



THE HILLS CORRIDOR STRATEGY

Sensibly delivering housing and employment around the Sydney Metro Northwest



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***"Sydney Metro Northwest** opens new opportunities for residents to live and work close to transport, connected to jobs and services. Our challenge is to achieve the targets set for growth and remain The Garden Shire. We will need the right mix of jobs and diversity of housing to build new communities that are reflective of the Hills lifestyle.*

*This Strategy sets out **Council's framework** to ensure new development in the rail corridor meets these challenges and delivers innovative and attractive places to work, live and play."*



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EXECUTIVE SUMMARY

The Metro Sydney Northwest is a significant transport project that enhances the liveability of the Hills Shire. It is transformational in that it provides a fast and efficient connection to the global arc but importantly within our Shire itself. It is important that the land uses around the stations support each station's role, achieve housing and jobs targets, create vibrant safe, desirable places and reinforce the garden Shire character and lifestyle.

The objective of The Hills Corridor Strategy (The Strategy) is to articulate Council's response to land use development over the next 20 years for each of the seven (7) new Sydney Metro Northwest stations within or adjacent to the Hills Local Government Area. There is a need to facilitate outcomes that are well founded and respond to the strategic priorities of Council including housing that meets the needs of the existing and expected future Hills Shire population, jobs close to home and provision of appropriate infrastructure to support future development and maintain the standard of living expected in the Shire.

The NSW State Government released the North West Rail Link Corridor Strategy in September 2013, which identified a vision and built form character for the Precincts surrounding each new railway station. It includes Structure Plans that target locations for housing and employment growth to 2036 and are designed to inform more detailed planning investigations. Whilst it was intended as a high level strategic framework for future development, it has created significant development expectations within the community. Some of these expectations are unrealistic and will prove difficult to adequately service with local roads, parks, playing fields, community facilities and the like.

The Hills Strategy has been prepared to provide a more detailed response to the delivery of future housing and employment growth for all rail station precincts. The Strategy translates the vision of the State Government Strategy to reflect the values and lifestyle of Hills Shire residents.

It is expected that future high density development will be representative of high quality design which meets, if not exceeds, the criteria of SEPP 65. It will be characterised by materials, geometry and landscaping that enhances the public realm and will provide a diversity of housing mix and importantly, the majority being suitable for families. The Strategy identifies capacity for 25,876 dwellings (around 57,254 people) and 57,113 extra jobs by 2036. This capacity includes growth already planned for and additional growth envisaged under this Strategy (figure A). The Strategy embeds Council's long term principle of placing highest densities near to the centres (and in this case stations) transitioning to town houses and terraces with low density housing in more peripheral locations. To resolve privacy, shadows and noise a diverse mix of dwelling typologies is desired.

The projected residential growth is primarily in the Castle Hill, Showground, Norwest, Bella Vista and Kellyville Precincts (Table A). This reflects the large land holdings close to the stations in the Showground, Bella Vista and Kellyville Precincts and the role of Castle Hill and Norwest as important strategic centres within the Shire and the wider region.

In terms of jobs this Strategy seeks to facilitate the creation of jobs that suit Shire residents. Whilst there is high demand for residential development opportunities in the short term, protecting and enhancing employment lands is a high priority to address the imbalance between available jobs and the skills of residents, and ensure that new residents can access high quality professional jobs close to home in the longer term.

The projected employment growth is primarily in the Castle Hill, Showground, Norwest and Bella Vista Precincts (Table B). Norwest and Bella Vista combined have capacity for around 20,000 extra jobs, beyond those allowed by the current planning framework, reflecting the role of the Norwest Business Park as a key employment destination.

It is important to recognise that whilst The Hills Strategy identifies capacity for 25,876 extra dwellings and 57,113 extra jobs, part of this growth has already been planned for under current controls. The additional growth under The Strategy is 16,050 dwellings (26,688 residents) and 39,118 jobs.

The additional estimated 26,688 residents will increase the demand for public facilities such as playing fields, parks, community facilities and libraries beyond that which has been envisaged and planned for. Therefore new facilities will be needed to ensure the additional population pays for and receives the local facilities and services to support a quality of life similar to that enjoyed by existing residents.

The Hills Corridor Strategy presents Council's response to planning being led by State Government for priority precincts as well as to individual planning proposals led by private landowners and developers. It will ultimately be implemented by way of future changes to zones and development controls and preparation of infrastructure plans.

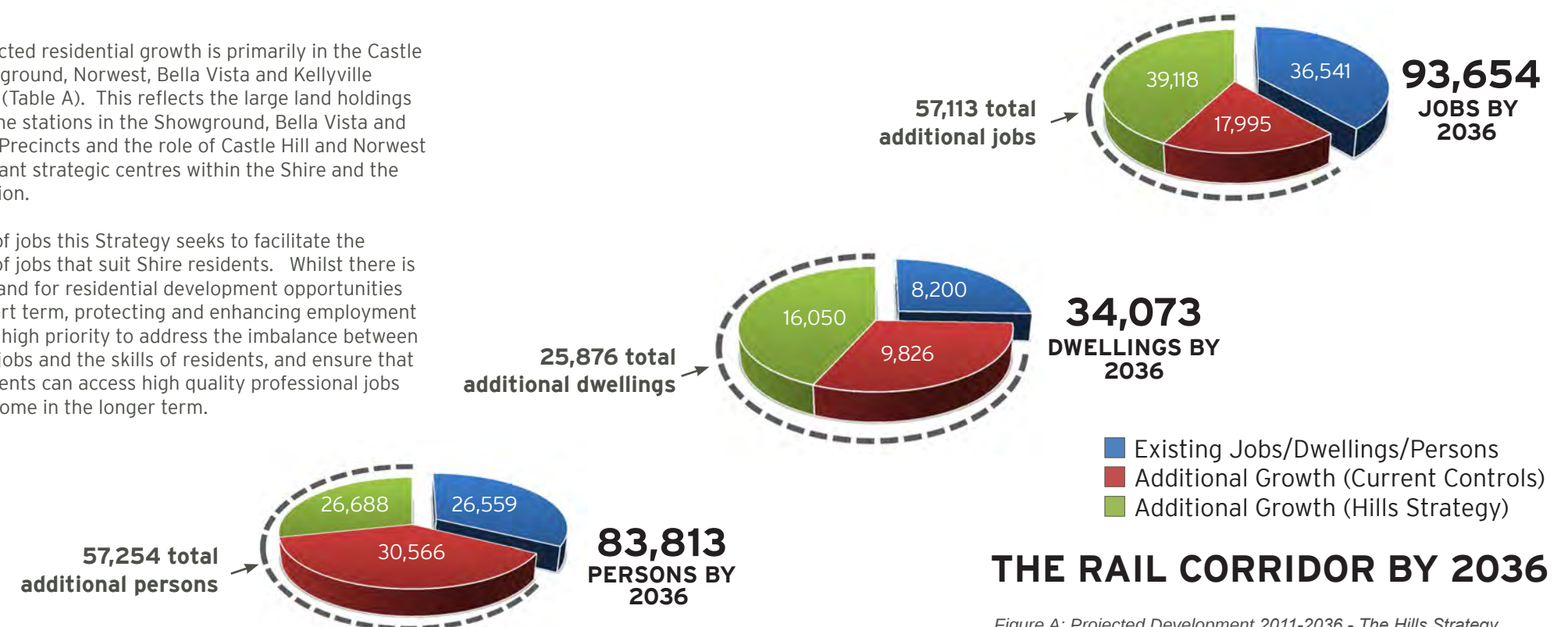


Figure A: Projected Development 2011-2036 - The Hills Strategy

Precinct	2011 Existing Dwellings	Planned growth under current controls	Additional growth under strategy	2036 Forecast Dwellings
Cherrybrook	623	51	1,643	2,317
Castle Hill	2,653	2,316	2,491	7,460
Showground	580	400	3,907	4,887
Norwest	956	2,492	2,828	6,276
Bella Vista	1,288	2,252	1,838	5,378
Kellyville	1,402	1,354	3,119	5,875
Rouse Hill	698	961	224	1,883
Total	8,200	9,826	16,050	34,073

Table A: Residential Growth Projection 2011-2036 - The Hills Corridor Strategy

Precinct	2011 Existing Jobs	Planned growth under current controls	Additional growth under strategy	2036 Forecast Jobs
Cherrybrook	2,237	0	0	2,237
Castle Hill	5,285	3,650	6,654	15,589
Showground	8,074	320	13,691	22,085
Norwest	6,994	3,159	11,291	21,444
Bella Vista	9,222	4,208	7,869	21,299
Kellyville	63	2,283	-233*	2,113
Rouse Hill	4,666	4,375	-154*	8,887
Total jobs	36,541	17,995	39,118	93,654

Table B: Employment Growth Projection 2011-2036 - The Hills Corridor Strategy

*Note: It is anticipated that under the Strategy, the number of jobs created in Kellyville and Rouse Hill would be less than that which could be achieved under current controls as some areas currently identified for commercial development will instead accommodate mixed use commercial/residential development.



Norwest Business Park and Greater Sydney

Source: The Hills Shire Council

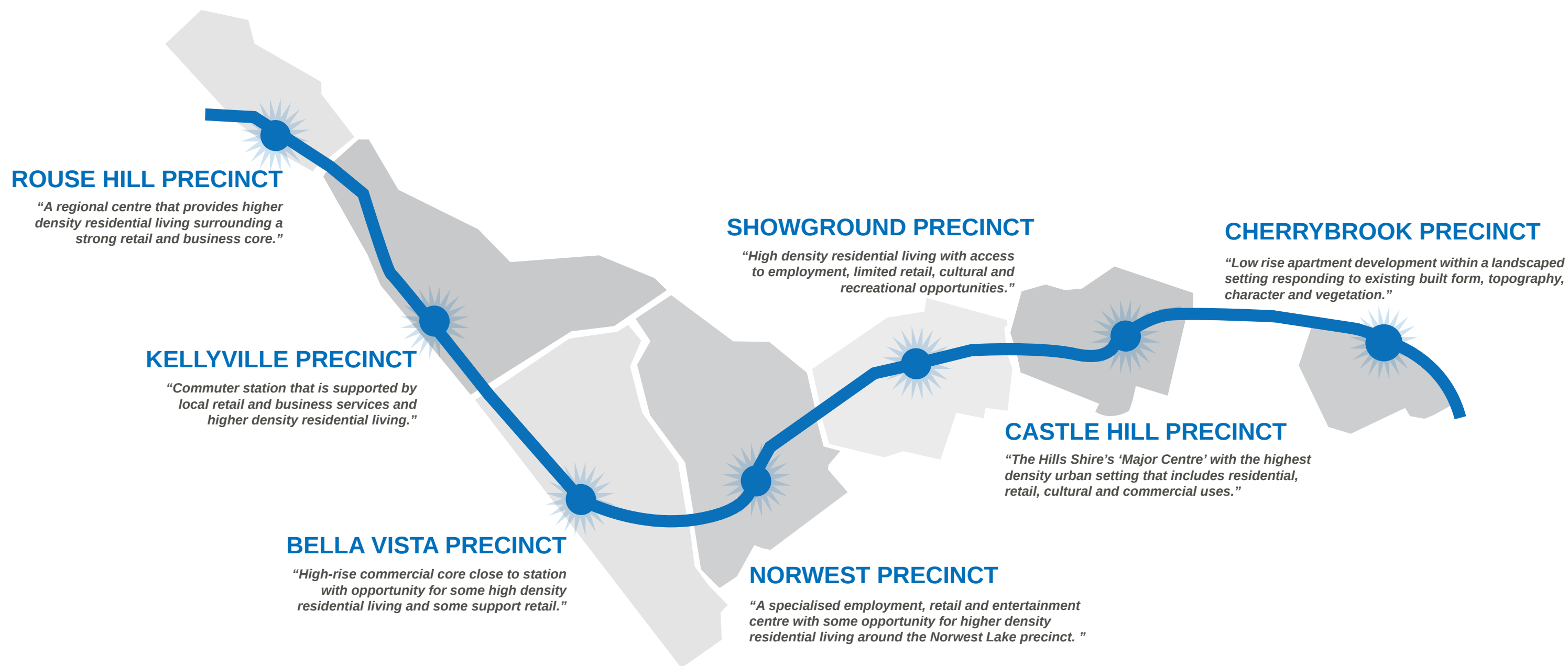


Figure B: Precinct Visions

1 INTRODUCTION

1.1 OBJECTIVE OF THE STRATEGY

The objective of The Hills Strategy is to articulate Council's response to land use development over the next 20 years for each of the seven (7) new Sydney Metro Northwest Stations within and adjacent to the Hills Shire.

The strategy seeks to guide and facilitate housing and employment growth that responds to the values of the Hills Shire, and ensure such growth is supported by the necessary infrastructure to enhance the quality of life of current and future residents. The Sydney Metro Northwest will provide a much needed alternative to road travel and will enhance the desirability and liveability of the precincts as they exist today. The challenge is to ensure redevelopment over time maintains and improves safety, convenience and quality of life.

The Strategy focuses on the role of each station which draws on its primary purpose as an origin (primarily a place of residence) or destination (primarily a place for jobs, shopping, services or entertainment). In some locations a mixture of land use is appropriate where it supports the key housing or employment role of the precinct. For example Castle Hill, Norwest Business Park and Rouse Hill Regional Centre are premier destinations in the Shire and there is opportunity to promote more intense urban development which will support the on-going operation of the rail link.

Given the favourable market conditions and high level of interest in development opportunities along the rail corridor, it is important that a sensible planning framework be established for the immediate future and for the next 20 years. This Strategy will provide a tool for meaningful engagement and discussion with the community, land owners, State government and other Councils about the development of land surrounding the rail stations over the next 20 years.

1.2 METHODOLOGY

This project focuses on land within a walkable catchment of the future Sydney Metro Northwest stations as contained within the Hills Shire, specifically Cherrybrook, Castle Hill, Showground, Norwest, Bella Vista, Kellyville and Rouse Hill stations. A number of assessments have been carried out to inform The Hills Strategy including:

Review of Strategic Framework

Local and State plans and strategies have been reviewed to understand the wider policy context that guides and informs change at each precinct. This has assisted in the formulation of a vision for the corridor and guiding principles to facilitate development that responds to Hills Shire values.

Review of Demographic Profile

A review of demographic characteristics helps to understand the expected households of the future as density increases within each precinct.

This work has confirmed that there will continue to be a strong family demographic and average household sizes larger than the average for the Metropolitan region, requiring a response that recognises this Hills difference and ensures that even in higher density living environments, planning for family needs is at the heart.

Transport Assessment

A key consideration is the capacity of roads and intersections to take more growth whilst accounting for mode shift. Transport for NSW is developing a Sydney Metro Northwest Strategic Transport Study and Plan to support urban renewal along the corridor. Whilst not yet complete it is likely that this Study will develop mode shift targets with the goal of minimising car use.

To inform the Hills Strategy research and analysis has been undertaken of existing travel behaviour and the potential for shift from private vehicles to public transport modes. This is based upon a review of other key transit centres within the Sydney Metropolitan Region such as Hornsby, St Leonards, Chatswood, Hurstville and Meadowbank-West Ryde and indicates there is likely to be an increase in the proportion of employed residents catching public transport to work in the areas closest to the station. However, such a mode shift will take time and a careful response will be needed to ensure the additional yield does not compromise residents' ability to get where they need to go in a reasonable time.

Employment Assessment

The employment assessment has analysed the current characteristics of employment in the Shire including strength industries and the resident labour force. Enables consideration of the types of industries that will suit the expected population in terms of providing services, employment opportunities and economic growth. This assessment highlights that the number of jobs in the Shire is not going to keep pace with population growth without continuing investment in infrastructure and strong promotion of the area's strengths.

Infrastructure Assessment

A holistic and consistent approach is taken to local infrastructure provision including roads, drainage, open space and community facilities to ensure community needs are met and development yields can be sustained. The expected additional population of around 26,688 persons, over and above the population that could occur under current planning controls, will be comprised mostly of families that will need a similar level of facilities as the existing population. Opportunities for responding to demand are identified and will form the basis of local infrastructure plans.



Future Castle Hill Station

Source: Transport for NSW



Future Rouse Hill Skytrain

Source: Transport for NSW



Showground Precinct

Source: Transport for NSW

2 STRATEGIC FRAMEWORK

2.1 STATE PLANS

A Plan for Growing Sydney

On 14 December 2014, the NSW Minister for Planning released 'A Plan for Growing Sydney'. The Plan is intended to guide land use planning decisions for the next 20 years and presents a strategy for accommodating Sydney's predicted population growth over this time.

To achieve the Government's vision for Sydney as a strong global City and a great place to live, the Plan sets out four (4) main goals, for Sydney to be:

- A competitive economy with world-class services and transport,
- A city of housing choice with homes that meet our needs and lifestyles,
- A great place to live with communities that are strong, healthy and well-connected, and
- A sustainable and resilient city that protects the natural environment and has a balanced approach to the use of land and resources.

In terms of housing growth the Plan seeks to accelerate the delivery of new housing to meet the needs of more people and to satisfy a growing demand for different types of housing. The Plan focuses on providing housing close to jobs and transport, housing to meet a range of different community needs and housing supported by infrastructure such as transport, utilities, schools, childcare, health facilities, open space and recreation.

In terms of job growth, the Plan identifies greater Western Sydney as being pivotal to Sydney's long-term prosperity with 900,000 more people expected to live in the region by 2036. Western Sydney will require new jobs close to centres and transport, and improved access to knowledge jobs in strategic centres.

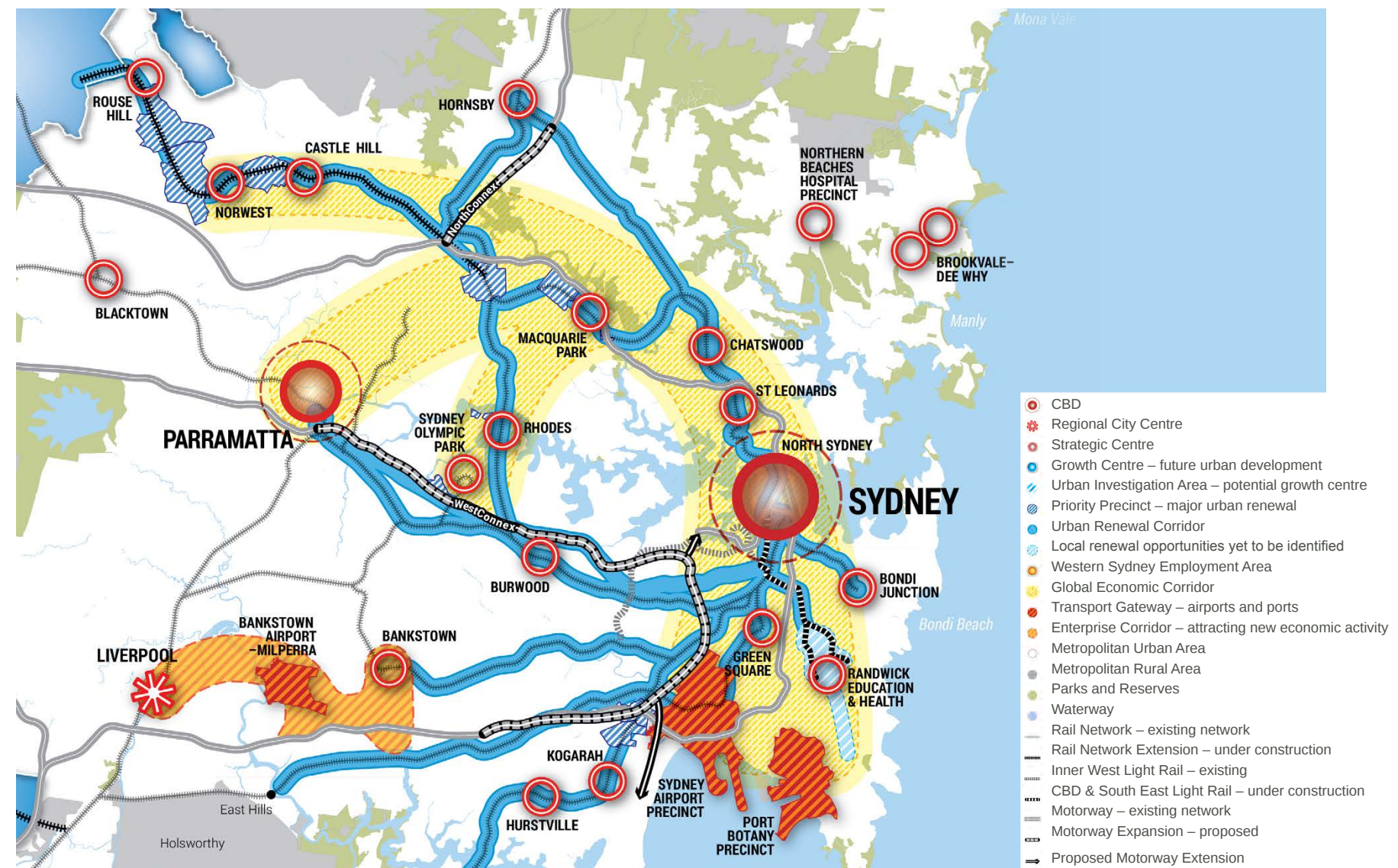


Figure 2.1: A Plan for Growing Sydney

Source: NSW Department of Planning and Environment

As may be seen in Figure 2.1 the delivery of the Sydney Metro Northwest will better connect the Shire's strategic centres of Rouse Hill, Castle Hill and Norwest with the wider metropolitan area, unlocking the capacity for economic growth, homes close to jobs and new housing that provides a lifestyle choice.

The objectives of The Hills Strategy align with 'A Plan for Growing Sydney' and provide a detailed response to how the city wide vision can be effectively delivered at the local level.

"New housing will be located close to jobs, public transport, community facilities and services. The Plan will also offer choice in location and size to better suit our lifestyles and budgets".

Source: A Plan for Growing Sydney

State Infrastructure Strategy

In September 2012, Infrastructure NSW prepared the State's first prioritised and costed long-term infrastructure strategy for the Government's consideration. The Strategy was updated in mid-2014 at the direction of the Premier to guide how proceeds from the Rebuilding NSW initiative could be spent. In November 2014 the Government accepted all of Infrastructure NSW's recommendations and included them in the NSW Government's State Infrastructure Strategy.

Sydney Rapid Transit has been identified as a strategic priority and will extend the Sydney Metro Northwest under Sydney Harbour, through the Sydney CBD and west to Bankstown (Figure 2.2). This major project combined with the Western Sydney Rail Upgrade program, will allow a 60 per cent increase in the number of trains accessing the CBD during the peak hour and provide the capacity to cater for an additional 100,000 passengers per hour. This will enable residents and workers in The Hills Shire to rely on public rail transport for access to the CBD as well as other major destinations and centres across Sydney.

