposed Future Character and Built Form.** The Precinct Plan on page 18 identifies the desired future character and built form throughout the precinct. These building types have been applied to the precinct's unconstrained sites.
- ▶ **Assumptions.** A series of assumptions have been applied to calculate the land areas required for each development type, and the number of dwellings and jobs that could be provided.
- ▶ **Economic Feasibility.** An analysis of the housing potential and development feasibility of the precinct's unconstrained sites was undertaken using the Department's Urban Feasibility Model (UFM). The UFM is a strategic planning tool used to determine the likelihood of the current market to deliver various types of dwellings.
- ▶ **Market Demand.** A high level demand analysis has been undertaken to determine the demand for different dwelling types on unconstrained sites within the precinct. The analysis:
 - Assessed the desired future character, built form and housing types proposed under the Precinct Plan, against market conditions and demand; and
 - Identified take-up/realisation rates for each land use within the precinct, which informed the calculation of the projected growth.
- ▶ The 'take-up' or 'realisation' rates were informed by several factors, including broader population growth, property sub-markets, historic dwelling activity, the development pipeline, the precinct's dwelling capacity and current market feasibility.

Infrastructure Analysis

Figure 39 provides a summary of the infrastructure items required to support the projected growth in the precinct. This includes public transport, walking and cycling upgrades, roads and community infrastructure. Services utilities such as water, sewage, electricity and gas will also be upgraded as growth occurs.

The infrastructure items would be funded and delivered by a range of sources as identified in Figure 39, and would be subject to more detailed investigations to inform the delivery time frames, design and costings.

Item	Measure	Planning Responsibility	Timing	Funding Mechanism
Public Transport				
1	Increased rail services to meet the needs of the precinct's growth	TfNSW	Train service levels are reviewed continually by TfNSW. The stopping patterns and level of service will be matched to the growth and function of each precinct	TfNSW delivery responsibility
2	Investigate opportunities to improve direct connections and reduce travel times for the suburban bus network to create a more connected system that provides direct routes to, from and through the corridor	TfNSW	Bus service levels are reviewed continually by TfNSW and RMS. Detailed planning for a new suburban bus route to be investigated based on development in the area.	TfNSW delivery responsibility
3	Two additional kiss and ride facilities at Ingleburn station	TfNSW/Council	To be determined as precinct develops	Delivery as part of Council's Section 94 Plan/VPA
Walking & Cycling				
4	New regional cycle routes parallel and perpendicular to the railway line to provide better connections to the station and surrounding area	TfNSW	To be determined as precinct develops	TfNSW funding responsibility
5	Series of local cycle network improvements, including; <ul style="list-style-type: none"> Stanley Road, Devon Road, Aero Road and Broadhurst Road to the west of the railway line Norfolk Street and Cumberland Road to the east of the railway line 	Council	To be determined as precinct develops	Delivery as part of Council's Section 94 Plan/VPA
6	Streetscape works such as footpath improvements, pedestrian crossings and refuges, street tree planting, bicycle storage facilities and lighting	Council	To be determined as precinct develops	Delivery as part of Council's Section 94 Plan/VPA
Roads				
7	Potential connection of Devon Road and Chester Road over rail line	TfNSW/Council/developer	Further transport investigations to be undertaken as the precinct develops.	Delivery as part of Council's Section 94 Plan/VPA
8	Potential new local road on the western side of the rail line, connecting Ingleburn and Minto Industrial precincts	Council	Further local road network investigation to be undertaken by Council as the precinct develops.	Delivery as part of Council's Section 94 Plan/VPA
Education & Community Infrastructure				
9	Additional teaching spaces and infrastructure at existing primary and high schools	Department of Education	To be determined as precinct develops	Delivered as part of DE's School Cluster Asset Plan
10	Medium to longer term integration and expansion of Greg Percival Library and Community Centre to create a contemporary multi-purpose facility	Council/developer	To be determined as precinct develops	Delivery as part of Council's Section 94 Plan/VPA
11	Embellishment works at Memorial Oval	Council/developer	To be determined as precinct develops	Delivery as part of Council's Section 94 Plan/VPA

Figure 39: Infrastructure servicing required in the Ingleburn precinct



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