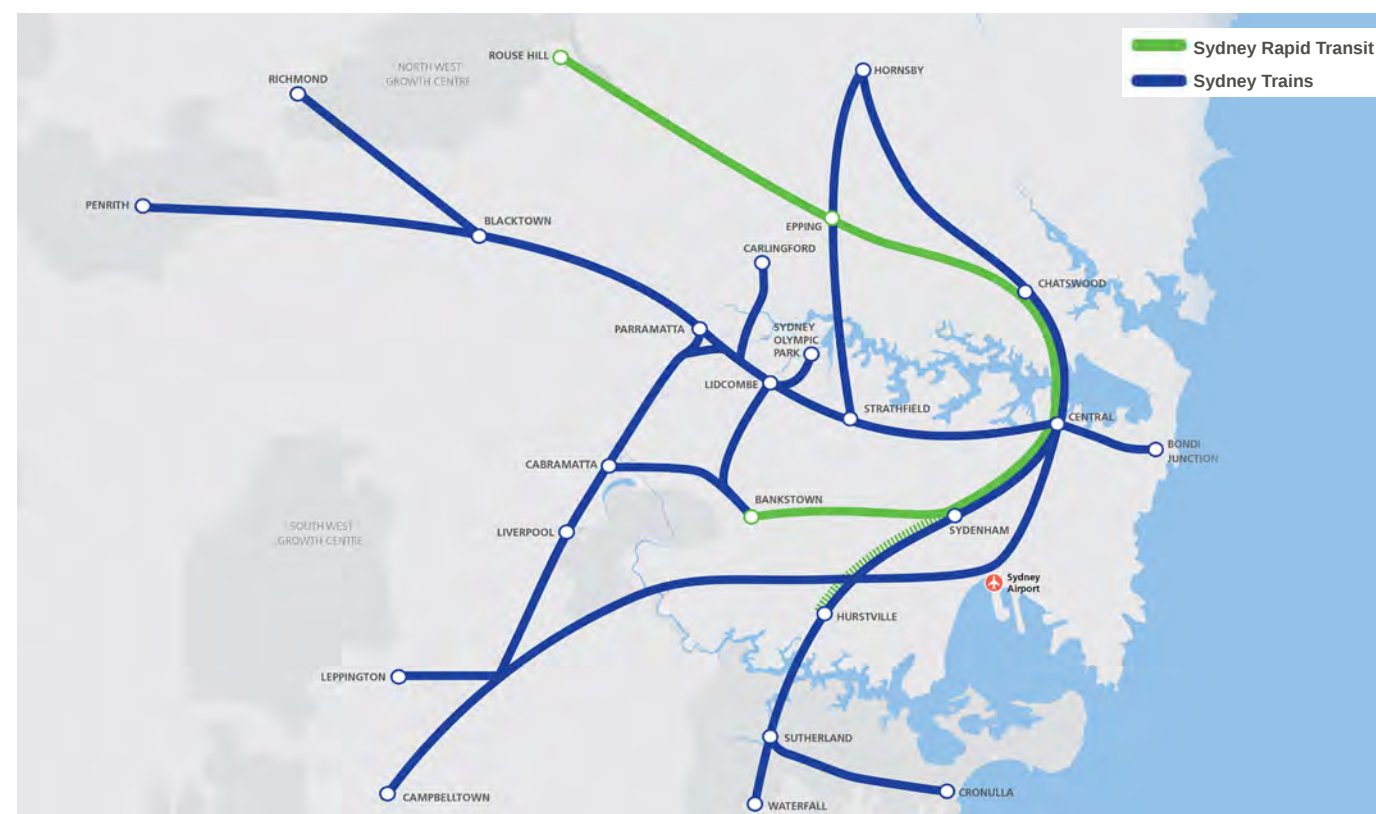


Figure 2.2: Sydney Rail Network

Source: Transport for NSW

Other State infrastructure priorities that impact on The Hills include:

- Northconnex tunnel to link the M1 Pacific Motorway at Wahroonga with the M2 Motorway at West Pennant Hills (Figure 2.4).
- Parramatta Light Rail to improve public transport provision between Parramatta and Western Sydney - four potential routes for a new light rail line have been shortlisted being Macquarie Park via Carlingford, Castle Hill via Old Northern Road, Bankstown and Strathfield/Burwood via Sydney Olympic Park (Figure 2.3).
- Preservation of a future M9 Outer Sydney Orbital Corridor connecting the Central Coast to Western Sydney and Wollongong.
- Creation of a 10 year Schools Growth Program to meet changing demand and serve the growing student population.
- Funding for new health facilities including growth areas such as the north west (Rouse Hill).
- Invest in Parramatta as a major cultural Precinct based around the Riverside Theatre, the old David Jones site, Parramatta Stadium and the old Kings School.
- Planning for an outer Western Sydney stadium in the longer term.

Together all of these projects have the potential to improve the quality of life available to Hills residents by reducing traffic congestion, improving connectivity and providing access to improved education, health, cultural and recreational opportunities.

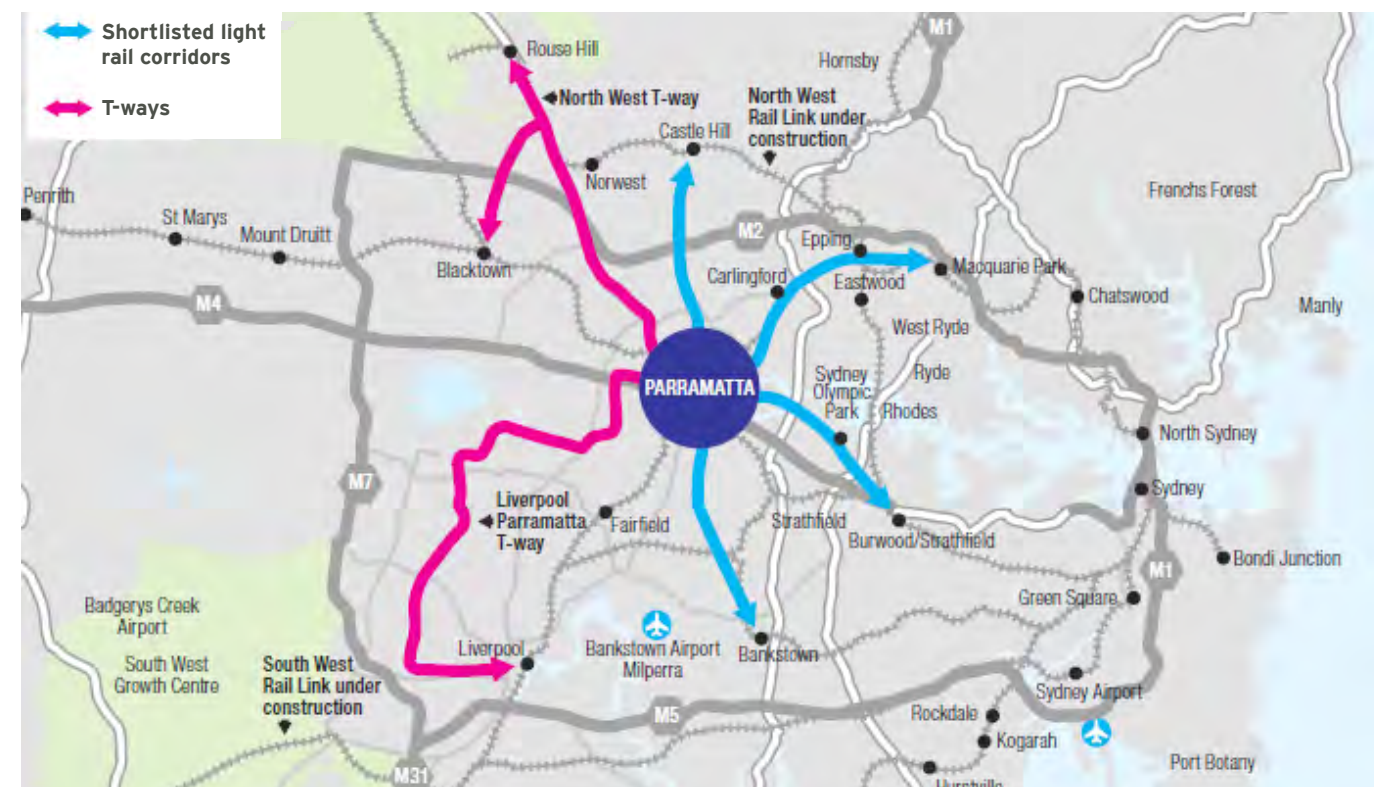


Figure 2.3: Potential Light Rail Corridors

Source: Transport for NSW

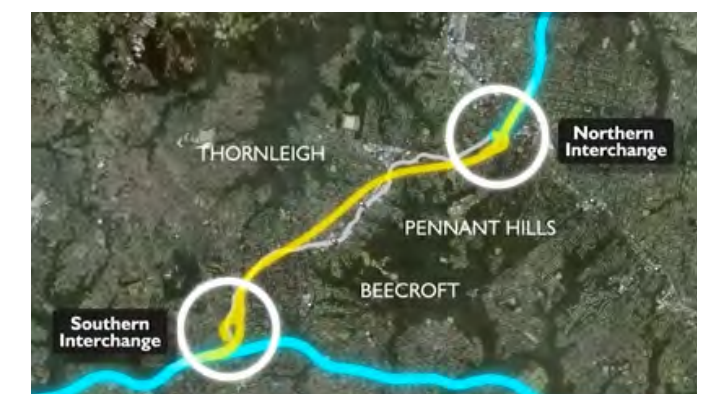


Figure 2.4: Proposed NorthConnex route

Source: Transurban

NSW Government Rail Corridor Strategy

The \$8.3 billion Sydney Metro Northwest is Australia's largest infrastructure project currently under construction. Eight (8) new stations will be built along the rail line at Cherrybrook, Castle Hill, Showground, Norwest, Bella Vista, Kellyville, Rouse Hill and Cudgegong Road.

To ensure that housing and employment growth capitalises on the infrastructure provided by the new rail link, the North West Rail Link Corridor Strategy was finalised in September 2013. It included Structure Plans to guide future planning and development around each of the new stations. It was predicted that there would be approximately 25,300 new homes and 45,250 new jobs (Hills Shire) provided in the rail corridor by 2036 to meet the growing demand for more homes and jobs in the region.

The existing and proposed dwelling and job numbers under the NSW Government's Strategy, as contained within the Hills, are summarised in Figure 2.5.

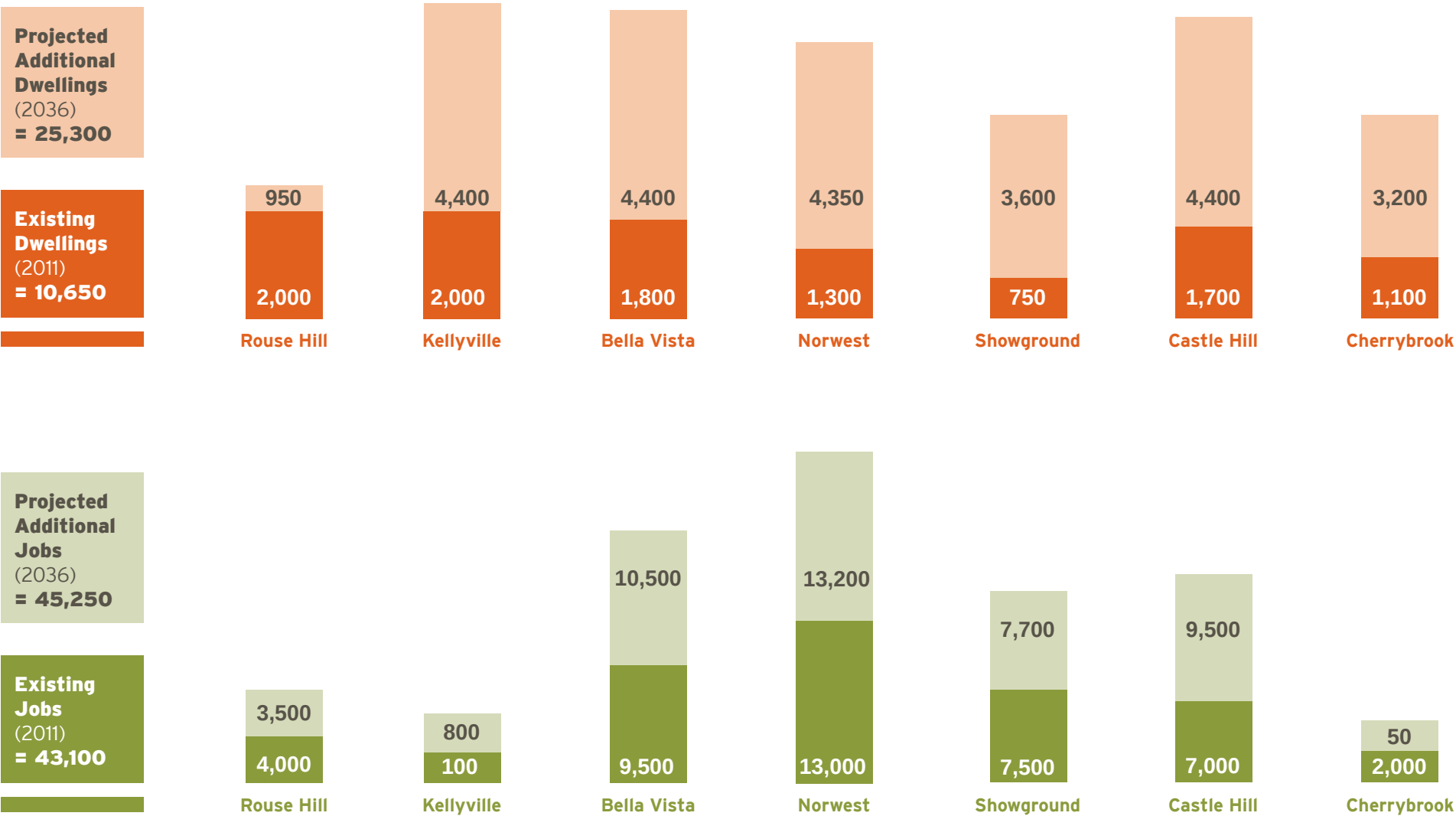


Figure 2.5: State Government Rail Corridor Strategy - Dwelling and Employment Projections (The Hills Shire)

Source: NSW Government NWRL Corridor Strategy

2.2 LOCAL PLANS

Hills Future Community Strategic Plan

Council's Community Strategic Plan named 'Hills Future' articulates the community and Council's shared vision, aspirations and priorities for the future. It identifies where we want to be as a Shire and Community in 10 years, how we will get there and how we will measure the effectiveness of various outcomes. The 10 year outcomes are shown in Figure 2.6.

Local Strategy and Strategic Directions

The Local Strategy was adopted by Council in June 2008 to provide guidance and a strategic context for decision making on land use and planning matters and to provide a clear understanding of how the Shire will grow and develop. It is supported by seven areas of key direction relating to employment lands, centres, residential development, integrated transport, rural lands, waterways and environment and leisure.

In responding to population growth, the Residential Direction demonstrates how a State target of 36,000 additional dwellings by 2031 can be met by 11,000 new dwellings for the established parts of the Shire and 25,000 new dwellings for release areas. A key focus has been ensuring these opportunities are realised in a way that responds to changing housing needs, provides for good living environments and facilitates quality housing outcomes.

The Employment Land Direction demonstrates that there is sufficient capacity to respond to a State target of more than 47,000 additional jobs by 2031 with identified employment lands able to provide for more than 55,000 jobs. A key focus of Council's strategy is ensuring current and future employment opportunities are realised and future development achieves a modern local economy that meets community and local business needs.



Figure 2.6 The Hills Future 10 Year Outcomes
Source: The Hills Shire Council

The Local Strategy continues to provide a clear statement of the overall strategic land use management and planning objectives for the Hills Shire however, in light of the finalisation of the North West Rail Link Corridor Strategy in 2013, this document builds on the key themes of the Local Strategy to provide more detailed land use and planning objectives for land within the Sydney Metro Northwest Corridor.

It is noted that the dwelling and job growth targets detailed within the Local Strategy represent Council's projected growth targets as at June 2008 and as a result, the future growth which will be experienced as a result of the Sydney Metro Northwest is over and above that planned for through the Local Strategy.



Stormwater management, Landy Place, Kellyville
Source: The Hills Shire Council



T-Way underpass, Windsor Road, Bella Vista

Source: The Hills Shire Council

2.3 THE HILLS DIFFERENCE

Population projections are used by NSW Planning & Environment in the planning of infrastructure delivery to the community. They also provide the basis for assessing future requirements for residential and commercial land, housing, public utilities, and the provision of a wide variety of services. Below is an analysis of the Department of Planning and Environment population and household projection characteristics for The Hills Shire Local Government Area to 2031.

Age Structure

Figure 2.7 identifies the projected change in the age structure of The Hills Shire Local Government Area between 2011 and 2031 compared with the wider Sydney Metropolitan area.

Key points of relevance taken from this analysis are that:

- The proportion of residents aged under 19 years will only decrease marginally from 28% to 27% between 2011 and 2031. This will remain higher than the proportion of residents within the Sydney Metropolitan area aged under 19 years which is 25%;
- The proportion of residents aged between 20 and 39 years will decrease marginally from 25% to 23% between 2011 and 2031. This will remain lower than the proportion of residents within the Sydney Metropolitan area aged between 20 and 39 years of 27%;
- The proportion of residents aged between 40 and 59 years will decrease from 29% to 28% between 2011 and 2031. This will remain higher than the proportion of residents within the Sydney Metropolitan area aged between 40 and 59 years of 26%;
- The proportion of residents aged between 60 and 79 years will increase from 15% to 17% between 2011 and 2031. This will be consistent with the proportion of residents within the Sydney Metropolitan area aged between 60 and 79 years; and
- The proportion of residents aged 80 years and over will increase from 2% to 5% between 2011 and 2031. This will be consistent with the proportion of residents within the Sydney Metropolitan area aged 80 years and over.

Household Structure

The proportion of households containing couples with children will reduce marginally from 53% to 49%. However this proportion is significantly higher than the projection for the Sydney Metropolitan Region which will be approximately 35%. The proportion of couple households will increase from 24% to 25% and the proportion of lone person households will increase from 10% to 12%. The proportion of single parent and group households will remain steady over this period.

Household Size

Both The Hills Shire and the Sydney Metropolitan Region will experience a reduction in the average household size (number of persons per household). Within The Hills Shire the average size is projected to reduce from 3.09 to 2.99 persons per household, whereas the average household size within the remainder of the Sydney Metropolitan Region is projected to reduce from 2.69 to 2.62 persons per household.

The Housing We Need

Current NSW Population Forecasts indicate growth (excluding future growth around the new stations) of around 103,000 people for The Hills Shire by 2031, which represents around 6.5% of Greater Sydney’s forecast growth of 1.6 million.

Greater Sydney’s growth will require around 665,000 new dwellings in a variety of typologies. Using past growth patterns as a guide, Sydney has insufficient land to grow in the same manner and a large percentage of this future growth will need to be in higher density forms.

For the Hills Shire, the release areas of Kellyville/Rouse Hill, Balmoral Road, North Kellyville and Box Hill provide a total of 25,000 dwellings with 15,000 (60%) using the traditional single home. The existing areas of the Shire will provide the remaining 11,000 homes, mostly in higher density multi dwelling forms. The Sydney Metro Northwest will add a further 26,050 dwellings mainly in multi-unit form around the new stations. Based on 2011 ABS Census figures the Hills Shire household structure consists of approximately 83% of the population requiring a family home. Therefore the multi-unit housing product

needs to encourage family friendly apartments and also needs to encourage “empty nesters” to trade their family home for a multi-unit dwelling to make available more traditional family homes. It is imperative that new multi-unit dwelling developments are of outstanding design, size and density to support this goal.

In summary the expected characteristics of the Hills Shire population, both now and into the future, is a larger proportion of households of couples with children compared to the wider Sydney area. This difference requires a focus on housing outcomes to suit the family demographic and will include floor space bonus incentives to deliver this outcome.

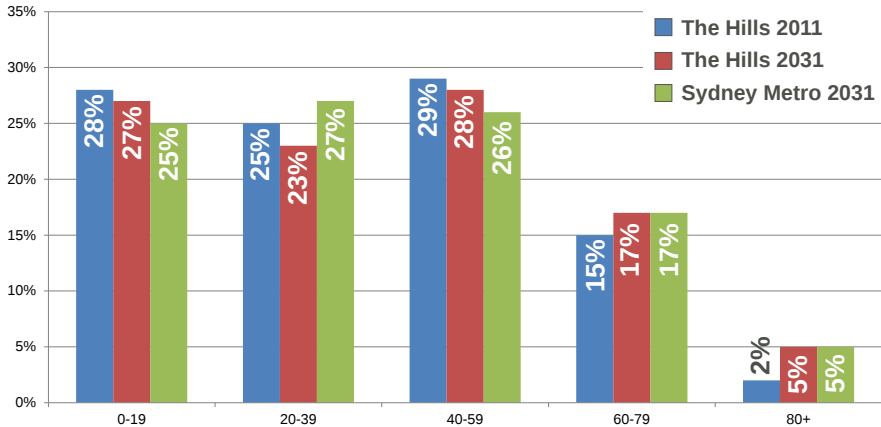


Figure 2.7: Age Structure
Source: NSW Department of Planning and Environment

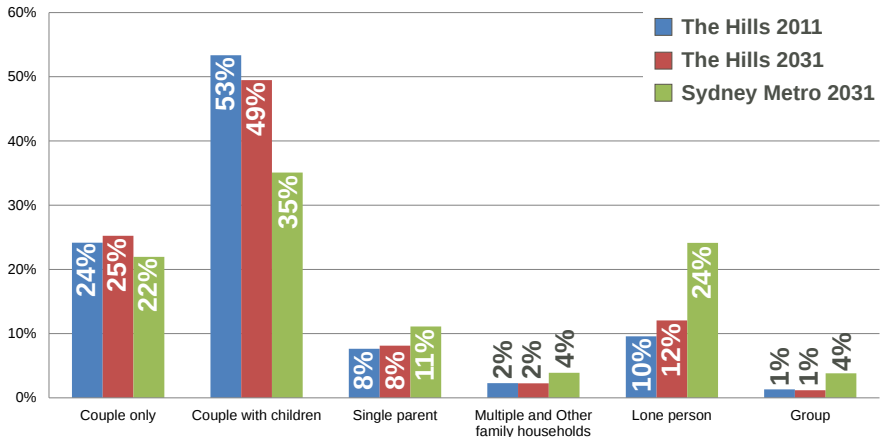


Figure 2.8: Household Structure
Source: NSW Department of Planning and Environment

3 TRAVEL BEHAVIOUR

While there needs to be behavioural change within the community to support the operation of the new public transport service, the planning for housing and employment growth plays an important role in how this change is created and delivered. The following section details the anticipated changes in the travel behaviour of the residents within the railway corridor.

The benefits of changing travel behaviour away from car dependence are many and include the alleviation of traffic congestion on roads during peak periods. In seeking to achieve a shift from private vehicles to new public transport opportunities, strategies need to focus on the quality, reliability, safety and accessibility of the public transport system, rather than an enforced reduction of parking for future residents within the corridor.

Based on analysis of other key transit centres within the Sydney Metropolitan Region and consideration of the expected future Shire demography, key assumptions have been developed on how the travel behaviour of residents may change as a result of the delivery of the Sydney Metro Northwest.



Figure 3.1: Projected Public Transport Usage of Future Residents within the Rail Corridor

Source: Average travel to work data across comparable rail centres - Hornsby, St Leonards, Chatswood, Meadowbank/West Ryde, and Hurstville (ABS 2011)

3.1 CAR OWNERSHIP

Currently, households in the railway corridor within the Hills Shire, have a car ownership rate of 2.03 cars per household with only 2.4% of households not owning a car.

An analysis of households within 800m of other established transit centres at Hornsby, St Leonards, Chatswood, Hurstville and Meadowbank-West Ryde indicate an average car ownership rate of one (1) car per household with around 23% of households not owning a car and around 57% of households only owning 1 car. There is also a lower proportion of households owning 2 or more cars reflecting the centres' access to public transport services.

Whilst the analysis indicates that greater access to public transport will result in changed travel behaviour, care needs to be used in translating the reduced car ownership in other transit centres to outcomes that will be experienced in the Hills Shire. Data for Castle Hill and Rouse Hill, which both currently benefit from accessibility to frequent and reliable bus services, indicates comparatively high car ownership rates of 1.61 and 2.05 cars per household respectively. Delivery of Metro Sydney Northwest provides the flexibility for residents to live with lower car dependency, but it is not anticipated that there will be a significant reduction in car ownership, particularly given the expected family dynamic and the comparatively higher incomes levels of households in the Hills Shire.

Private car transport is important to families and contributes to an overall quality of life, indicating there will continue to be reliance on cars particularly for non-work related activities such as sporting and recreational activities. It is anticipated that any reduction in car ownership will occur gradually over time and as such, early stages of development within the Corridor will still need to cater for existing car ownership patterns.

3.2 METHOD OF TRAVEL TO WORK

It is anticipated that the Sydney Metro Northwest will influence the travel behaviour of residents and encourage a 'modal shift', which occurs when residents transition from one mode of transport (such as a car) to another mode (such as train or bus).

The Sydney Metro Northwest will influence the travel behaviour of residents both within the railway corridor (800 metres from a station) and in the outer catchment areas. The outer catchment areas are locations which are not within walking distance of a new railway station, however are considered to have reasonable access to a station by way of an alternative mode of transport such as bus, 'park and ride', 'kiss and ride' or bicycle.

Currently, 15% of employed residents within 800 metres of the future railway stations travel to work by public transport (bus and train) with 65% driving a private vehicle.

The analysis of other transit centres demonstrates 'modal shift' varies dependent upon distance from the station. Based on this analysis and the high frequency nature of the new rail service, it is anticipated that the proportion of employed residents within 800 metres of the railway stations that will catch public transport to work will increase from 15% to as high as 45% as each precinct fully develops. Within the outer catchment areas, it is anticipated that the proportion of employed residents that will catch public transport to work will increase to around 25%.

Figure 3.3 identifies the proportion of employed residents within the catchment areas of each station that will likely catch public transport to work. The diagram identifies the 0-400m catchment, 400-800m catchment, and the outer catchment areas. As can be seen a higher rate of public transport patronage is expected for the areas directly adjoining the future railway stations.

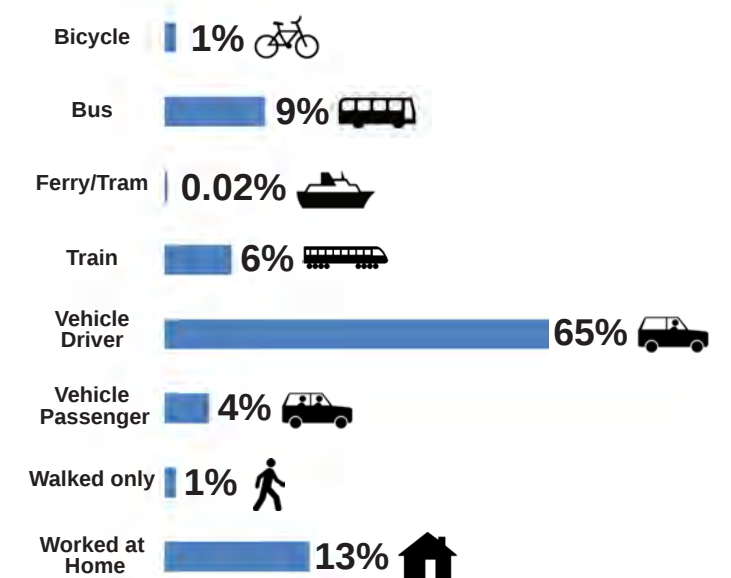


Figure 3.2: Current Method of Travel to Work (Residents Within 800m of Future Stations)

Source: ABS 2011

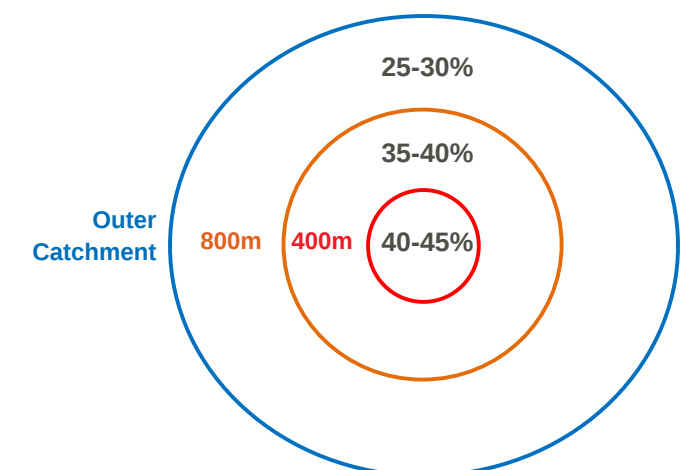


Figure 3.3: Forecast Modal Split for Public Transport Patronage to Work (2036)

Source: The Hills Shire Council



Rouse Hill Bus Interchange

Source: The Hills Shire Council

3.3 PLACE OF EMPLOYMENT

It is anticipated that a substantial amount of new jobs will be provided within a number of the station precincts and as such, significant employment opportunities will remain within the Hills Shire for current and future residents.

Of the 183,735 people that currently live within The Hills Shire approximately 54% of these people are employed in full time, part time or casual work. Underpinning this Strategy is a need to ensure that additional employment opportunities are provided to cater for the growth in population within both the Corridor and the remainder of The Hills Shire.

Figure 3.4 identifies the current place of employment of residents within the catchments of the future stations. The key places of employment for residents within the Corridor include The Hills Shire (31%), Western Sydney and Blue Mountains (14%), Lower North Shore (13%) and Sydney CBD (12%).



Figure 3.4: Place of Employment (Residents within Catchment Area of Station Precincts)

Source: ABS 2011

The Sydney Metro Northwest will also provide greater opportunities for employed residents to access jobs within the Sydney Global Economic Corridor including the key employment areas of Macquarie Park, Chatswood, St Leonards, North Sydney and the Sydney CBD. The provision of fast and efficient public transport services to these centres may result in an increase in the proportion of Hills Shire residents working in these locations.

Of the 74,944 people that work within The Hills Shire, 64,365 (86%) work within the catchments of the future stations. Figure 3.5 identifies the origin of people that currently work within the catchments of the future stations. The areas where the existing workers are coming from include The Hills Shire (45%), Western Sydney and Blue Mountains (26%), South West (7%), Upper North Shore (6%) and Central West/Parramatta (5%).

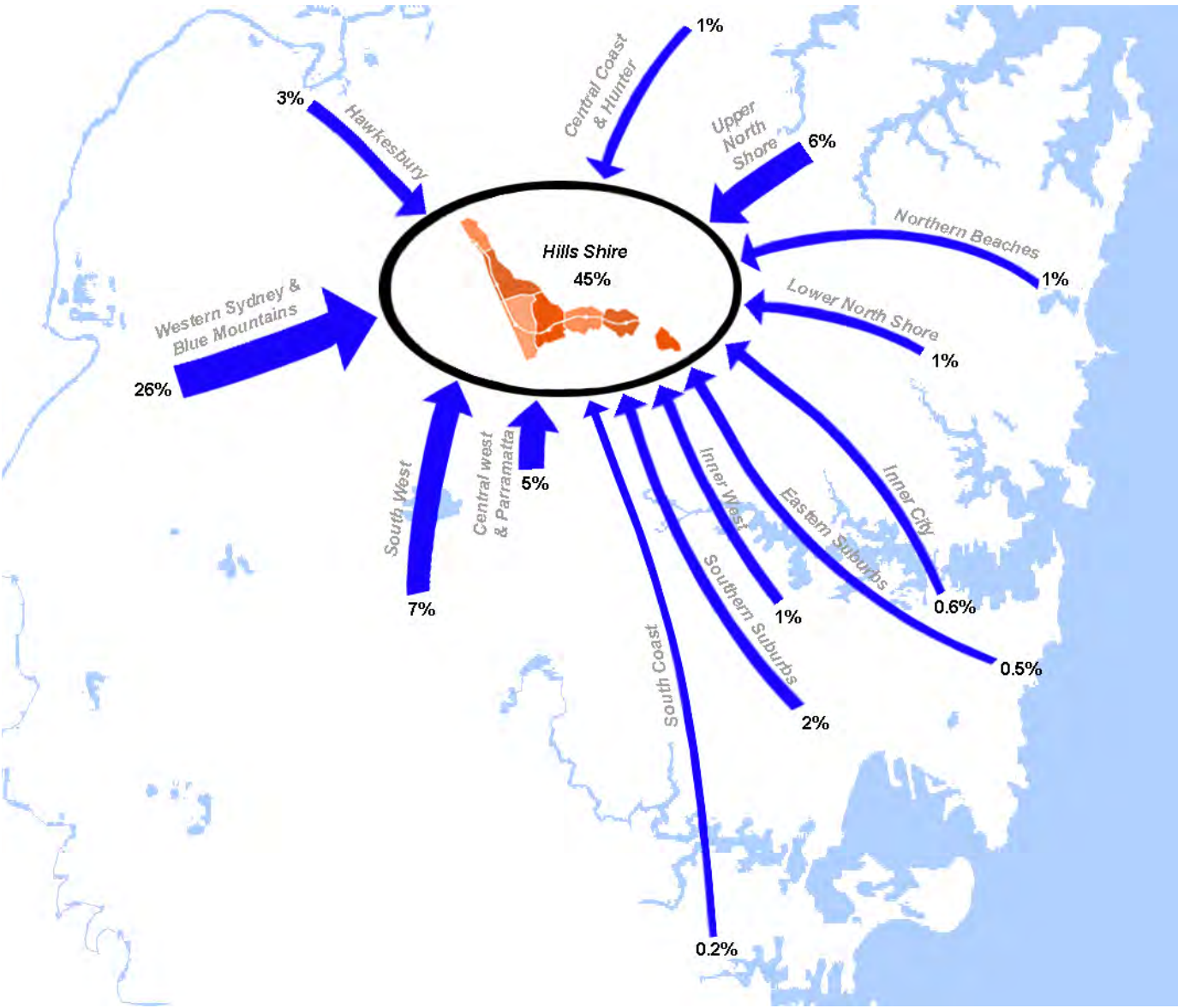


Figure 3.5: Place of Residence (Those Employed within Catchment Area of Station Precincts)

Source: ABS 2011

3.4 THE HILLS RESPONSE

The delivery of Sydney Metro Northwest will provide an efficient public transport system to the region and significantly improved access for residents to locations within the Shire and to the wider Sydney area.

Strategies that seek to significantly reduce car parking provision for residential development within the rail corridor are not supported given the expected family demographic, Shire incomes and the likely continued reliance on cars for non-work activities. Motor vehicles are a necessity for families to run their lives and to enjoy the lifestyle offered in the Shire. Relying on public transport to take children to sporting and recreational activities or to do the weekly grocery shopping is simply not realistic.

Despite this, in order to encourage employment outcomes in close proximity to the stations consideration could be given to car parking concessions for commercial uses close to future stations. The delivery of the rail is a key opportunity to facilitate more jobs close to home to address the qualifications and skills of Shire residents. For strategic areas such as Norwest, Bella Vista, Showground and Castle Hill precincts, reduced car parking requirements will assist in encouraging investment in commercial offices and reducing reliance on private cars for work trips.

The role of parking in our society is complex and presents both opportunities and challenges. In this regard, it is envisaged that as part of the detailed planning investigations for each station precinct, Council will explore opportunities for reduced car parking rates which better reflect the typical car ownership rates within transit centres.

4 GUIDING PRINCIPLES

The Hills Corridor Strategy is underpinned by six (6) guiding principles. Together they provide the key ingredients for highly liveable and diverse urban areas that reflect and respond to the amenity enjoyed by existing Shire residents.

4.1 ACCOUNTABLE AND SUSTAINABLE APPROACH Outcomes are guided by clear evidence that respond to the opportunities and constraints presented by the existing natural and built environment.

Council with its adopted Local Strategy has provided a strong statement for future land use management and planning of the area. To inform this strategic work Council undertook many investigations to establish a clear local planning framework that reflects local circumstances and facilitates consistent decision making for the community and relevant stakeholders. In responding to the opportunities presented by the delivery of the Sydney Metro Northwest this approach is continued with careful scrutiny of the physical potential of land to support urban development and the particular characteristics of each station precinct that will influence the ability to cater for more housing and employment development.

Natural Environment

The natural environment including topography, vegetation and natural watercourses all influence the physical capability of land to be redeveloped. The topography of the Shire creates opportunities to capitalise on views and create distinctive places at key locations. However, in some cases the steepness of slopes will constrain accessibility by cyclists and pedestrians. Also, clear unequivocal evidence will be needed to ensure land can be made stable where landslip risk has been identified. Existing vegetation and riparian areas provide the opportunity for enhanced passive recreation and amenity for residents and improvements in connectivity for pedestrians and cyclists. Natural watercourses and overland flow paths signal the need for caution to ensure that flood risk or the potential

for flood damage is not exacerbated. There is likely to be a need for upgrades and enlargements to the stormwater drainage system to ease impacts of overland flow on affected land.

Built Environment

The built environment including the road network, public transport, pedestrian/cycle links and open space and recreation are important factors to be considered as they influence the ability for future higher density development to be supported by appropriate infrastructure. Local road and pedestrian networks will need enhancement to ensure precincts are permeable and comfortable to get around. A fresh look at existing open space and recreation facilities is needed to ensure there is capacity to respond to increased usage by either expansion or better utilisation of spaces.

4.2 BALANCE HIGH AND LOWER DENSITY HOUSING Higher density housing is located in areas that have greatest potential for change, in easy walking distance to retail centres and the future stations, thereby enabling nearby low density character to be retained.

The need to locate high density housing in centres with access to services, community facilities and transport is well recognised and will support the on-going operation of the rail link. Density at the core allows for a scale and character suitable for pedestrian connectivity. Centres should provide a mixture of residential, retail and commercial activities that are centred around transport and create an environment where services, recreation, entertainment, jobs and housing provide a lifestyle alternative to the traditional suburban context, consistent with the principles of 'transit oriented development'.

It is generally accepted in planning terms that higher density residential development be located within 800m of well integrated transport networks and major services being a 5-10 minute walking distance.

The North West Rail Link Structure Plans, completed by State Government in September 2013, identified study areas based on an 800m radius of the future stations. However, in some cases the boundaries extend to 1.5km from the stations, creating expectation for high density development in areas that are not convenient or as readily accessible to the rail stations.

In order to provide certainty for landowners and investors and also to minimise the impacts of future development it is important that the boundaries be refined to areas closer to the retail, commercial and transport cores. A primary catchment for each station will be determined based on actual walking distance and the constraints imposed by topography and the existing road network.

The area beyond the primary catchment provides the opportunity for a transition to medium and lower density housing types thereby retaining the nearby low density character, ensuring impacts on the existing community are reduced and the lifestyle option is available for residents wishing to remain in the area. Such housing options are important as they support the professional jobs that are required to build local employment and a strong local economy. For example, within the Norwest Business Park the provision of executive style housing together with a range of amenities such as child care centres, restaurants, gyms, open space and pedestrian and cycle tracks has contributed to the prestigious image of the business park and been a strong attractor to facilitate growth.

The hierarchical approach that provides for a transition from higher to lower density development moving away from retail and transport hubs represents a strategic policy of Council that has been implemented successfully since the 1997 Residential Development Strategy. By delivering higher density in key strategic locations close to centres and existing and proposed transport infrastructure, a sensible balance can be achieved between delivering on housing targets and maintaining residential character.



Aberdour Village Reserve, Rouse Hill
Source: The Hills Shire Council



Moris Grove, Zetland
Source: The Hills Shire Council

4.3 HOUSING TO MATCH SHIRE NEEDS

A diversity of housing options are to be provided to respond to future demand, with a particular focus on the delivery of viable and attractive apartment living for families.

To meet the varying needs, lifestyles and financial capacities of future residents and families it is essential that a diverse range of housing types and sizes are provided. Apartments have long been seen as the domain of singles, young couples or retirees. But with an additional 1.6 million people expected in Sydney over the next 25 years, apartment living needs to respond to a wider range of needs.

The Hills is a family orientated Shire with outstanding schools, sporting and lifestyle options. The Shire currently has planned growth for around an additional 100,000 people over the next 20 years and the predominant household type will continue to be couples with children (50%) with a higher projected proportion of persons under 15 years than the Sydney Metropolitan average (Source: Department of Environment and Planning Household and Dwelling Projections 2014). All of the demographic trend data points to The Hills Shire remaining a family area which is no surprise given the safety, educational and recreation opportunities that are available.

The State Government's land use policy over the next 20 years is pointing to greater densities in both greenfield and existing housing estates. It is clear the traditional housing mix of predominately free standing dwellings will change and more families will need to call an apartment home. It is essential that new apartment development is orientated towards supporting family living with sufficient size, quality, space and car parking to provide a level of amenity that makes it an attractive choice for families.

In order to ensure that housing meets the diverse needs of future residents and families, floor space incentives shall be offered where development meets Council's apartment mix, apartment size and car parking requirements. Additional floor space shall be obtainable to encourage developers to provide the desired built form outcomes advocated by Council to suit the needs of expected future residents.

Whilst the delivery of the rail link would be expected to ultimately reduce reliance upon private vehicles, this will take some time and the family dynamic will mean that there continues to be reliance on cars particularly for non-work related activities such as sporting and recreational activities. Motor vehicles are a necessity as it would be unreasonable to expect families to successfully run their lives based on public transport alone. Private car transport is important to families and contributes to an overall quality of life.

Additionally, it is important that apartments or detached dwellings are not the only housing choice for future residents. At the 2011 Census just 12.5% of the dwellings were medium density compared with 19.7% in Greater Sydney. Options such as town houses, terrace homes or smaller lot housing provide for residential living options that may be desirable for landowners seeking to transition to liveable, lower maintenance affordable options.

4.4 FACILITIES TO MATCH SHIRE LIFESTYLE

Residents of new developments are able to access open space, recreation and community facilities in line with the lifestyle enjoyed by existing Hills residents.

The NSW Government's 'A Plan for Growing Sydney' recognises the importance of social infrastructure to support growing communities. With the rail corridor expected to accommodate around 57,254 extra people in higher density housing types, facilities such as schools, health care facilities, libraries, community centres, open

space and recreational opportunities will be needed to support the new communities. Local open space and community facilities are important to the daily lives of residents and will help people feel connected with their local community.

As a Shire located on the metropolitan fringe, delivering greenfield housing supply as part of the North West growth centre, Council is well versed in identifying the infrastructure needs of new development and planning for where, how and when such needs can be met. The expected predominance of family households within the rail corridor will mean that the demand for open space and community facilities will not significantly differ from the demand experienced in the growth centres. Within the Shire existing playing fields are used to capacity and additions or improvements will be needed to cater for the demand generated by development around the rail stations.

Whilst planning for such demand will present challenges in the urban context where land costs are higher, it is important that the lifestyle enjoyed by existing residents is not compromised and an appropriate level of provision is maintained. To respond to this principle there will need to be detailed assessment of the capacity of existing facilities and consideration of opportunities to better use or add to such spaces. There will be a need to consider innovative solutions to maximise the benefits of existing infrastructure and improve the efficiency of new infrastructure, for example different playing surfaces for reserves or the addition of new training facilities.

This Strategy will determine the scope of local infrastructure needed to cater for the expected population across the rail corridor. This will include the identification of opportunity sites where the additional demand for active open space could be accommodated as well as an indication of preferred locations for local and neighbourhood parks and community facilities.



Medium Density Housing, Shearwater Drive, Warriewood
Source: Google Maps



Mary O'Brien Reserve, Joynton Avenue, Zetland
Source: The Hills Shire Council

4.5 JOBS TO MATCH SHIRE NEEDS

A range of employment opportunities are made available that reflect the qualifications and skills of Shire residents and facilitate more jobs close to home.

With significant population growth of over 129,000 persons forecast for the Shire (NSW Population Forecast 2014 plus growth envisaged under this Strategy) there needs to be a long term increase in employment opportunities for local residents to enable the opportunity to live and work in one location. The Shire's labour force is highly educated and the majority are employed as professionals, managers or clerical and administrative workers. However over 70% of residents travel outside the Shire for work and face long commutes resulting in less time for families and recreation.

A modern local economy and the delivery of jobs close to home are key components of Council's strategic planning framework. The Government's Plan for Growing Sydney also emphasises the importance of providing jobs in strategic areas outside the Sydney CBD, closer to where people live in order to increase productivity and reduce congestion.

Currently the number and range of jobs in the Shire do not meet the skill set of the majority of residents. At the 2011 Census The Shire had a total resident workforce of around 87,000 but only 57,000 jobs. Of these jobs, only 11% are in the professional and technical services sectors, mainly located within Norwest Business Park.

The Shire therefore needs to address the current imbalance between the available jobs and the skills of residents, and ensure that new populations can access high quality professional jobs close to home. This means more needs to be done to attract businesses such as large financial services, legal and professional consulting companies to the area.

The rail corridor is a key opportunity in achieving these goals as it will facilitate the opportunity for intensified commercial growth in strategic areas such as Norwest, Bella Vista, Showground and Castle Hill. The proposed planning controls will encourage investment in commercial offices as well as high quality services and amenities for workers such as meeting, shopping, dining and recreation facilities.

4.6 GROW OUR STRATEGIC CENTRES

Reinforce the hierarchy of centres recognising the significance of Castle Hill and Rouse Hill as major centres and Norwest as a specialised centre.

In the Government's Plan for Growing Sydney there are around 30 strategic centres that are seen as areas of intense, mixed economic and social activity that are built around the transport network, helping to make Sydney a networked and multi-centred City. Norwest, Castle Hill and Rouse Hill are identified as strategic centres and are therefore important hubs within the metropolitan context for employment and business. To achieve this, there needs to be a strong focus on growing jobs and housing and creating vibrant hubs of activity.

Council's Centres Hierarchy, as articulated in its Local Strategy, classifies existing and proposed centres according to their size, location and function. It provides a framework for land use decision making that seeks to ensure that the population has access to well-located and sized centres that meet their needs. With significant residential growth expected there will be a consequent increase in demand for retail floor space and other social and recreational activities offered by centres.

Norwest is located in Sydney's Global Economic Corridor and targeted as a location where investment and economic development can be leveraged to generate further jobs and business growth. The Shire is set to capitalise on the overflow of demand for office space activity from

the Sydney CBD in the last decade with the business park performing strongly. Norwest Business Park has an important role as an economic centre where business growth and jobs are key. There is a need to protect this strategic employment location from residential development pressures and facilitate strong economic growth.

Castle Hill is the Shire's major centre containing commercial, retail, residential and entertainment activities making it a key destination along the Sydney Metro Northwest. Likewise Rouse Hill is transitioning to a major centre and has potential to grow and provide jobs and expand the range of services on offer thereby reinforcing its role as an important destination along the rail link.

It is important that outcomes in the remaining precincts do not undermine the established centres hierarchy and have regard to the need to reinforce the strategic centres as destinations. Stations such as Kellyville, Cherrybrook and Showground have an important transit orientated function to play. By providing for commuter parking and a variety of housing types and local retail services they create the opportunity for stronger connectivity to the strategic centres.



Home Hub, Castle Hill
Source: The Hills Shire Council



Norwest Lake, Baulkham Hills
Source: The Hills Shire Council



Castle Hill and Castle Towers Shopping Centre

Source: The Hills Shire Council

5 PRECINCT PLANS

5.1 APPROACH

As set out in the Introduction to the Strategy, a number of assessments have been carried out to inform The Hills Strategy including a review of the strategic framework and a review of the expected demographic profile. This work has assisted in establishing the vision for the corridor strategy and guiding principles that seek to facilitate development that responds to Hills Shire values. Assessments of transport, employment and infrastructure have been carried out to understand the existing situation and how this is likely to change into the future.

The Precinct Plans in the following sections are founded on the vision and guiding principles. They seek to clearly reflect the opportunities and constraints presented by the existing natural and built environment and facilitate higher density housing choice in key strategic locations whilst maintaining, and potentially improving, the lifestyle enjoyed by Hills Shire residents.

Land Use Terms

The delivery of the rail provides an opportunity for a range of housing types. It is important that the terms used are clearly defined upfront to prevent any misunderstanding within the community. Traditionally within the Shire medium density housing has referred to townhouse and villa development. The State Government Strategy uses the term 'medium density' to refer to 3-6 storey apartment buildings (which normally would be considered high density within the Shire). Table 5.1 sets out how the terms are used in The Hills Strategy.

Land Use Terms	
Medium Density	Townhouses, Villas, Terrace Homes
High Density	Apartments
Mixed Use	1-2 Storey Retail/Commercial and Residential above
Commercial	Business and offices

Table 5.1: Land Use Terms

5.2 OPPORTUNITIES AND CONSTRAINTS

The Hills Corridor Strategy reviews the opportunities and constraints for each station precinct. Consideration has been given to the natural environment including topography, vegetation and surface water management and how such factors will impact development outcomes. The existing physical environment has been reviewed including the road network, pedestrian and cycle links and open space provision to understand how these factors influence the achievement of more intense residential or employment outcomes.

5.3 DESIRED OUTCOMES

The review of opportunities and constraints together with consideration of strategic priorities, guiding principles and expected households, has provided a rationale for desired outcomes. In accordance with the guiding principles of this strategy, higher residential densities are proposed in locations which have the greatest potential for change and which are in easy walking distance to retail centres and the future stations. In terms of employment there is a strong focus on job growth close to stations that are within strategic centre locations, particularly Castle Hill, Norwest and Bella Vista.

The outcomes include a description of the desired character of the precinct and how this might be achieved. The desired outcomes for each Precinct also include potential yields expressed in terms of maximum dwelling density and employment density. These yields have been used as part of the transport, employment and infrastructure assessments to understand how the existing situation is likely to change and the implications of the projected growth, in particular whether it can be suitably supported by sufficient infrastructure.

5.4 DETERMINING YIELD

The State Government Corridor Strategy and Structure Plans have projected housing and job growth for each rail station precinct based upon a series of floor space ratio assumptions for different development types such as 3-6 storey apartments and 7+ storey apartments. However, in the absence of further detailed planning investigations, the application of these assumptions to individual development sites results in potential yields which are considerably higher than the overall dwelling projections for each precinct and potential built form outcomes which would likely fail to respond to Hills Shire values, expectations and expected future demographic profile.

This has raised developer and landowner expectations and will produce a population and development yield that exceeds the growth envisaged under the State Government Corridor Strategy and the capacity of local infrastructure. In order to avoid this, the Hills Strategy focuses on maximum development yields to achieve the overall dwelling and job growth numbers for each precinct consistent with the Government Corridor Strategy growth projections. The methodology and assumptions applied in determining maximum development yields is shown in Figure 5.1 and Table 5.2 respectively.

The maximum yields expressed within this Strategy should not be interpreted as detailed guidance with respect to acceptable or intended built form on individual sites within the Corridor as this next level of detail must still be determined as part of the preparation of detailed planning controls for land within each precinct. Further, as detailed within the 'Implementation' section of this Strategy, the maximum yields expressed may only be achieved where individual development sites are appropriate to allow for desirable built form outcomes that deliver the lifestyle and amenity expected within the Hills Shire and where individual development proposals deliver housing product and choice consistent with the expected future demographic profile of the Hills.

Dwelling Density

The maximum dwelling yields identified in this Strategy are expressed in terms of 'dwellings per hectare'. Where apartment style development is envisaged, a dwelling density of 24 dwellings per storey is assumed over one hectare of land. This per storey density calculation is based on a review of recently approved apartment buildings within The Hills Shire. Figure 5.2 provides an example development layout for a residential flat building based on Council's current controls for setbacks, site coverage and building separation and demonstrates a density of approximately 24 dwellings per storey over one hectare of land. Where townhouse or terrace developments are envisaged, residential densities of 34 dwellings per hectare and 39 dwellings per hectare respectively is applied. These rates have informed the formation of the maximum 'dwellings per hectare' rates which apply to land within the Corridor.

Dwelling Density	
Apartments: Dwellings/Storey/Ha	24 dwellings
Townhouses: Dwellings/Ha	34 dwellings
3 Storey Terraces	39 dwellings
Occupancy Rates (persons per household)	
Townhouses/Terraces	2.8 persons
Apartments	2 persons
Employment Floor Space Ratio (FSR)	
FSR per Storey Retail	0.5:1
FSR per Storey Commercial	0.25:1
Employment Ratio (m ² per job)	
Employment Ratio Business Park	30m ²
Employment Ratio Retail/Commercial	38m ²

Table 5.2: Density Assumptions

Note 1: Dwelling density is based on Nett Developable Area;

Note 2: Employment Ratio is based on Gross Floor Area.

Dwelling densities provide an indication of the envisaged scale of future development and generally apply to larger areas of land rather than individual development sites. As a result, within any given area it is anticipated that the maximum 'dwellings per hectare' envisaged will be achieved as the average yield of all development within that area, rather than the uniform outcome across the area (some sites may accommodate marginally lower yields while others may accommodate marginally higher yields).

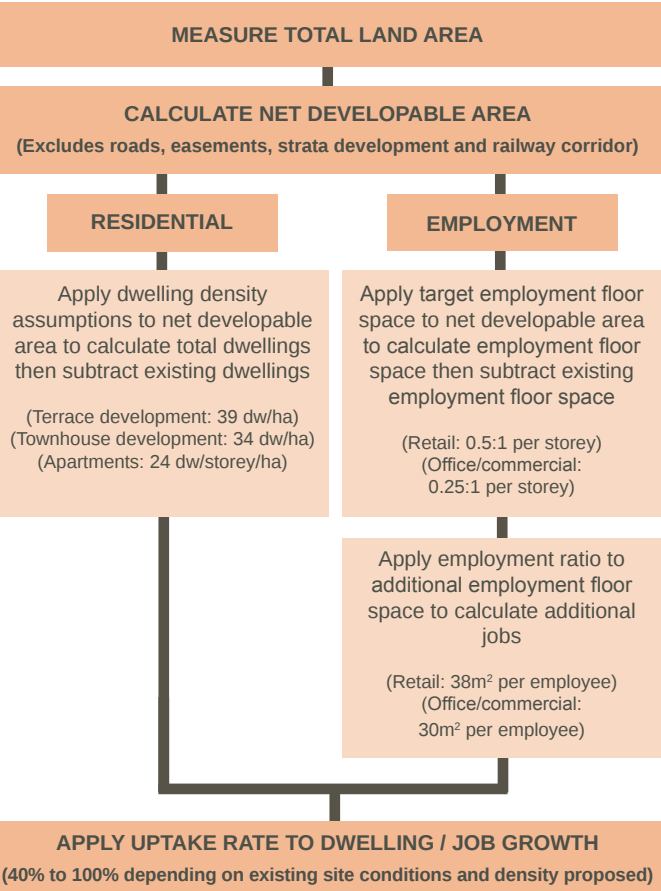


Figure 5.1: Site Yield Methodology

Employment Density

For commercial development, the per storey yield assumption is based on a review of recently approved commercial developments in the Shire's employment areas and allow for development consistent with Council's current controls. In order to convert the projected employment floor space into jobs numbers, the employment ratios (m² per employee) in Table 5.2 are applied to give a reasonable indication of the likely number of jobs which can be generated within a given amount of floor space.

The assumed employment ratios for retail floor space are consistent with the yield for retail centres within the Council's release areas. For commercial/office floor space the ratio is based on the current rate of floor space per employee in Norwest Business Park, modified to account for future office space incorporating a larger proportion of higher order uses and smaller proportion of industrial and warehouse type uses.

Uptake Rate

It is not envisaged that all properties will be subject to redevelopment at the same time and uptake rates have been applied to each development type within each precinct. The uptake rates which have been applied depend on the density being proposed and the extent of development which is likely to occur. Higher uptake rates are applied where higher densities are envisaged. However, in locations that are subject to development constraints, a lower uptake rate has been applied. The uptake rates are included within the yield table for each precinct. It is noted that for a number of sites, an uptake rate of 100% has been applied as these sites have a development approval for higher density development yet to be constructed.

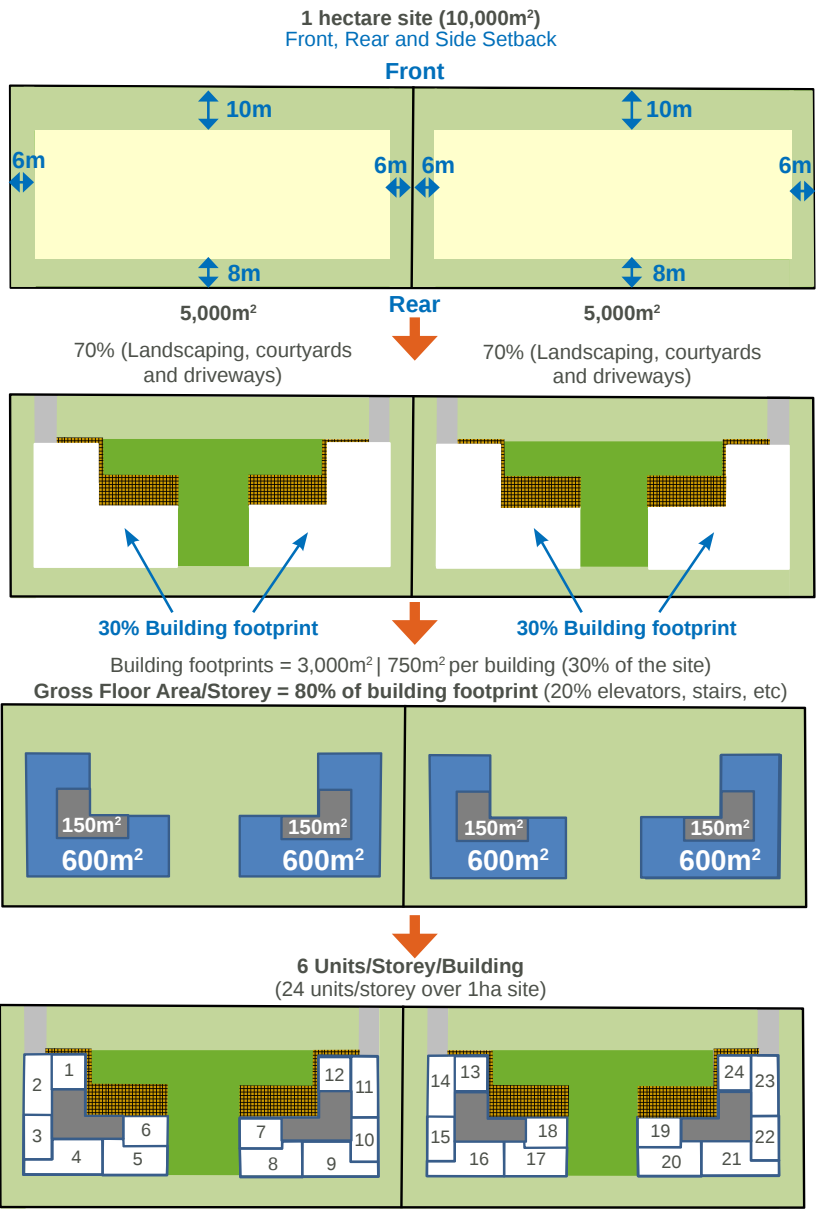


Figure 5.2: Site Density Methodology

Note: Indicative only - is an example of a development layout which would achieve 24 units/storey over a 1ha site. Site coverage generally ranges between 30-40% of the site. The proportion of Gross Floor Area ranges between 75-85% of the total internal floor space. Apartment sizes will generally range between 90-100m².

5.5 ACHIEVING DESIRED OUTCOMES

In order ensure development outcomes which are consistent with the Hills Shire values, more detailed planning and investigations must be completed to formulate local provisions and development controls for all land within the corridor.

Housing Diversity

As detailed further in the 'Implementation' section, the maximum yields identified within this Strategy may only be achieved where development proposals deliver housing product and choice consistent with the expected future demographic profile of the Hills. Local provisions will be drafted to prescribe a base floor space ratio and as well as a bonus floor space ratio (which would allow for the achievement of the maximum development yield) which would be obtainable where a developer provides improved housing diversity and reasonable car parking provision in accordance with key design criteria specified by Council and included within the LEP.

Desirable Built Form

The maximum yields identified within this Strategy may only be achieved where individual development sites are appropriate to allow for desirable built form outcomes that deliver the lifestyle and amenity expected within the Hills Shire. This will require further consideration of:

- Site location and context;
- Interface between higher built form and sensitive land uses;
- Managing privacy and overshadowing impacts; and
- High quality urban design and public domain.

In addition to the maximum yields identified within this Strategy, consideration of these factors will inform the preparation of detailed local development controls for land within the Corridor such as maximum floor space ratios and controls such as building heights, landscape area and setbacks.

Maximum Floor Space Ratio controls will be the primary mechanism which limit the amount of floor space that can be achieved on any individual site and in turn, will ensure that maximum dwelling densities envisaged within this Strategy cannot be exceeded. Additional floor space shall be offered as an incentive where development meets Council's apartment mix, apartment size and car parking requirements.

'Building Envelope' controls establish an envelope within which future development may occur (but not one that a development should necessarily fill). The key 'Building Envelope' controls are minimum setback distances, minimum landscaped area (site coverage) and maximum building height however other requirements/factors such as solar access, privacy, building separation, building length/depth, access, parking, communal open space, existing vegetation and landslip/topography can also impact on the potential 'Building Envelope' on a site-by-site basis. 'Building Envelope' controls will ensure that built form outcomes are appropriate in the context of each individual site and respond to the Hills Shire values and community expectations.

Floor Space Ratio and 'Building Envelope' controls must be drafted and considered together to achieve the desired built form outcome. Future development applications will be expected to demonstrate compliance with the objectives and requirements of all applicable controls. Where a maximum floor space ratio control does not allow for the achievement of the full extent of what may be possible under the 'Building Envelope' controls (such as the achievement of the maximum building height), this does not provide justification for exceedance of the floor space ratio control. Rather, it will produce a development which is smaller than the maximum potential building envelope with decreased bulk and greater opportunities for articulation and variation in building form.

As demonstrated in Figure 5.3, floor space ratio controls effectively limit the development yield of a site whilst also providing for flexibility in built form within the parameters of the 'Building Envelope' controls.

Both examples within Figure 5.3 achieve the same development yield however Example 1 does so within 6 storey built form (30% site coverage) while Example 2 does so within a 4/5 storey built form (40% site coverage).

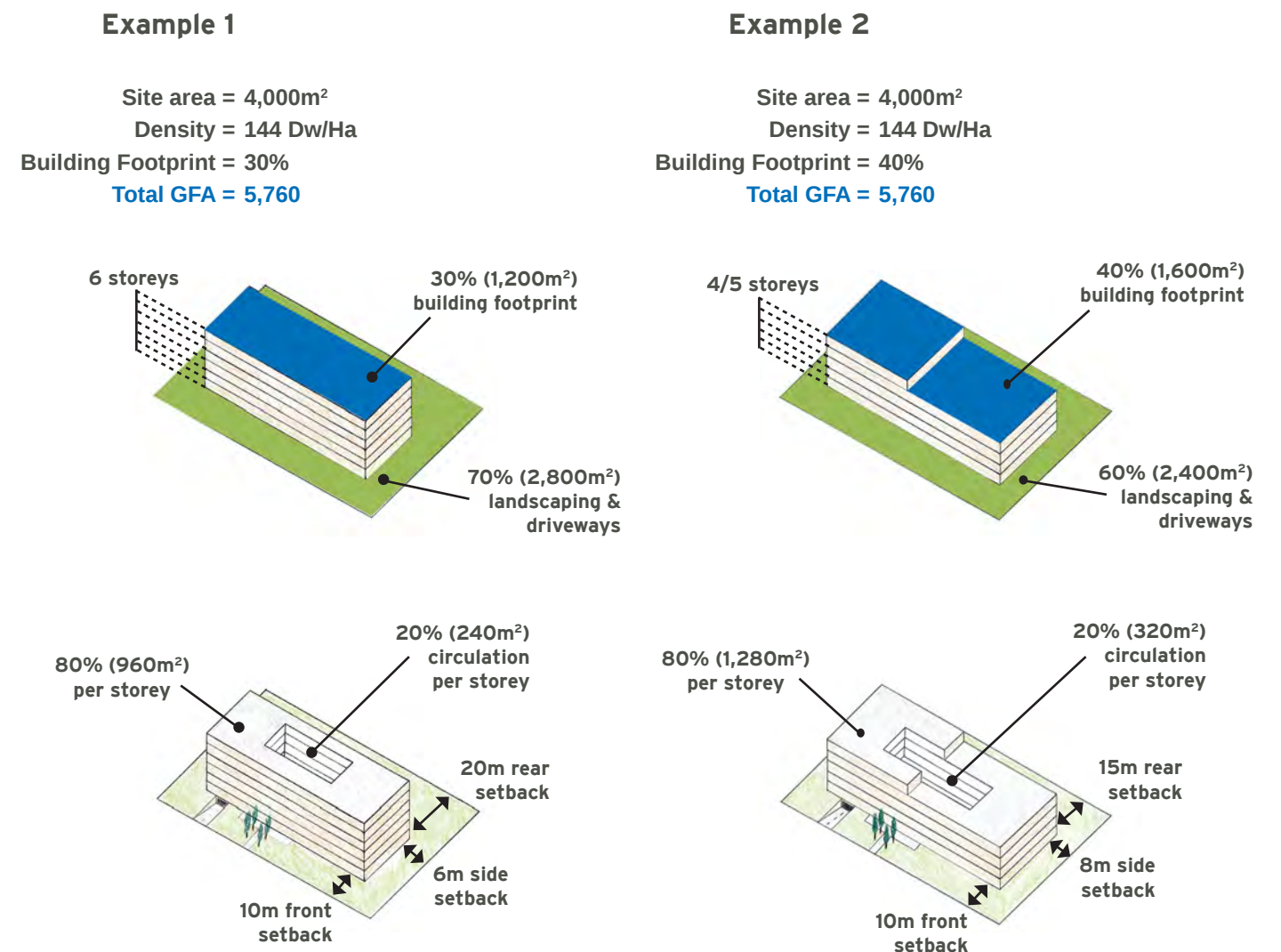


Figure 5.3: Application of Floor Space Ratio

A Master Planned response

An emerging trend of multiple landowners offering land for sale “englobo” needs to be encouraged. While it is important to allow fragmented owners to develop, the opportunity for master planning can only really occur on large sites. The traditional 4,000m² for apartments is well established but a far better response is to encourage hectares to be acquired so that real master planning can occur. It is considered landowner returns are higher once they have essentially “derisked” the development site by actively consolidating land parcels and offering them to market all at the same time and together. Incentives to encourage this are required.

Design Excellence

Whilst higher densities are expected, it is important that the built form be outstanding to provide not only the housing we need but a positive contribution to public realm. To this end, a design excellence clause within Council’s LEP will require that residential development with a height of 25 metres (8 storeys) or more must exhibit design excellence. It is aimed at achieving a high standard built form for larger buildings within the Shire and would involve the use of a design panel.



Norwest Business Park and Bella Vista (looking east)

Source: The Hills Shire Council

6 CHERRYBROOK PRECINCT

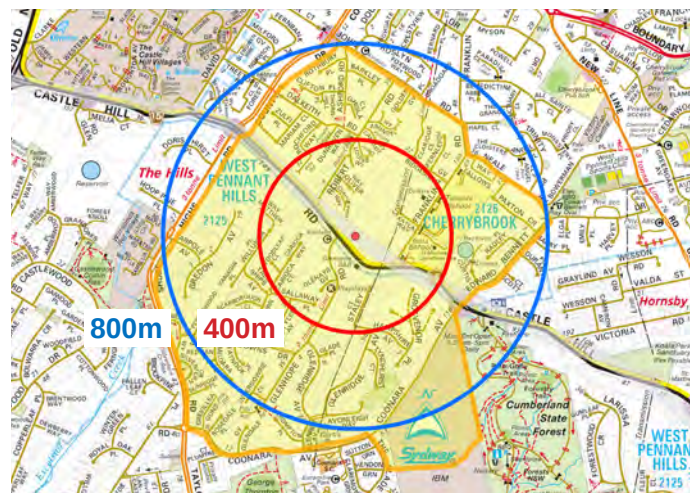


Figure 6.1: Cherrybrook Station Catchment
Source: Sydway 2011

The Cherrybrook Precinct is an established low density residential neighbourhood. The Precinct encompasses land within both Hornsby and The Hills Shire Local Government Areas. Cherrybrook Station will be located adjacent to Castle Hill Rd. It has been designed to be a park and ride station that will provide approximately 400 parking spaces.

6.1 CONSTRAINTS

Accessibility

Castle Hill Road operates above its maximum capacity during both morning and afternoon peak travelling periods. This is evidenced by the extensive queuing that occurs on most working days. The Roads and Maritime Services has no future road widening schemes or major intersection upgrades planned along the route, nor are there plans to provide bus priority in the form of designated lanes or bus jump starts at intersections. However, as the rail link will be constructed immediately below Castle Hill Road, traffic volumes may reduce when the rail line opens because the origin and destination of some motorists will align with the rail corridor.

As a result of the steep slope and lack of permeability within the local road network, the walking catchment from the station is limited. In order to facilitate higher density development with good access to the station, new and

enhanced pedestrian and vehicular linkages will be required within the area.

Landslip

The cost of aggregating large parcels of land to deal with geotechnical constraints, as well as higher construction costs associated with stabilisation and alternative construction techniques, will impact on the feasibility of development. Redevelopment that deals with the landslip risk is a positive outcome however higher residential yield may be required to support the 'business case' for redevelopment.

Drainage

Castle Hill Road forms a major catchment boundary to this Precinct. Constructed stormwater drainage and natural watercourses on the southern side of Castle Hill Road are tributaries of Darling Mills Creek, which ultimately drains to the Parramatta River. Existing overland flow paths, initiated when the capacity of the stormwater drainage system is exceeded, will have to be safely managed through new development footprints.

Easements

Existing electricity transmission lines traverse the precinct and these lines and associated easements will constrain future development within the vicinity.

Heritage

Development adjoining and in the vicinity of heritage items must have a design approach that preserves and complements the significance and curtilage of the heritage items. Development should minimise any impact on significant elements in the grounds of heritage items and should not impede appreciation of significant buildings.

Vegetation

The area contains a number of tracts of threatened flora species including Blue Gum High Forest identified as a Critically Endangered Ecological Community under the Threatened Species Conservation Act and Environment Protection and Biodiversity Conservation Act and Shale/Sandstone Transition Forest identified as an Endangered Ecological Community under the Threatened Species Conservation Act.

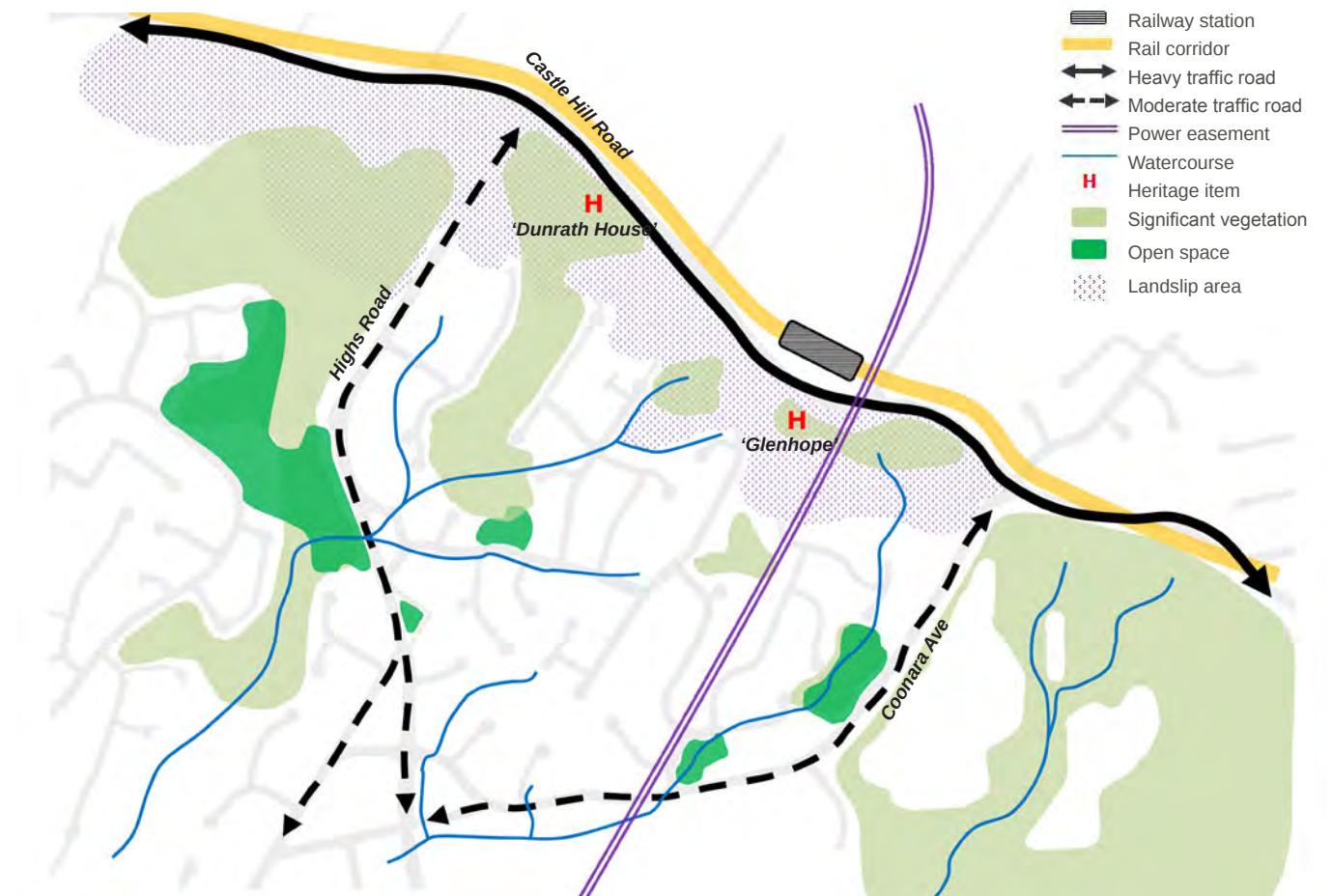


Figure 6.2: Cherrybrook Constraints

Any further development in proximity to this vegetation will need to be guided by flora and fauna assessment and will need to avoid, mitigate and/or offset impacts to any threatened entities found on sites.

Housing Stock

The age (approximately 15-20 years), high quality, large size and high value of existing stock is likely to impact on the uptake of redevelopment within the precinct.

Open Space

Whilst there are a number of areas zoned as open space within the precinct, all of which have passive and active recreation functions to service the existing population, further opportunities for open space must be investigated to meet the needs of future population. These opportunities (particularly playing fields) might not be located within the precinct due to topography and land cost.

6.2 OPPORTUNITIES

Accessibility

Castle Hill Road is the main regional route for through-traffic in the area. As an established arterial road, it provides good vehicular connectivity to the east and west.

It connects to Pennant Hills Road which in turn connects to the M1 motorway (giving access to the Central Coast, Newcastle and eventually interstate) and M2 motorway which gives good access to the CBD and also to the southern and western parts of the metropolitan area. The future Northconnex tunnel linking the M1 and M2 motorways has the potential improve accessibility to the north for residents of the Precinct and also to reduce traffic on Castle Hill Road.

As part of future redevelopment of the area, there are opportunities to increase and enhance the permeability of the local road and pedestrian network in order to provide better access to the station. Future redevelopment should ensure the provision of additional pedestrian linkages preferably under or over the road.

Landslip

Opportunities exist for alternative construction techniques and slope/geotechnical stabilisation of the landslip area with the objective of creating a stable surface. Detailed geotechnical assessments will be required at the Development Application stage to determine suitability of the land for housing and the construction techniques required.

Topography

The ridgeline along Castle Hill Road provides opportunity for developments to capitalise on district views to the south and provides opportunities for sensible redevelopment that increases densities but in a manner that recognises existing established character elements such as generous landscape setbacks, more traditional building shapes, materials and roof shapes, colours and tones.

Services

The area currently has access to a full range of utility services such as electricity, telecommunication, gas, water, sewer and storm water drainage. All services are capable of being upgraded if required.

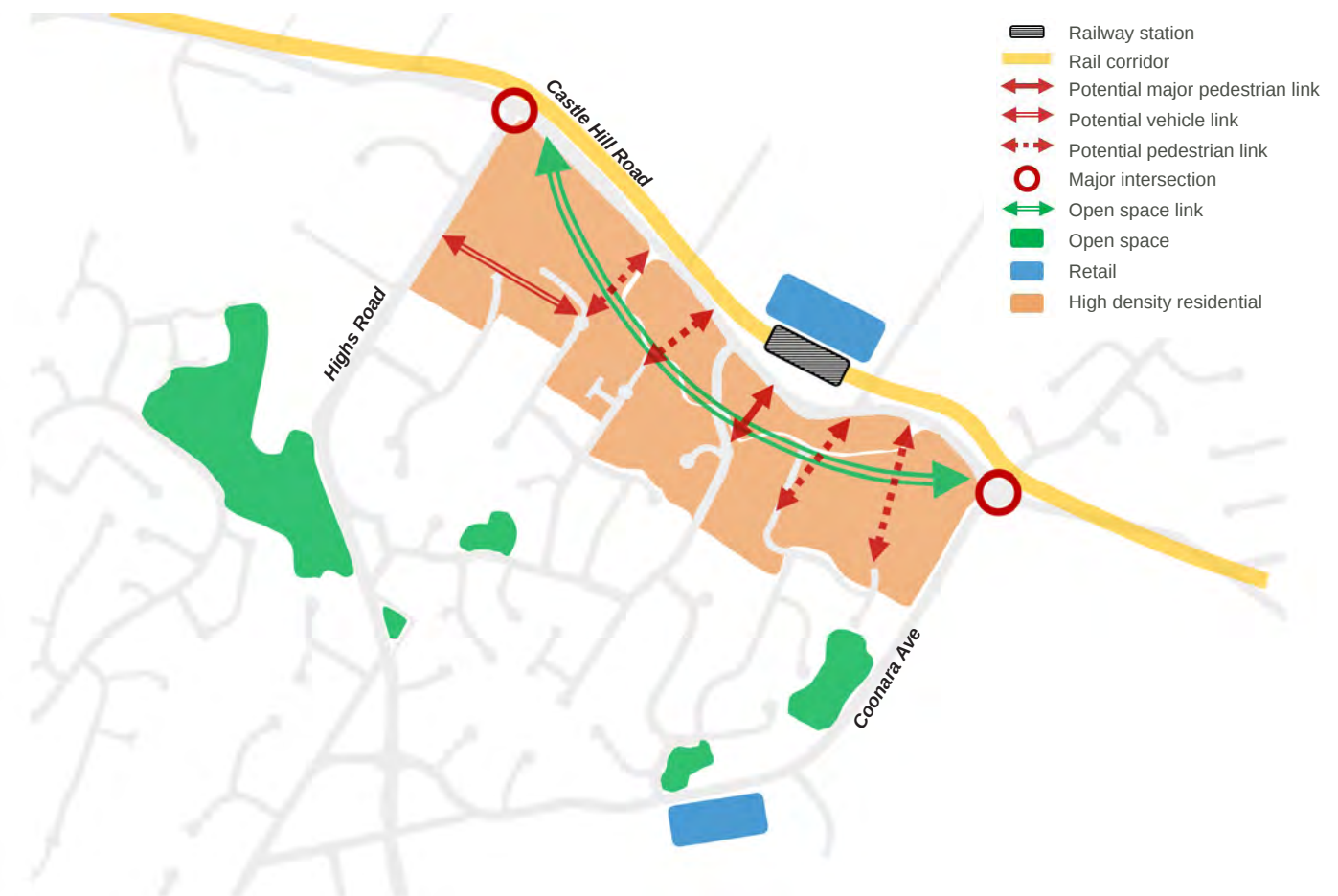


Figure 6.3: Cherrybrook Opportunities

CHERRYBROOK PRECINCT VISION

“Low rise apartment development within a landscaped setting responding to existing built form, topography, character and vegetation.”

6.3 DESIRED OUTCOMES

The vision for Cherrybrook Precinct is for increased residential densities within walking distance of the station, including a variety of housing types together with a mix of neighbourhood shops and services to provide for the daily needs of the local community. The area immediately to the south of Castle Hill Road is identified as appropriate for 3-6 storey apartments subject to detailed geotechnical, vegetation and traffic investigation. It is anticipated that these investigations would be undertaken as part of individual planning proposals led by the community.

Where constraints can be suitably addressed, the desired outcome for the Cherrybrook Precinct is for higher density development located opposite the station with a maximum residential density of 144 dwellings per hectare. This proposed density is expected to accommodate buildings with an average height of around 6 storeys and a maximum of 8 storeys. Along the ridge line of Castle Hill Road a maximum of 6 storey apartment developments are envisaged. As walking distances from the station increases, lower scale apartments are envisaged. This will enable some uplift in density whilst minimising the impact on adjoining land uses and the existing character of the area. Building heights will transition downward further from the station.

Cherrybrook should remain low density in character with few tall buildings and should be characterised by the use of traditional materials, building form and substantive landscape front, side and rear setbacks. The precinct should remain predominantly residential with mixed use for convenience only located nearest to the station. Redevelopment needs to adequately deal with geotechnical constraints.

The height of any buildings will need to have regard to the potential visual impact on surrounding lower density residential areas, given the significant change in levels. As the precinct is south facing, future building elements will need to be sufficiently separated to reduce the impact of overshadowing on adjoining properties. Open space areas will also need to be carefully designed to ensure that appropriate levels of sunlight are available for these areas.

INFLUENCES

- **State framework for transit oriented development to provide the highest density close to the station and growth in line with the State Corridor Strategy**
- **Landslip - detailed investigation required as part of individual proposals**
- **South facing slope - requires increased building separation to reduce overshadowing**
- **Ridgeline along Castle Hill Road - buildings to step down the slope to reduce visual impact**
- **Steep topography - limits pedestrian and cycle access to station**
- **Castle Hill Road - significant barrier to connectivity**
- **Heritage - ensure new development respects the significance of heritage items including the setting and views**
- **Need to respond to demand created by incoming population for infrastructure such as open space and community facilities**

Within the Hills Shire part of the Cherrybrook Precinct, there are currently 623 existing dwellings accommodating a population of 1,395 people. Under the current development controls, it is anticipated that there is growth potential for an additional 51 dwellings (approximately 102 additional people). The growth envisioned under the existing controls, along with the additional opportunity

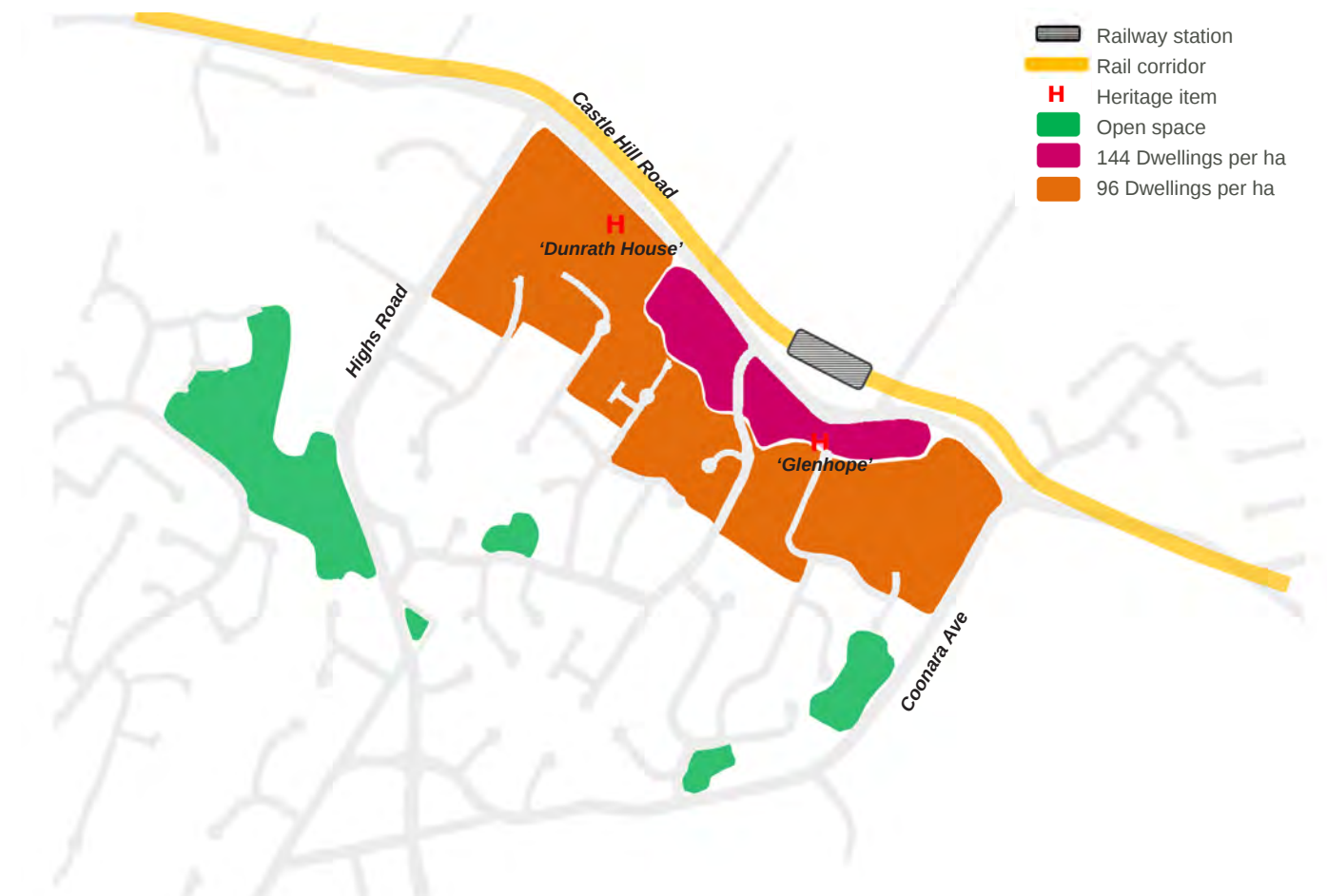


Figure 6.4: Cherrybrook Desired Outcomes

dwellings, resulting in a corresponding population of 3,389 additional people. This is based on an uptake rate between 60%-70% for high density residential which recognises the constraints imposed by vegetation, landslip and existing housing stock.

Dwellings		Existing (2011)	Planned growth under current controls	Additional growth under strategy	Forecast Dwellings (2036)
	NWRL Corridor Strategy	623	51	1,338	2,012
	The Hills Corridor Strategy	623	51	1,643	2,317

Table 6.1: Cherrybrook Projected Dwellings

Jobs		Existing (2011)	Planned growth under current controls	Additional growth under strategy	Forecast Jobs (2036)
	NWRL Corridor Strategy	2,237	0	0	2,237
	The Hills Corridor Strategy	2,237	0	0	2,237

Table 6.2: Cherrybrook Projected Jobs

Note: Existing dwellings/jobs and planned growth under current controls under the NWRL Corridor Strategy have been adjusted to match current data and Hills Council analysis to enable accurate comparison of additional growth projections.

The south facing steep topography of Cherrybrook presents challenges for solar access. Tall development in proximity to the station would be located near the crest of the hill and cast shadows down the valley. Detailed design should ensure the orientation of development allows for appropriate solar access and shading. It should maximise natural lighting to internal living and open space areas in winter and provide adequate shading to internal areas and private open space during summer to improve residential amenity both internally and to adjoining allotments/developments.

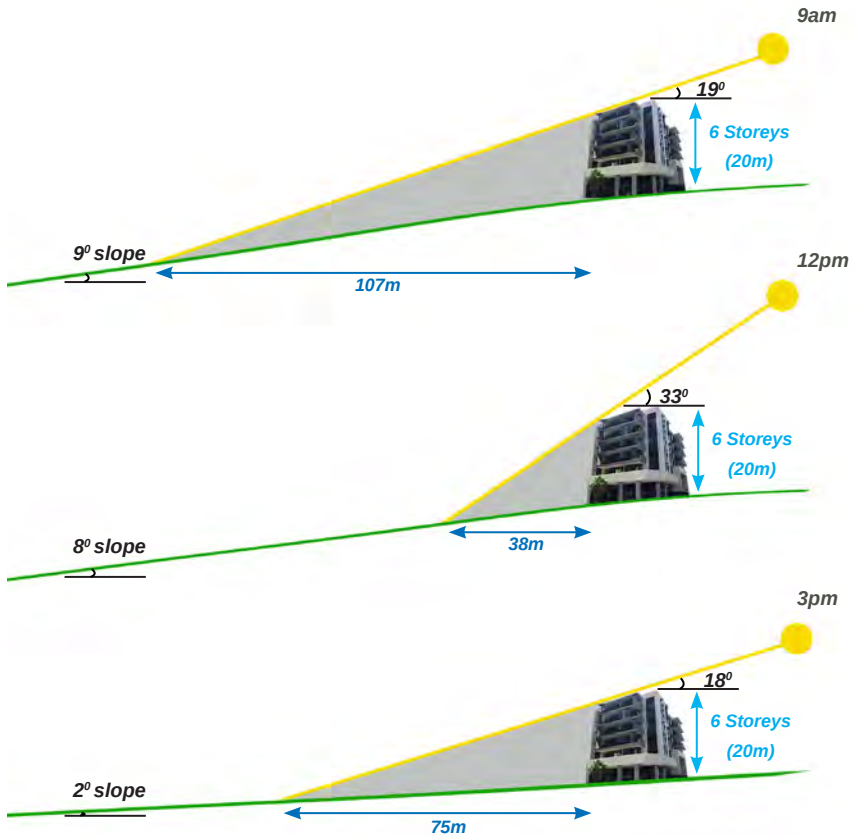
The diagrams in Figure 6.5 show an example of how slope and sunlight interact in this locality. It shows that during the winter solstice, a 6 storey residential flat building would cast a 107 metre shadow down the hill at 9am and a 38 metre shadow at midday. In this particular case, the angle of the slope reduces from 9° at 9am to 2° at 3pm as the contours run east-west and the slope levels out at the angle of the afternoon shadow.

Area	Net Developable Area (ha)	Maximum Dw/Ha	Minimum Employment FSR	Residential uptake	Employment Uptake	Existing dwellings	Additional dwellings	Existing jobs	Additional jobs
	4.5	144	N/A	70%	N/A	25	436	0	0
	23.1	96	N/A	60%	N/A	122	1,258	0	0
Remainder of Precinct	Existing Potential Under Existing Controls (within remainder of NWRL Corridor Strategy precinct within The Hills)					476	0	2,237	0
Total	27.6					623	1,694	2,237	0

Table 6.3: Cherrybrook Projected Yields



Figure 6.5: Demonstration of Slope and Solar Access



Source: The Hills Shire Council

7 CASTLE HILL PRECINCT

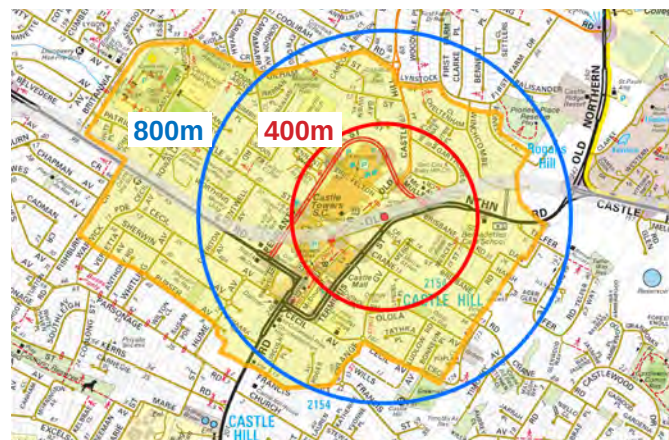


Figure 7.1: Castle Hill Station Catchment
Source: Sydway 2011

Castle Hill is identified as a strategic centre under 'A Plan for Growing Sydney' which signifies its role as an important retail and business centre for the region.

Castle Hill Station is a destination station and only a point of origin for those who live within walking distance of the station, which should be encouraged. The area is an existing urban centre, featuring a predominance of retail with some commercial and residential neighbourhoods. The largest existing retail use is the Castle Hill Towers Shopping Centre.

7.1 CONSTRAINTS

Accessibility

The existing road network of the Precinct is connected to the broader area through Old Northern Road and Showground Road with Pennant Street forming part of the four lane arterial 'ring road' with a speed limit of 60km/h. The large building footprint of the Castle Hill Towers Shopping Centre restricts the connectivity of the area, preventing legible and clear movement to the future station from the north and west.

Pedestrian and cycling accessibility is restricted by barriers associated with the major roads, and also there is a lack of street network permeability due to the number of cul-de-sac which back onto the major arterial road network and the large landholdings of the schools and Castle Towers.

This road pattern together with existing allotment and ownership patterns present challenges for redevelopment and limit the options for accessibility and the creation of new networks. In order to facilitate higher density development there will be a need to create, new, more appropriate and enhanced linkages and form, better connected blocks.

Drainage

Old Northern Road separates two (2) major drainage catchments in this Precinct. To the south-east, the Precinct drains through tributaries of Darling Mills Creek to the Parramatta River. On the north, and north-west, the precinct drains through tributaries of Cattai Creek, which drains ultimately to the Hawkesbury River. Existing overland flow paths, initiated when the capacity of the stormwater drainage system is exceeded will have to be safely managed through new development footprints.

Heritage

There are a number of identified heritage items within and close to the centre of Castle Hill. These represent a constraint in that they require special consideration to ensure their significance is recognised. Development adjoining and in the vicinity of heritage items must have a design approach that preserves and complements the significance and curtilage of the heritage items. Development should minimise any impact on significant elements in the grounds of heritage items or shall not impede appreciation of significant buildings or vista.

Housing Stock

Recent residential development is considered to be a constraint given that the life of a dwelling is usually between 30-40 years. The dwellings within this Precinct which have been recently built and/or are of sufficient quality have been excluded as potential urban renewal development opportunity in the short to medium term.

The eastern and south-western portions of the Precinct contain a large number of strata developments. Strata and Community Title schemes will impact on the uptake of redevelopment opportunities.

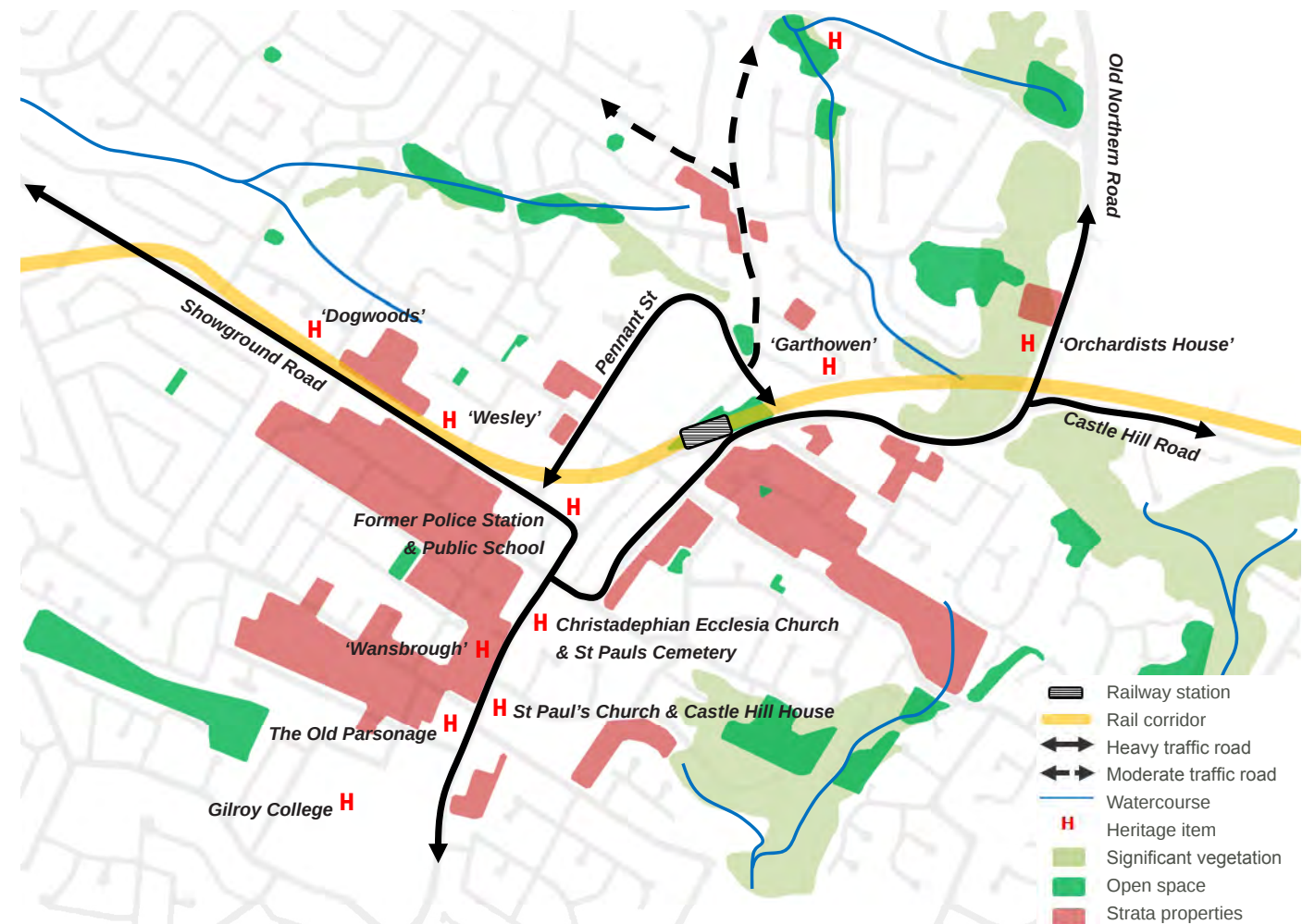


Figure 7.2: Castle Hill Constraints

Vegetation

The area contains Sydney Turpentine Ironbark Forest identified as an Endangered Ecological Community under the Threatened Species Conservation Act and Critically Endangered under the Environment Protection and Biodiversity Conservation Act.

Any future development on private land, in close proximity to this vegetation will need to be guided by a flora and fauna assessment and will need to avoid, mitigate and/or offset impacts to any threatened entities found on sites.

7.2 OPPORTUNITIES

Accessibility

The area is accessible from three (3) major roads, Old Northern Road from the south, Castle Hill Road from the east and Showground Road from the west. Old Northern Road links Castle Hill to the CBD via the M2 and important employment centres in the east such as Macquarie Park. Castle Hill already benefits from a ring-road around the town centre and a bus interchange network to the CBD, Macquarie Park, Parramatta, Norwest and Cherrybrook.

A series of new pedestrian links are proposed to increase connectivity and permeability within the area, green links will provide significant pedestrian and cycle links between Castle Hill Town Centre and Castle Hill High School, Castle Hill RSL and residential areas to the north-east.

Topography

The precinct is characterised by undulating slopes. The elevated and sloping nature of the land offers views towards the area, influencing how development is perceived from the broader area. The higher parts of land provide an opportunity for distinctive development to capitalise on the views and mark the status of the Precinct as a transit, commercial, and cultural hub in this part of Castle Hill particularly near the future Castle Hill Railway Station. There is also opportunity for development to capture views towards the Blue Mountains.

Heritage

The existence of a number of heritage items within the Precinct provides opportunities to contribute to a distinctive character for the area. Opportunities for heritage buildings to be re-used can be achieved through a variety of commercial uses such as a retail outlet or commercial offices.

Vegetation

The Precinct is generally cleared with some vegetation surrounding the developments. There are also some remnant bushland and areas of biodiversity importance within the Precinct which contain pockets of significant

vegetation. The largest concentration is around the existing open space.

These areas comprise of Sydney Turpentine Ironbark Forest which is classified as an Endangered Ecological Community. It is envisaged that further embellishment of the open space land will respond to the existing vegetation providing opportunities to improve passive recreation spaces which will contribute to improved amenity for residents.

Public domain

The revitalisation of 'Main Street' plays an important role in reinforcing Castle Hill as the Shire's premier centre. With an increasing number of outdoor activities including alfresco dining, cinema nights and most recently the Christmas Sky Show the centre of Castle Hill is becoming a vibrant and energetic place for people to enjoy and meet.

The transition of Castle Hill to a higher density urban environment and the greater accessibility allowed by the rail link provides the opportunity for Main Street to continue to evolve as significant recreational and entertainment hub for the Shire. Likewise given the limited amount of green space close to Castle Hill, there is opportunity for Arthur Whitling Park to become an attractive destination within the centre for workers and visitors alike to relax and socialise.

Land Uses and Development

The redevelopment of Castle Towers will enable improved connectivity for pedestrians between the site and the existing public realm. There will be increased emphasis on prominent pedestrian entry points through the creation of an entry statement as well as improved gateway elements such as the proposed Heritage square and on Old Castle Hill Road. Pedestrians will also benefit from the provision of increased lighting and where possible weather protected walkways. Vacant sites close to the centre provide opportunity for expansion of the commercial core and thereby, a significant increase in jobs.

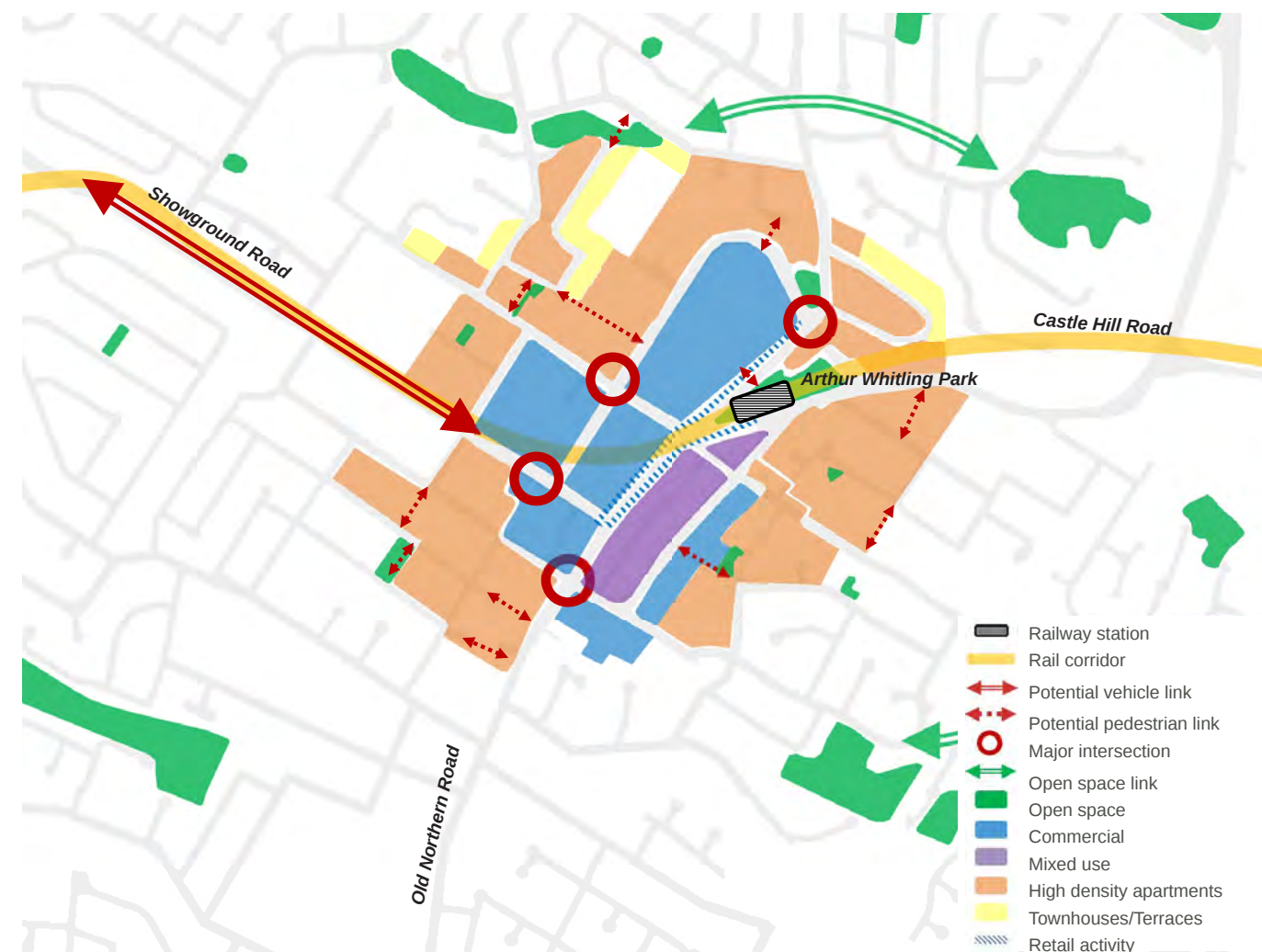


Figure 7.3: Castle Hill Opportunities

Housing Stock

The redevelopment of existing older housing stock for increased densities in and around the Castle Hill Precinct provides opportunities to meet the projected demands for additional housing.

A number of streets have a predominance of older non-strata dwellings which generally meet the needs and desires of existing residents, however this also presents good redevelopment opportunities.

CASTLE HILL PRECINCT VISION

“The Hills Shire’s ‘Major Centre’ with the highest density urban setting that includes residential, retail, cultural and commercial uses.”

7.3 DESIRED OUTCOMES

It is envisaged that the Castle Hill Station area will become a vibrant and active centre comprising of offices, retail, community facilities, recreation, cultural, education and increased housing densities within walking distance of the station. Future development is to reinforce the centre as a high quality Major Centre with a variety of building heights, including some distinctive or ‘iconic’ heights.

The “core” of Castle Hill should extend to the sites within the ring road as well as sites that have frontage to the ring road. Within the ring road there will be a strong focus on commercial and retail uses with limited residential such as quality hotels or serviced apartments. Council encourages aggregation of land holdings and the creation of permeable pedestrian linkages through development sites. Castle Hill is our “CBD” and should attract tall, well developed mixed use buildings within the “ring road” with a strong focus on commercial. All street frontages at and within the ring road should be activated and serve to encourage people to be there.

Opportunity will be provided for mixed use development incorporating some high density residential components to the south of the station within the commercial core between Old Northern Road and Terminus Street. Activation of buildings at street level is to be encouraged with urban plazas and recreational zones provided for civic gathering and open space enjoyment. Incentives for increased height will be included within the planning controls to encourage buildings of outstanding design and materials and land uses that contribute to employment or the night time economy such as commercial, community and cultural uses.

Outside of the ring road, the desired outcome is for high density residential development principally to the north of the station surrounding the existing retail centre. To the

south of the corridor maximum densities of 96 dwellings per hectare are envisaged, with an average height of around 4 storeys. Overall for locations outside of the ring road, apartment development for the Precinct will need to have landscaped setbacks, maximum site coverage in the order of 50% and must be supported by active and passive recreation spaces. Community and recreational uses within the walkable catchment are also encouraged. There are currently 2,653 existing dwellings within the Castle Hill Precinct accommodating an existing population of 8,569 people. Under the current development controls, it is anticipated that there is growth potential for an additional 2,316 dwellings (approximately 4,632 additional people).

The growth envisaged under the existing controls, along with the additional opportunity sites, could achieve a yield in the order of 4,807 additional dwellings, resulting in a corresponding increase in population of 10,645 people. It is also envisaged that approximately 10,304 additional jobs will be accommodated within the Precinct. This is based on uptake rates of 60-100% for high density residential development, 50% for townhouses and 80-100% for commercial development. Land with existing strata development is assumed to have an uptake rate of 0%.

INFLUENCES

- **State framework for transit oriented development to provide the highest density close to the station and growth in line with the State Corridor Strategy**
- **Existing built form and strata titled developments - inhibit redevelopment opportunities and need careful consideration to minimise impacts on amenity of existing residents**
- **Large development sites offer an opportunity for direct access to station under the road**
- **Heritage - ensure new development respects the significance of heritage items including the setting and views**
- **Need to respond to demand created by incoming population for infrastructure such as open space and community facilities.**

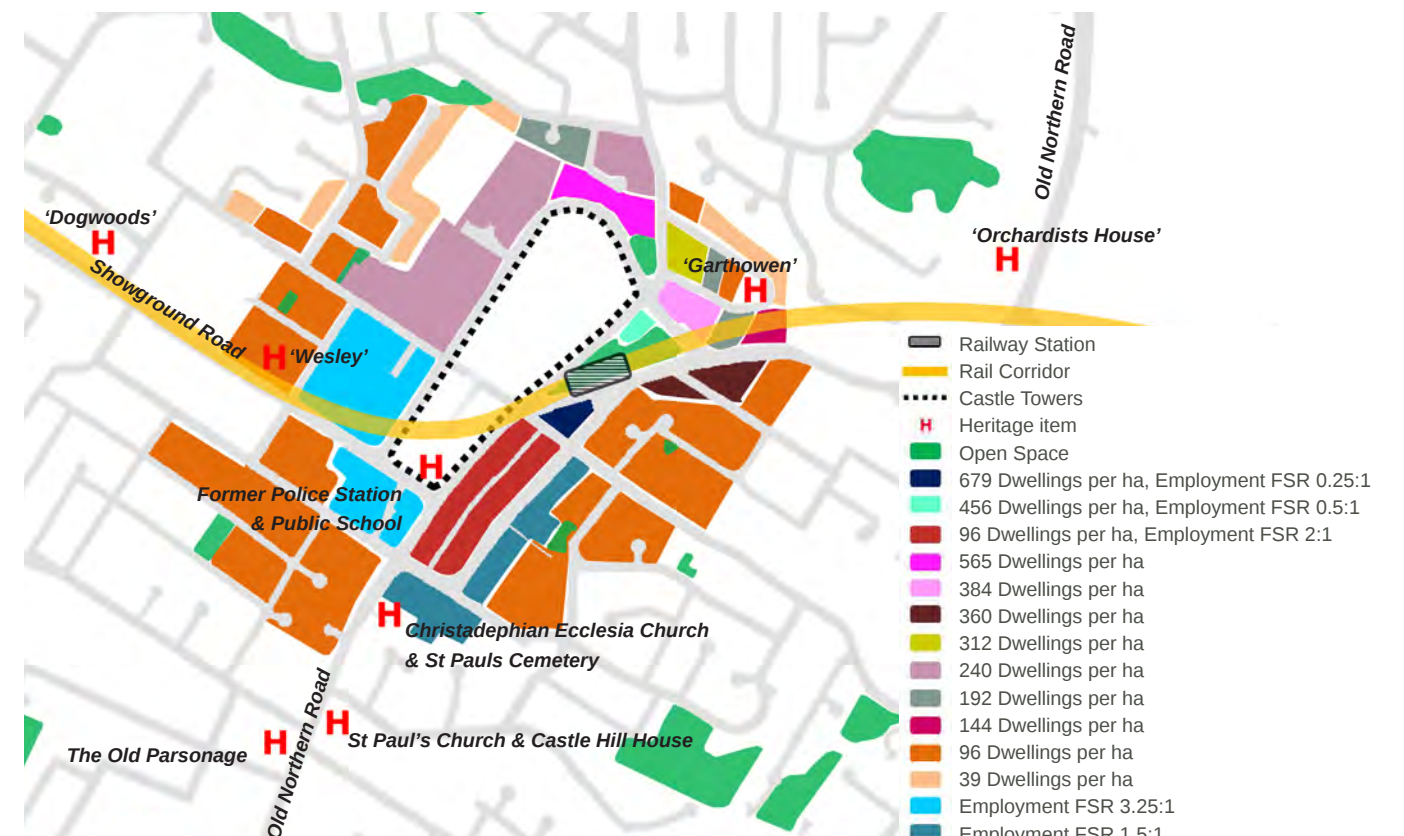


Figure 7.4: Castle Hill Desired Outcomes

Dwellings		Existing (2011)	Planned growth under current controls	Additional growth under strategy	Forecast Dwellings (2036)
	NWRL Corridor Strategy	2,653	2,316	1,131	6,100
	The Hills Corridor Strategy	2,653	2,316	2,491	7,460

Table 7.1: Castle Hill Projected Dwellings

Jobs		Existing (2011)	Planned growth under current controls	Additional growth under strategy	Forecast Jobs (2036)
	NWRL Corridor Strategy	5,285	3,650	7,565	16,500
	The Hills Corridor Strategy	5,285	3,650	6,654	15,589

Table 7.2: Castle Hill Projected Jobs

Note: Existing dwellings/jobs and planned growth under current controls under the NWRL Corridor Strategy have been adjusted to match current data and Hills Council analysis to enable accurate comparison of additional growth projections.

Area	Net Developable Area (ha)	Maximum Dw/Ha	Minimum Employment FSR	Residential uptake	Employment uptake	Existing dwellings	Additional dwellings	Existing jobs	Additional jobs
	0.6	679	0.25:1	100%	100%	0	378	0	42
	0.49	456	0.5:1	80%	80%	0	179	119	-67*
	3.3	96	2.0:1	100%	100%	0	317	693	1,348
	11.0	N/A	N/A	N/A	N/A	0	0	3,654	2,676**
	6.6	N/A	3.25:1	N/A	80%	N/A	N/A	288	5,432
	4.0	N/A	1.5:1	N/A	70%	10	-10	531	873
	1.42	565	N/A	100%	N/A	0	800	0	0
	0.7	384	N/A	80%	N/A	5	211	0	0
	0.8	360	N/A	80%	N/A	11	210	0	0
	2.23	312	N/A	90%	N/A	11	215	0	0
	7.99	240	N/A	70%	N/A	147	1,239	0	0
	1.6	192	N/A	80%	N/A	17	232	0	0
	0.48	144	N/A	100%	N/A	5	64	0	0
	14.79	96	N/A	60%	N/A	169	751	0	0
STRATA	19.63	N/A	N/A	N/A	N/A	1,227	0	0	0
	2.96	39	N/A	50%	N/A	59	28	0	0
Remainder of Precinct	Existing Potential Under Existing Controls (within the remainder of the NWRL Corridor Strategy Precinct)					992	194	0	0
Total	74.1					2,653	4,807	5,285	10,304

Table 7.3: Castle Hill Projected Yields

*Note: Land adjoining station – it is anticipated that this area will experience a small reduction in jobs as a result of future redevelopment for mixed use/residential development.

**Note: Existing growth anticipated under approved plans for the expansion of Castle Towers.

8 SHOWGROUND PRECINCT

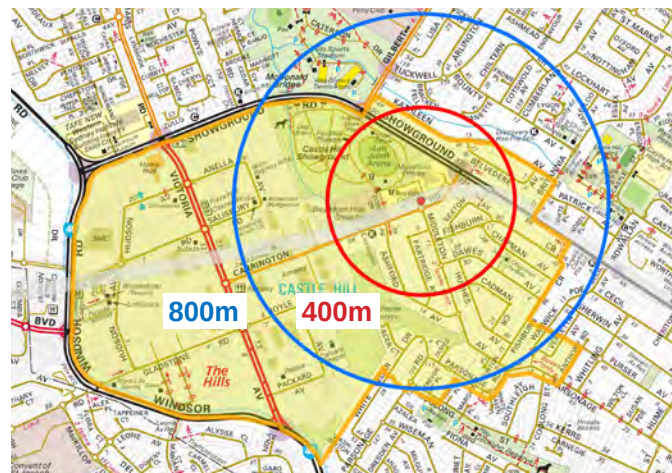


Figure 8.1: Showground Station Catchment
Source: Sydway 2011

The Showground Precinct currently contains a number of distinct land uses such as industrial, residential, and commercial. It is envisaged that the Showground station area would be a mixed use centre with strong public transport links to the city and other centres. It will evolve as a vibrant and active location for employment and housing, with the Showground and nearby Fred Caterson Reserve creating a cultural and recreational hub. The station will have 600 commuter car parking spaces, a bus interchange and parking and storage for 40 bicycles.

Showground Station has been identified as a State Government Priority Precinct. Priority Precincts are areas that are considered to have redevelopment potential on a scale that is important in implementing the State's planning objectives. They are larger areas that will be capable of delivering significant additional growth, requiring co-ordination from State and local government to realise their potential. Council will be able to access up to \$5 million in local infrastructure funding to support new development.

8.1 CONSTRAINTS

Accessibility

The Precinct is bordered by Windsor Road to the west and Showground Road to the north and east. There are limited

access points into and out of the precinct primarily being Carrington Road and Victoria Avenue, resulting in congestion at the intersections with Showground and Windsor Road at peak times. There are limited footpath connections and formalised crossings which restrict pedestrian and cycle movement through the light industrial and bulky goods parts of the area. Accessibility within the precinct is also impacted by Victoria Avenue, Carrington Road and Showground Road which form significant barriers.

Drainage

This area extends over two (2) major sub catchments of Cattai Creek, a tributary of the Hawkesbury River. Existing overland flow paths, initiated when the capacity of the stormwater drainage system is exceeded will have to be safely managed through new development footprints.

Heritage

There are two items of environmental heritage within the precinct along Showground Road, reflecting the rural heritage of the Shire. Development adjoining and in the vicinity of heritage items must have a design approach that preserves and complements the significance and curtilage of the heritage items. Development should minimise any impact on significant elements in the grounds of heritage items or shall not impede appreciation of significant buildings or vista.

In terms of Aboriginal heritage, there is one (1) known site in the Precinct within the vicinity of Cattai Creek. There is potential for other sites of significance, requiring future development to exercise due diligence to avoid harm to aboriginal objects.

Vegetation

The Precinct is generally cleared apart from along the creek line and a small pocket of Shale Sandstone Transition Forest which is a Critically Endangered Ecological Community under the Threatened Species Conservation Act and the Environment Protection and Biodiversity Conservation Act. Private ownership of part of the creek line constrains the potential for ecological restoration, pedestrian and cycle connections along and across Cattai Creek.

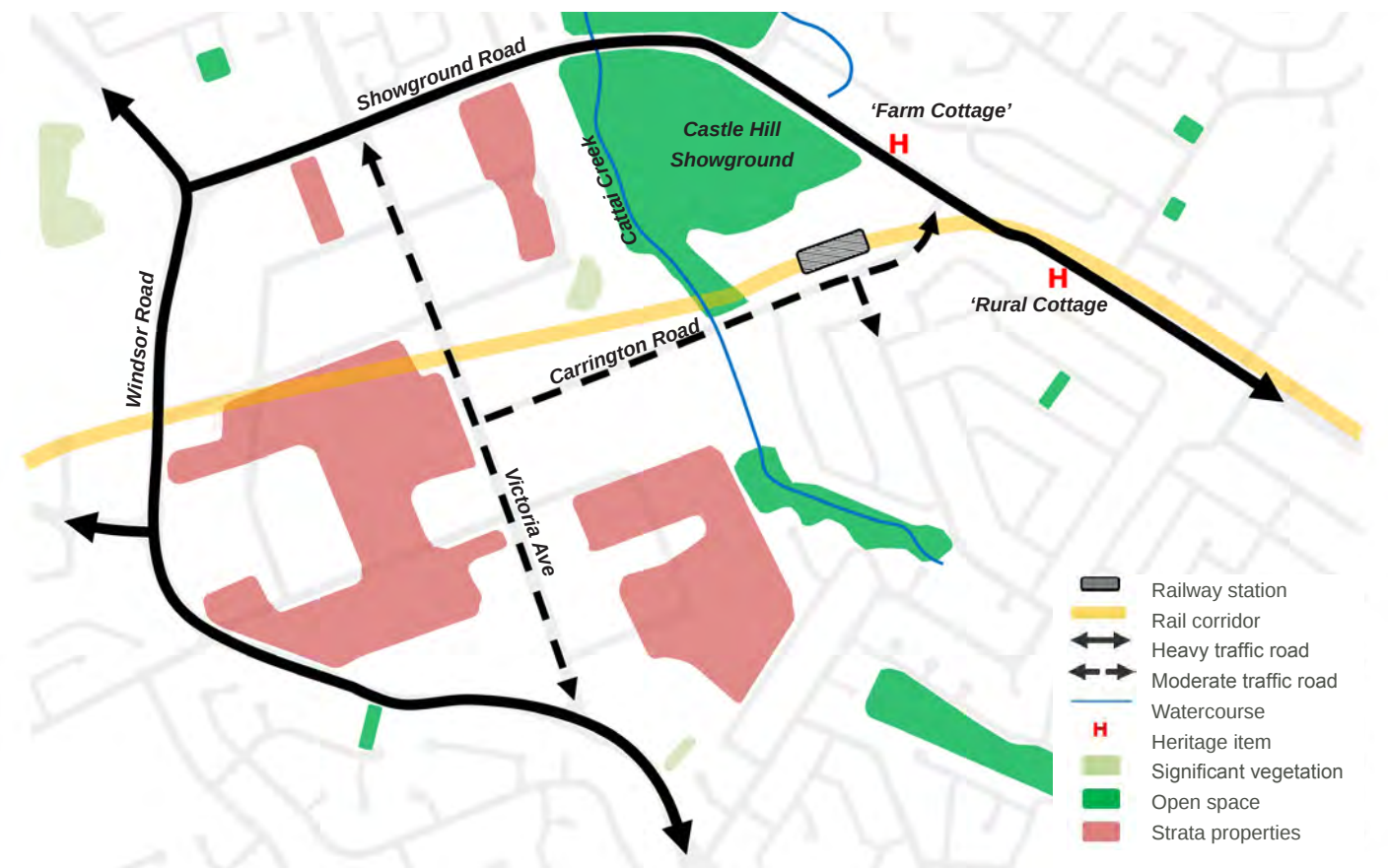


Figure 8.2: Showground Constraints

Open Space

Whilst there are a number of areas zoned as open space within the precinct, all of which have passive and active recreation functions to service the existing population, further opportunities for open space must be investigated to meet the needs of future population. These opportunities might not be located within the precinct.

Building Stock

Land parcels within the residential area are generally less than 900m² and would require consolidation to form lots large enough for higher densities.

There are a number of existing industrial sites that are ruled by strata and/or community title arrangements and are unlikely to redevelop in the short to medium term.

Contamination

Given the range of industrial activities that have been carried out within the Showground Precinct, there is potential for contamination. Further investigations will be needed where land is identified for change to more sensitive uses such as residential to provide certainty that the land is suitable or can be made suitable for the intended use.

8.2 OPPORTUNITIES

Accessibility

The area is accessible by Showground Road to the north and Windsor Road to the west. There are strong connections to the existing light industrial area along Victoria Avenue however there are opportunities to improve the permeability and efficiency of the Precinct with potential new connections to Showground Road. Any new connections would require the agreement of Roads and Maritime Services. In the longer term, there is also opportunity to provide a more direct connection to Norwest Boulevard that has the potential to improve bus connectivity between the precincts.

New pedestrian or vehicular links can be developed that will enhance permeability, using existing open space, and a green link could be developed which could become a significant thoroughfare, linking the key attractions within the area.

Vegetation

The Cattai Creek drainage corridor running through the area is considered to be a constraint, and is in poor condition due to erosion and water quality. Redevelopment of this precinct presents an opportunity for rehabilitation of the waterway and improved access. The redevelopment of land adjacent to the corridor provides the opportunity for these parts to become public open space, with pedestrian and cycle linkages over the creek contributing to increased levels of amenity for workers and residents of the area.

The Showground

Castle Hill Showground is currently underutilised and has the opportunity to accommodate a number of uses such as open space, sporting, recreation, and cultural to meet the future resident's needs. The Showground will remain a prized community open space asset that should develop to become a premier destination. Staged infrastructure development will evolve alongside the development of the Precinct.

Whilst the Showground is characterised by a large level area at the main showground ring, the land slopes progressively and steeply in places to the west towards Cattai Creek. It is considered that this elevation provides opportunity to enhance the site's landscape character, views and vistas. There is opportunity to enhance the existing natural environment, integrating Cattai Creek, enhancing intuitive way finding, and retaining core landscape elements and create a valuable cultural, sporting and passive recreational facility for the community.

Open Space

As part of the future redevelopment there will be opportunities to either expand on existing passive open space or create a new centralised local park within the residential area of the Precinct to cater for the daily needs of existing and future residents.

Employment

The existing light industrial and bulky goods area will be retained and has the opportunity to be enhanced to reflect the significance of this area for jobs and bulky goods. Victoria Avenue has the opportunity to be reinforced as a major bulky goods retailing centre. Further employment opportunities will be located on the western edge of the area so as to encourage greater connection with Norwest Business Park. Carrington Road presents opportunities for office accommodation to encourage an employment spine linking with Victoria Avenue and then onto Norwest Business Park.

Housing Stock

The redevelopment of existing older housing stock for increased densities in and around the Showground Precinct provides opportunities to meet the projected demands for additional housing. A number of streets have a predominance of older non-strata dwellings which generally meet the needs and desires of existing residents, however also present good redevelopment opportunities.

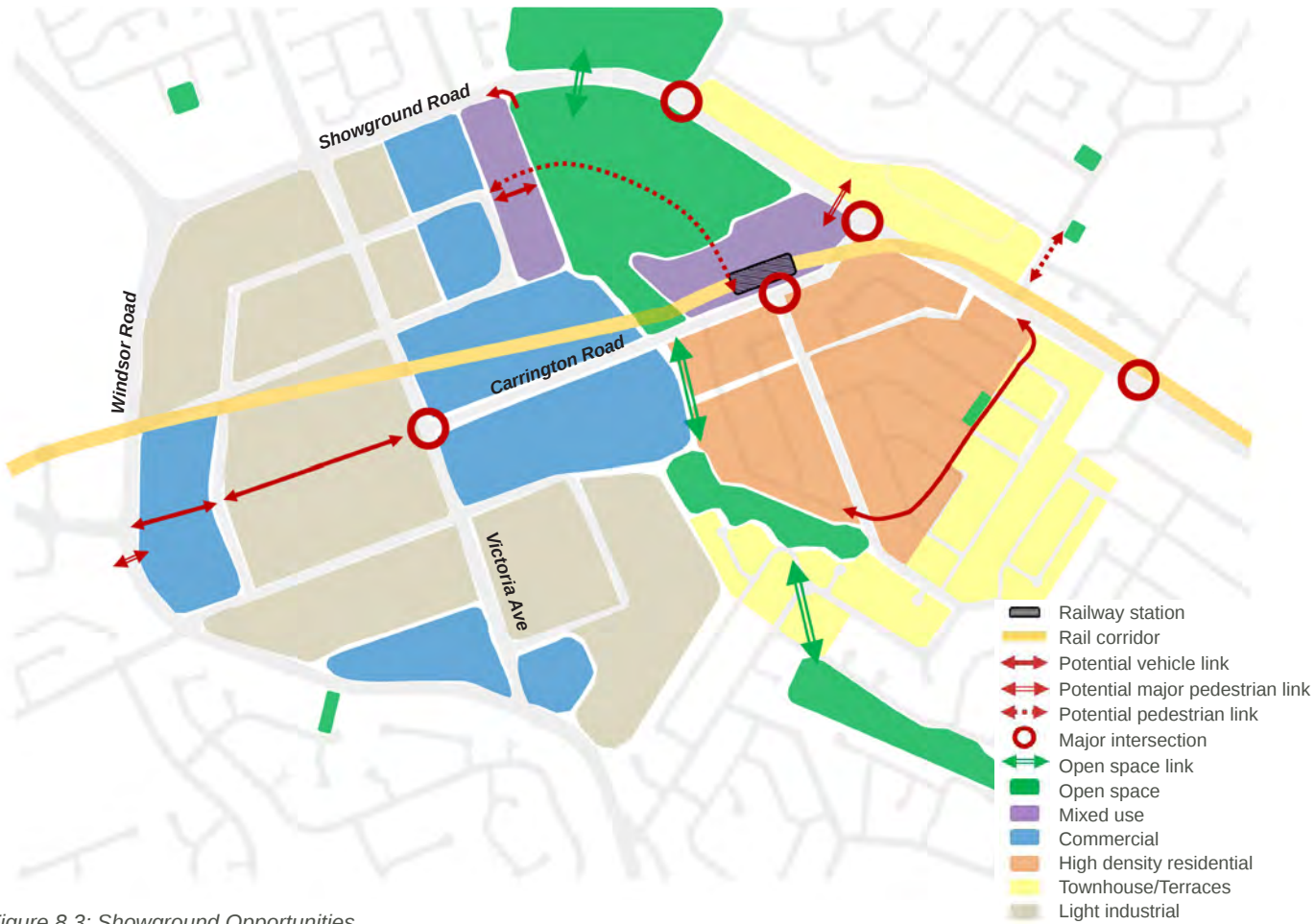


Figure 8.3: Showground Opportunities

Services

The area currently has access to a full range of utility services such as electricity, telecommunication, gas, water, sewer and stormwater drainage. All services are capable of being upgraded if required.

SHOWGROUND PRECINCT VISION

“High density residential living with access to employment, limited retail, cultural and recreation opportunities”

8.3 DESIRED OUTCOMES

The Showground Precinct is proposed to become a vibrant and active cultural and recreational hub supported by offices, light industry, retailing, community facilities, education and housing. The Showground will remain a regional recreational and cultural asset and benefit from increased activity generated by the new residents, workers and visitors to the station.

The desired outcome for the Showground Precinct would achieve a maximum residential density of 300 dwellings per hectare for land north of Carrington Road, directly adjoining the station. Key sites adjoining the station will accommodate mixed use development with an average height of around 12 storeys. Heights will transition downward to Showground Road. Opportunity exists on land to the west of the Showground for commercial development with an additional residential component.

The Castle Hill Industrial Area is located within the western portion of the Precinct. Light industrial uses, bulky goods premises and other services will be retained to provide employment opportunities for the current and future population and support the service needs of residents. Higher density commercial buildings are proposed at the gateway points and along Carrington Road to provide additional employment opportunities.

There are currently 580 existing dwellings within the Showground Precinct accommodating an existing population of 1,873 people. Under the current development controls, it is anticipated that there is growth potential for an additional 400 dwellings (approximately 800 additional people). The growth envisaged under the existing controls, along with the additional opportunity sites, could achieve a yield in the order of 4,307 additional dwellings, resulting in a corresponding population of 8,614 additional people. It is also envisaged that approximately 14,011 additional

jobs will be accommodated within the Precinct. This is based on uptake rates of 40% for townhouse development, 70-80% for high density residential development and 40-60% for commercial development. Whilst housing outcomes are slightly less than that anticipated under the State Government Corridor Strategy, it is considered that this is offset by the opportunity to provide for a significant increase in employment opportunities in this location.

INFLUENCES

- State framework for transit oriented development to provide the highest density close to the station and growth in line with the State Corridor Strategy
- Showground - development to address interface with this important regional open space and improve Cattai Creek corridor
- Connectivity opportunities - improve pedestrian and vehicular connections to the station and Norwest Precinct
- Castle Hill Industrial Area - retain light industrial and bulky goods retailing to meet local demand
- Gateway Locations - to define precinct entry with higher density commercial development
- Heritage - ensure new development respects the significance of heritage items including the setting and views
- Need to respond to demand created by incoming population for infrastructure such as open space and community facilities

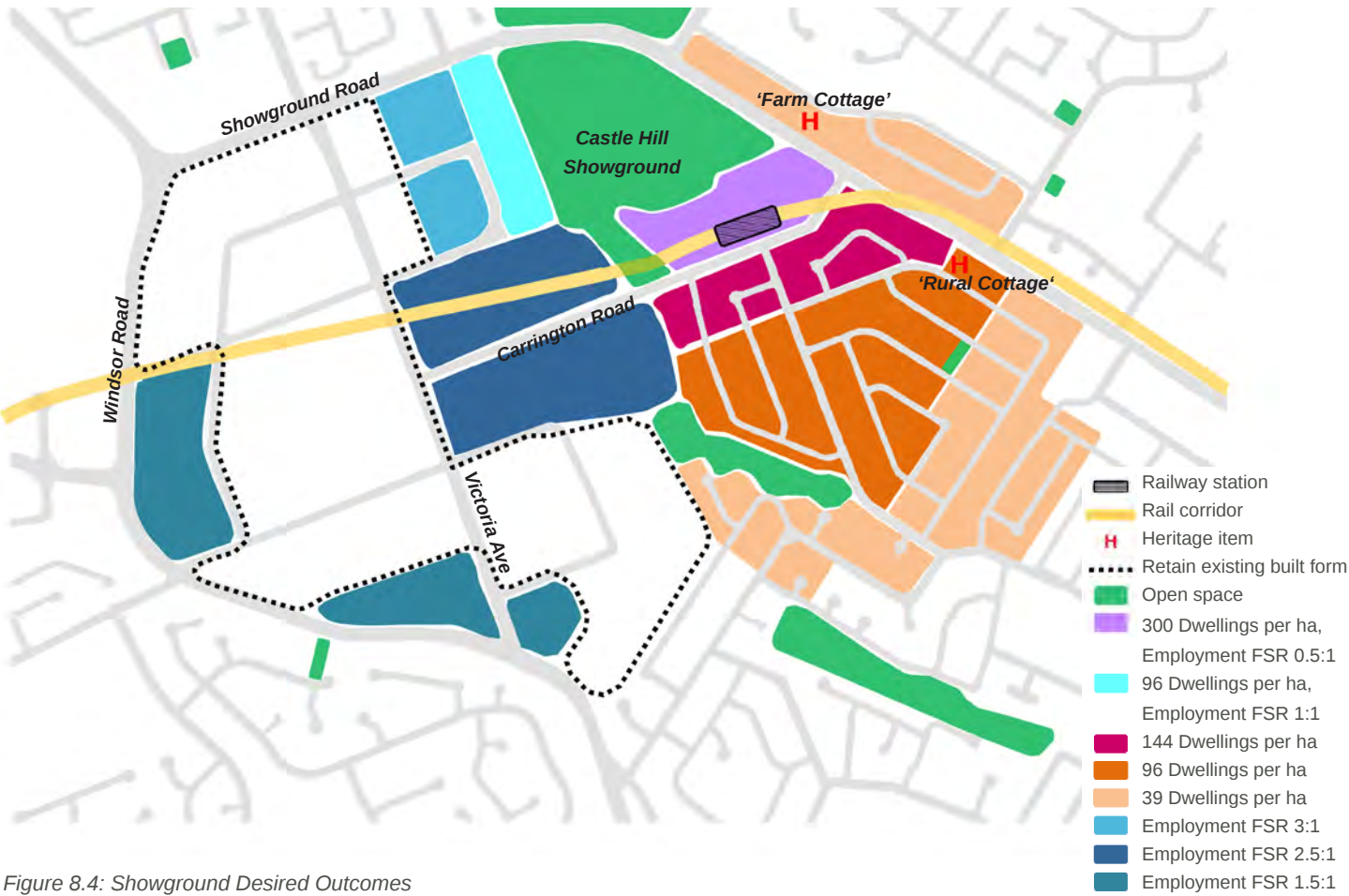


Figure 8.4: Showground Desired Outcomes

		Existing (2011)	Planned growth under current controls	Additional growth under strategy	Forecast Dwellings (2036)
Dwellings	NWRL Corridor Strategy	580	400	3,370	4,350
	The Hills Corridor Strategy	580	400	3,907	4,887

Table 8.1: Showground Projected Dwellings

		Existing (2011)	Planned growth under current controls	Additional growth under strategy	Forecast Jobs (2036)
Jobs	NWRL Corridor Strategy	8,074	320	6,806	15,200
	The Hills Corridor Strategy	8,074	320	13,691	22,085

Table 8.2: Showground Projected Jobs

Note: Existing dwellings/jobs and planned growth under current controls under the NWRL Corridor Strategy have been adjusted to match current data and Hills Council analysis to enable accurate comparison of additional growth projections.

Area	Net Developable Area (ha)	Maximum Dw/Ha	Minimum Employment FSR	Residential uptake	Employment uptake	Existing dwellings	Additional dwellings	Existing jobs	Additional jobs
	6.2	300	0.5:1	80%	70%	0	1,498	0	575
	9.7	144	N/A	70%	N/A	92	917	0	0
	22	96	N/A	60%	N/A	214	1,139	0	0
	27.3	39	N/A	50%	N/A	274	395	0	0
	17.6	0	1.5:1	N/A	40%	0	0	451	3,069
	24.6	0	2.5:1	N/A	40%	0	0	670	7,517
	4.7	96	1:1	80%	60%	0	358	309	623
	6.5	N/A	3:1	N/A	40%	0	0	377	2,227
■ ■	Retain Existing Built Form							6,267	0
Total	118.6					580	4,307	8,074	14,011

Table 8.3: Showground Projected Yields



Castle Hill Showground, Castle Hill Trading Zone and surrounds (looking west)

Source: The Hills Shire Council

9 NORWEST PRECINCT

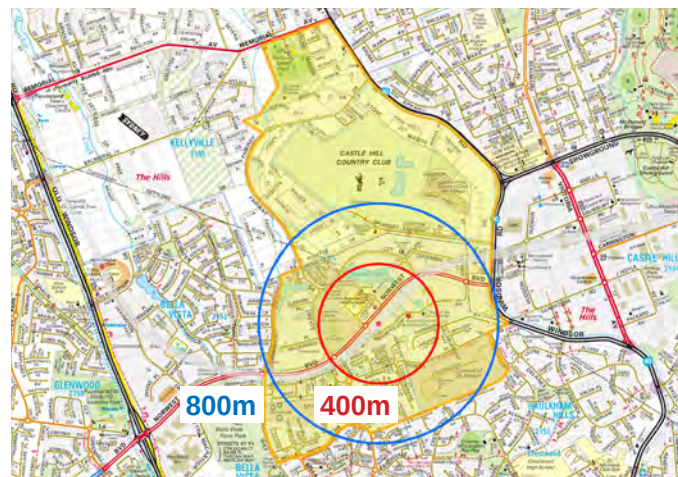


Figure 9.1: Norwest Station Catchment
Source: Sydway 2011

Norwest Station Precinct is located within the existing business park area with high density commercial activity, adjacent to local shops and low density residential. The area also contains Norwest Marketown shopping centre and Hillsong Church. The commercial core includes two bodies of water, Norwest Lake and Strangers Lake. St Joseph's Convent site in the south-east is a large single landholding recently approved for re-development.

It is envisaged that Norwest Station Precinct will be a major specialised employment centre becoming the largest employment centre for the North West. It will contain a commercial core around the station, a retail/mixed use hub, business park activities towards the east and west of the centre and increased housing densities surrounding the employment functions. The station will have bus bays on both sides of Norwest Boulevard, kiss and ride spaces, and parking and storage for 30 bicycles.

9.1 CONSTRAINTS

Accessibility

The high volume of traffic within the area results in a significant amount of congestion at each of the roundabouts along the roadway which have become traffic pinch points. Internal pedestrian accessibility within the precinct is limited, primarily due to the major roads passing through the precinct, which act as pedestrian barriers. The roadways create a hostile environment which is not conducive to a pleasurable pedestrian experience.

Drainage

The area contains a number of lower order creeks, located to the north and west, which flow into Strangers Lake and Norwest Lake. The primary purpose of the Norwest Lake is to act as a flood/stormwater detention basin to mitigate the increase in peak flows as a result of urbanisation. Flooding is not considered to be a major constraint within this precinct.

Easements

Existing electricity transmission lines traverse the precinct extending across the precinct from west to east. These transmission lines and associated easements represent a constraint to development within the vicinity.

Heritage

Heritage items within the area include an avenue of trees along Spurway Drive and Windsor Road from Baulkham Hills to Box Hill. Windsor Road is designated as a General Heritage item and Old Windsor Road an Archaeological Heritage Item subject to a Conservation Management Plan prepared by Roads and Maritime Services.

Bella Vista Farm is located within the vicinity and the prominent nature of Bella Vista Farm is considered to be a constraint to development, because of the panoramic views of surrounding districts from the farm. The views to and from the farm are an extremely important aspect of the cultural significance of the farm and surrounding areas. Future development within the Precinct must demonstrate that significant views and vistas to and from Bella Vista Farm will be retained and conserved.

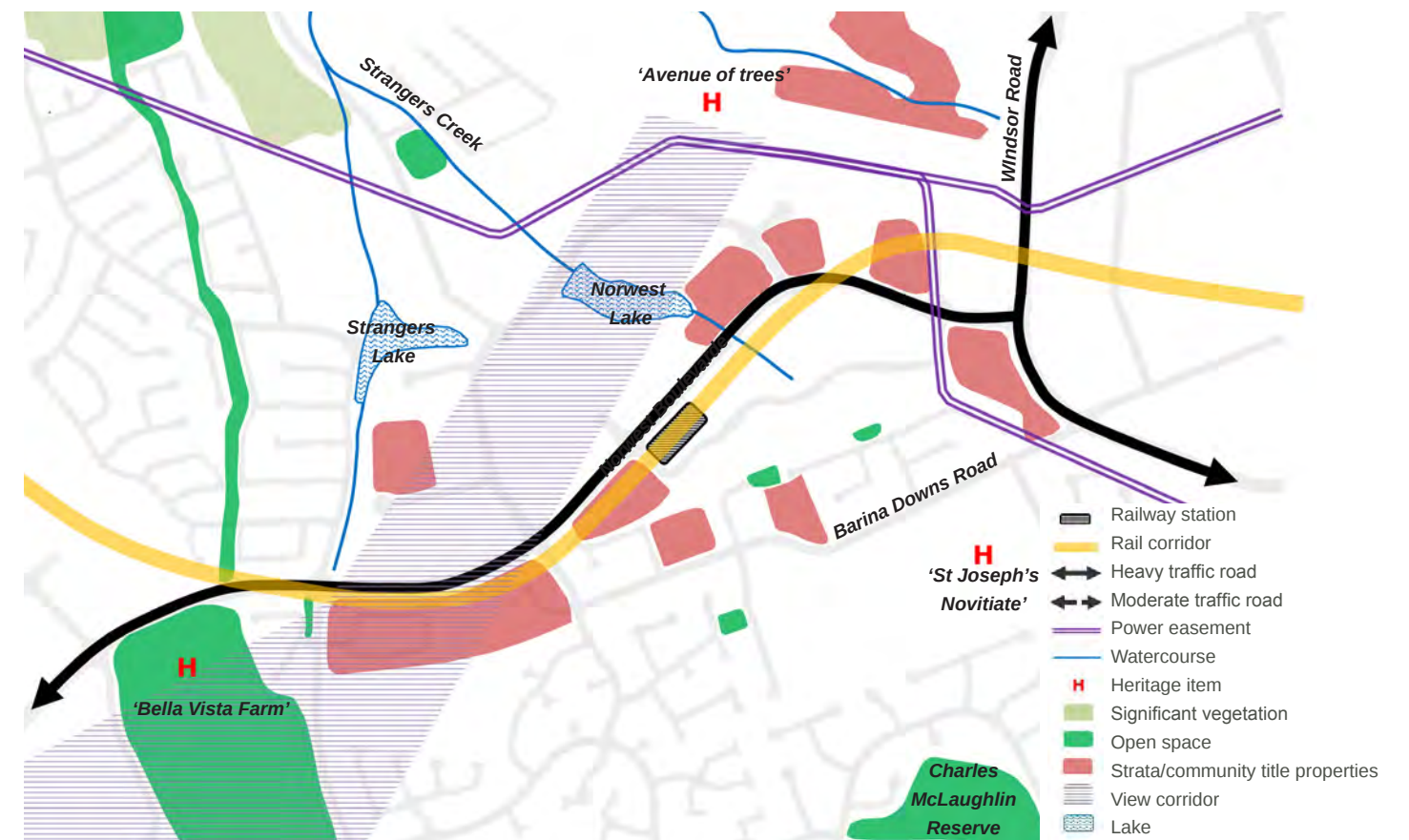


Figure 9.2: Norwest Constraints

Building Stock

Land which is governed by strata or community title arrangements are considered to be a constraint for redevelopment. This type of housing and commercial stock is unlikely to be part of future redevelopment in the short to medium term. The age (10-15 years) high quality, size and value of existing housing stock is likely to impact on re-development opportunities.

Vegetation

There are pockets of Cumberland Plain Woodland within the northern portion of the precinct, which is listed as a Critically Endangered Ecological Community under the Threatened Species Conservation Act and Environment Protection and Biodiversity Conservation Act.

9.2 OPPORTUNITIES

Accessibility

The area will provide opportunities for increased housing and employment within walking distance of the future railway station. As part of future redevelopment of the Precinct, there will be opportunities to increase and enhance the permeability of the road network and reduce congestion. Any additional growth within the Precinct will need to be supported by measures to deal with the capacity/efficiency of the road network to cope with the additional employment and housing.

In terms of pedestrian/cycle connectivity the Precinct has the benefit of existing links under Norwest Boulevard near Bella Vista Farm Park and to the north of Market town. Redevelopment will provide opportunities to further improve the pedestrian/cycle access to the station and town centre.

Employment

The success of Norwest Business Park to date provides a springboard for attracting new higher order business activities. The delivery of the rail and improved accessibility will enhance the attractiveness of the business park, providing opportunity to leverage investment in businesses and jobs suited to the Shire skilled, professional workforce.

The Town Centre and Norwest Lake

The local centre is well placed, central to the business park, adjacent to Norwest Lake and provides a vibrant and active destination for workers, residents and visitors to the business park. A mix of residential, retail and community uses will provide the opportunity to enhance the public domain and social interaction, contributing to a desirable living environment.

Services

The precinct currently has access to a full range of utility services such as electricity, telecommunication, gas, water, sewer and stormwater drainage. All services are capable of being upgraded if required.

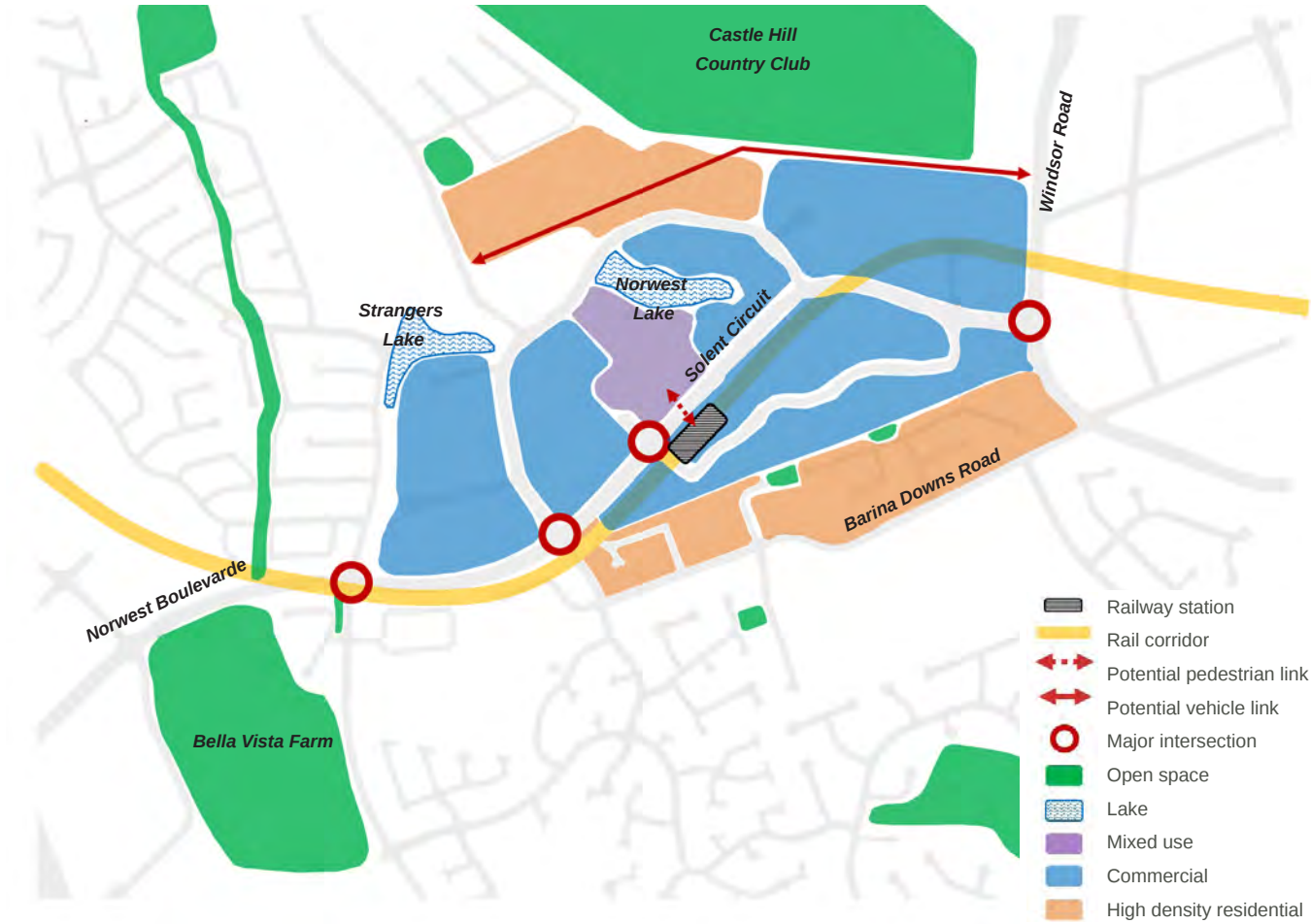


Figure 9.3: Norwest Opportunities

NORWEST PRECINCT VISION

“A specialised employment, retail and entertainment centre with some opportunity for higher density residential living around the Norwest Lake precinct.”

9.3 DESIRED OUTCOMES

The vision for the Norwest Precinct is for the orderly expansion and intensification of the Business Park by delivering a built form that caters for employment activities, while retaining the open business feel.

Higher density commercial and mixed use development is to be located close to the station. The height of the landmark buildings shall not exceed 20-22 storeys in the immediate vicinity of the station. These buildings may be limited by the sub-terrain tunnel and station box which will be located underneath these sites. The visual impact on surrounding lower and medium density areas will be reduced as the site is separated from these areas. Whilst distinctive buildings will be encouraged, there will need to be a transition of heights across the Precinct to facilitate a varied and interesting skyline which also has regard to key view corridors through the precinct.

Large undeveloped landholdings north of Solent Circuit would also facilitate a high density residential outcome with densities ranging between 216 and 96 dwellings per hectare. Land on the northern side of Barina Downs Road extending north to the Norwest Business Park will have a density of 96 dwellings per hectare to accommodate lower scale apartment style developments to transition to nearby lower density residential areas.

There are currently 956 existing dwellings within the Norwest Precinct accommodating an existing population of 2,935 people. Under the current development controls, it is anticipated that there is growth potential for an additional 2,492 dwellings (approximately 4,984 additional people). The growth envisaged under the existing controls, along with the additional opportunity sites, could achieve a yield in the order of 5,320 additional dwellings, resulting in a corresponding population of 11,758 additional people.

This is based on an uptake rate of 80-100% for high density residential development and for mixed use development which recognises the scope of opportunities for redevelopment within the Precinct. It is also envisaged that approximately 14,450 additional jobs will be accommodated within the Precinct. The uptake rates assumed for commercial development range from 40-90% which recognises the extent of existing strata properties and the age and quality of existing buildings.

INFLUENCES

- **State framework for transit oriented development to provide the highest density close to the station and growth in line with the State Corridor Strategy**
- **Significance of Norwest Business Park - reinforce the status of the business park as a specialised centre and key employment destination**
- **Facilitate redevelopment and rejuvenation for growth on larger landholdings close to the station**
- **Access to station - improve pedestrian connection under Norwest Boulevard**
- **Existing character - minimise impact on existing low density residential areas and community title subdivisions**
- **Need to respond to demand created by incoming population for infrastructure such as open space and community facilities**

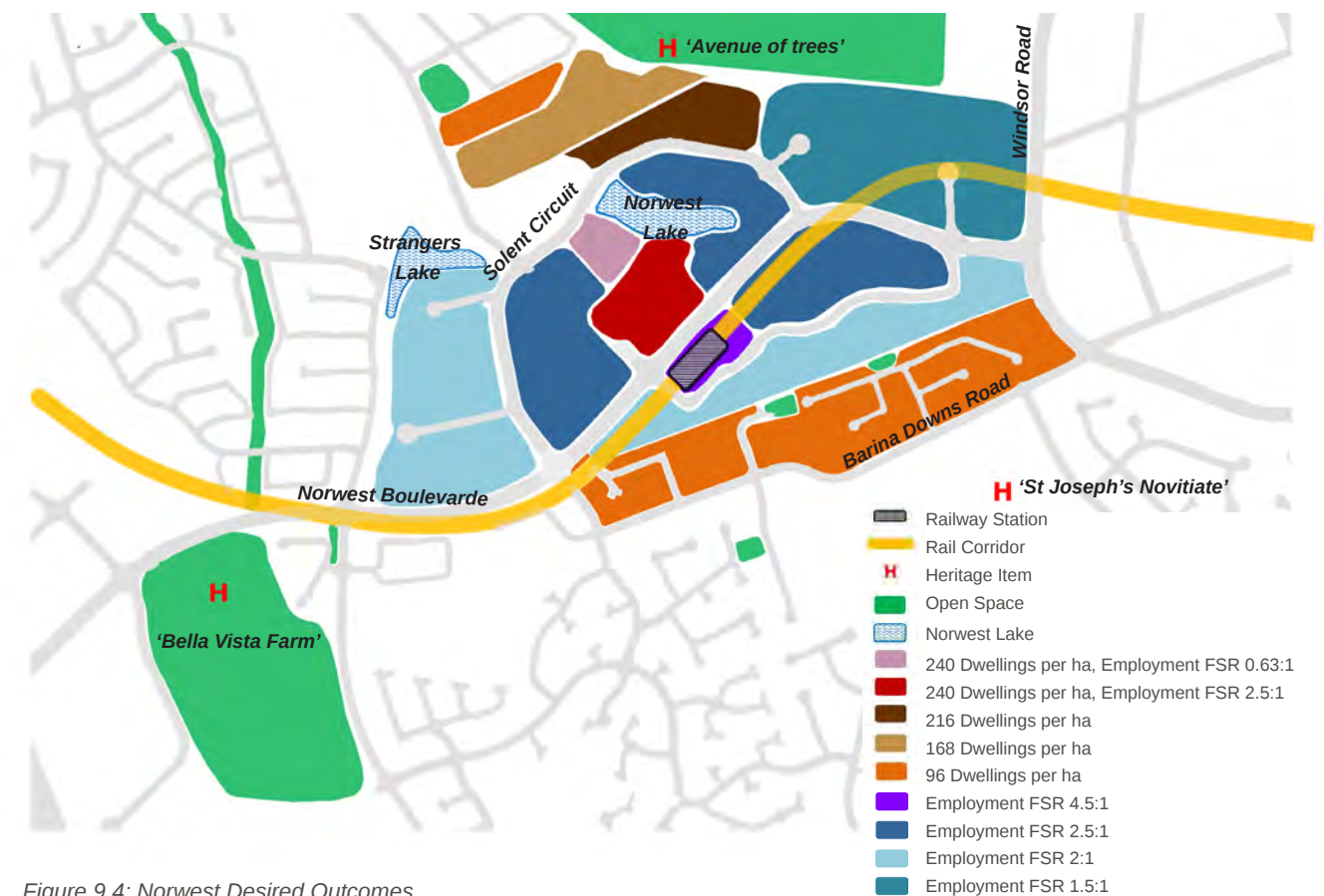


Figure 9.4: Norwest Desired Outcomes

		Existing (2011)	Planned growth under current controls	Additional growth under strategy	Forecast Dwellings (2036)
Dwellings	NWRL Corridor Strategy	956	2,492	2,202	5,650
	The Hills Corridor Strategy	956	2,492	2,828	6,276

Table 9.1: Norwest Projected Dwellings

Note: Existing dwellings/jobs and planned growth under current controls under the NWRL Corridor Strategy have been adjusted to match current data and Hills Council analysis to enable accurate comparison of additional growth projections.

		Existing (2011)	Planned growth under current controls	Additional growth under strategy	Forecast Jobs (2036)
Jobs	NWRL Corridor Strategy	6,994	3,159	16,047	26,200
	The Hills Corridor Strategy	6,994	3,159	11,291	21,444

Table 9.2: Norwest Projected Jobs

Area	Net Developable Area (ha)	Maximum Dw/Ha	Minimum Employment FSR	Residential uptake	Employment uptake	Existing dwellings	Additional dwellings	Existing jobs	Additional jobs
	0.9	240	0.63:1	100%	100%	0	228	14	144
	3.5	240	2.5:1	80%	80%	0	676	259	2,088
	8.1	168	N/A	95%	N/A	1	1,292	0	0
	4.8	216	N/A	90%	N/A	0	933	0	0
	14.6	96	N/A	80%	N/A	410	792	0	0
	16.8	N/A	2.5:1	N/A	40%	0	0	1,708	3,892
	15.9	N/A	2.0:1	N/A	60%	0	0	3,183	3,177
	13.5	N/A	1.5:1	N/A	70%	0	0	1,830	2,895
	1.7	N/A	4.5:1	N/A	90%	0	0	0	2,255
Remainder of Precinct	Existing Potential Under Existing Controls (within the remainder of the NWRL Corridor Strategy Precinct)					545	1,399	0	0
Total	79.8					956	5,320	6,994	14,450

Table 9.3: Norwest Projected Yields



Norwest Business Park (looking east)

Source: The Hills Shire Council

10 BELLA VISTA PRECINCT

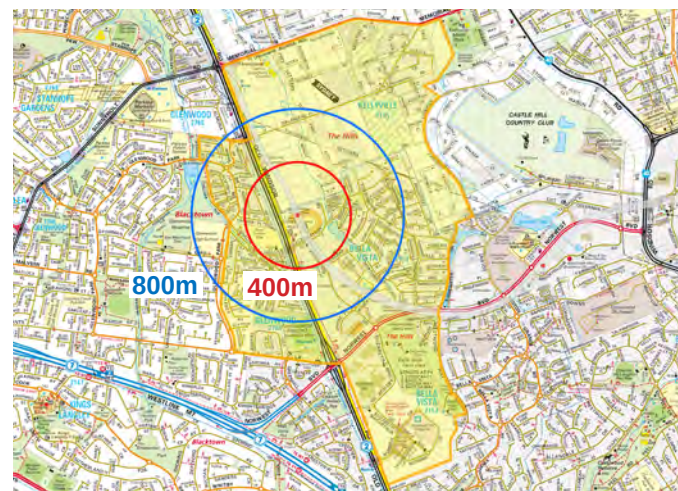


Figure 10.1: Bella Vista Station Catchment
Source: Sydway 2011

The Bella Vista Precinct covers both the Hills Shire and Blacktown Local Government Areas. The area is bound by Memorial Avenue in the north, along Old Windsor Road, Glenwood Park Drive and Meurants Lane to the west, Prestige Avenue to the south and Westwood Way, Edgewater Drive and Fairway Drive to the east. The area also includes Norwest Private Hospital, Circa Shopping Centre and Bella Vista Park Farm. It is envisaged that Bella Vista will function as a business and commercial destination station and provide some residential development opportunities. There will be 800 commuter carparking spaces, six (6) bus spaces and parking and storage for 30 bicycles.

Bella Vista Station has been identified as a Priority Precinct station. Priority Precincts are areas that are considered to have redevelopment potential on a scale that is important in implementing the State's planning objectives. They are larger areas that will be capable of delivering significant additional growth, requiring co-ordination from State and local government to realise their potential. Council will be able to access up to \$5 million in local infrastructure funding to support new development.

10.1 CONSTRAINTS

Accessibility

General traffic access is characterised by long delays at the western entry off the M7 because of capacity constraints at the Lexington Avenue roundabout. Traffic signals are planned at this location but unfunded at present.

Accessibility within the Precinct is impacted by Norwest Boulevard which is a significant barrier to pedestrian movement through the northern and southern parts of the Precinct. While two pedestrian and cycle underpasses exist within the locality, pedestrian safety will be at risk until most of the roundabouts are replaced with traffic signals over the next 15 years.

Drainage

The Bella Vista precinct is located within the Elizabeth Macarthur Creek catchment which along with the Strangers Creek catchment drains in a northerly direction into Caddies Creek, Cattai Creek and then into the Hawkesbury River at Cattai.

Easements

Overhead electricity wires, with a corresponding easement traverses the Precinct from Old Windsor Road to the business park. This utility service and easement represents a constraint to development.

Heritage

There are two significant heritage items within the Precinct, Bella Vista Farm Park and Old Windsor Road.

Bella Vista Farm Park is located on a ridge with panoramic views and as such the views to and from the farm is considered an extremely important aspect of the cultural significance of the farm and surrounding areas. The importance of the views and vistas from the site needs to be understood to ensure that the height and character of surrounding development does not block vistas.

Future development within the Precinct must demonstrate that significant views and vistas to and from Bella Vista Farm will be retained and conserved.

It should be noted that Old Windsor Road is designated as an Archaeological Heritage Item and is subject to a Conservation Management Plan prepared by Roads and Maritime Services.

The Precinct sits within a significant aboriginal cultural landscape, with a number of known sites providing evidence of past occupation. Suitable controls requiring archaeological assessments for major development sites and subdivisions, similar to the process that currently occurs for the Balmoral Road Release Area, will be needed to provide for an appropriate management regime.

Vegetation

There are pockets of Cumberland Plain Woodland within the northern portion of the precinct which is listed as a Critically Endangered Ecological Community under the Threatened Species Conservation Act and the Environment Protection and Biodiversity Conservation Act.

Building Stock

Land which is governed by strata arrangements are a constraint to development. It is unlikely to be part of future redevelopment in the short to medium term. Very recent residential development in the eastern part of the Precinct inhibits development opportunities beyond the immediate rail corridor.

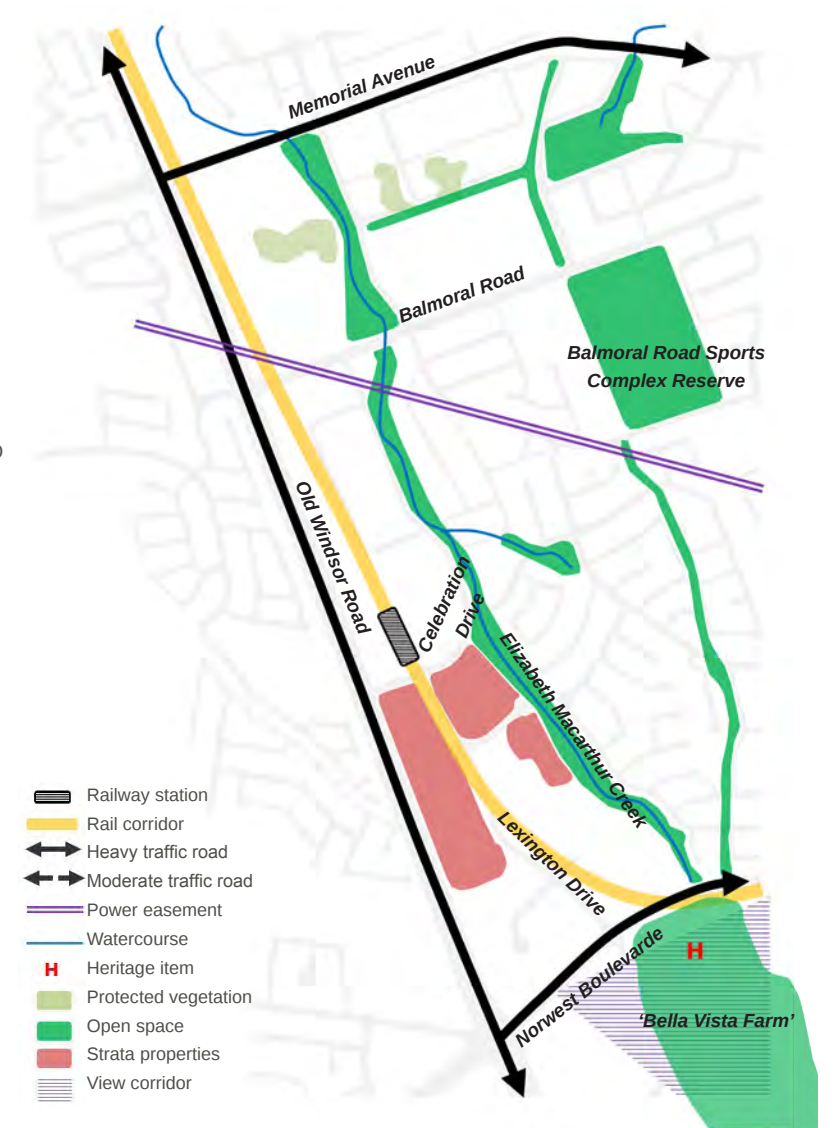


Figure 10.2: Bella Vista Constraints

10.2 OPPORTUNITIES

Accessibility

Bella Vista Precinct is accessible from two major roads, Norwest Boulevard and Old Windsor Road which provide direct access to both the M7 and M2 Freeways, as well as Norwest Business Park. Given large government landholdings there are significant short term opportunities for increased housing and employment opportunities within walking distance of the future railway station. As part of future redevelopment to the area, there will be opportunities to enhance the permeability of the road and pedestrian network in order to provide better access to the station.

Any additional growth within the area will need to be supported by measures to improve the efficiency of the road network to cope with the additional traffic volume. These measures include a pedestrian bridge across Old Windsor Road, traffic signals at the intersection of Norwest Boulevard and Lexington Drive, and footpath upgrades along Celebration Drive. It is proposed that Celebration Drive will be extended north to provide alternative access to the Balmoral Road Release Area.

Vegetation & Open Space

The riparian corridor along Elizabeth Macarthur creek whilst serving as a drainage function, also provides opportunity for off road green link connecting south to Bella Vista Farm and north to the Kellyville Precinct and beyond.

Employment

The success of Norwest Business Park to date provides a springboard for attracting new higher order business activities. The delivery of the rail and improved accessibility will enhance the attractiveness of the business park, providing opportunity to leverage investment in businesses and jobs suited to the Shire skilled, professional workforce.

An emerging health and medical cluster provides opportunities to continue to encourage such uses that will support the aging population and deliver jobs suited to the workforce.

Heritage

Bella Vista Farm is surrounded by low density residential areas to the east, commercial and industrial development to the north and west and the Bella Vista Oval to the south-east.

Opportunity exists for greenway links within and around Bella Vista and to develop these links in a regional heritage trail. There are also opportunities for community activities to be incorporated within the Farm.

Services

The area currently has access to a full range of utility services such as electricity, telecommunication, gas, water, sewer and stormwater drainage. All services are capable of being upgraded if required.

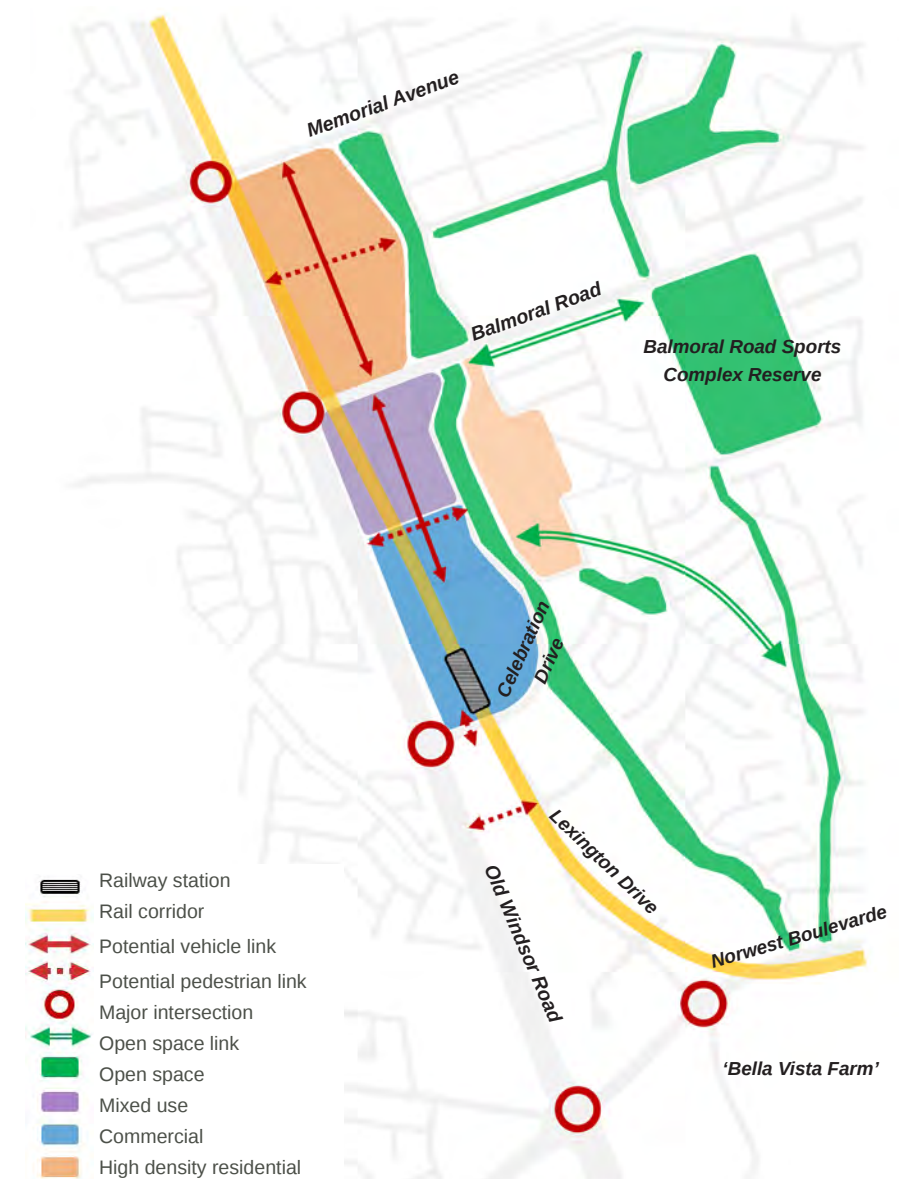


Figure 10.3: Bella Vista Opportunities

BELLA VISTA PRECINCT VISION

“High-rise commercial core close to station with opportunity for some high density residential living and some support retail.”

10.3 DESIRED OUTCOMES

The vision for the Bella Vista Precinct is for the orderly expansion and intensification of the Business Park by delivering efficient, large floor plate, campus-style office spaces. Bella Vista will provide opportunities for increased employment and housing opportunities.

Future development adjoining the station will include high density commercial buildings with an average height of 15 storeys. For land north of the station and west of Elizabeth Macarthur Creek a residential density of 264 dwellings per hectare is envisaged. The height of development will graduate downward to Memorial Avenue. Some apartment style development is envisaged for land east of Elizabeth Macarthur Creek which will have a residential density of 96 dwellings per hectare to enable transition to lower density.

Given that the Balmoral Road Release Area has progressed significantly since its release, it is unlikely that areas to the east of Elizabeth Macarthur Creek will redevelop for higher density in the short to medium term. This portion of the Precinct will continue to develop under the existing development controls.

Land within the Circa Precinct will develop under the existing controls. Any future redevelopment within the Circa Precinct would need to review the traffic and built form implications of any increased density and should occur via an owner initiated proposal.

There are currently 1,288 existing dwellings within the Bella Vista Precinct accommodating an existing population of 4,147 people. Under the current development controls it is anticipated that there is growth potential for an additional 2,252 dwellings (approximately 6,305 additional people). The growth

envisaged under the existing controls, along with the additional opportunity sites, could achieve a yield in the order of 4,090 additional dwellings, resulting in a corresponding population of 8,990 additional people. It is also envisaged that the precinct will accommodate 12,077 additional jobs.

This is based on an uptake rate of 70-90% for the high density residential and 80% for commercial development.

INFLUENCES

- State framework for transit oriented development to provide the highest density close to the station and growth in line with the State Corridor Strategy
- Significance of Norwest Business Park - reinforce the status of the business park as a specialised centre and key employment destination
- Existing buffer - focus future high density development west of Elizabeth Macarthur Creek
- Growth on vacant government land close to the station
- Land Use Transition (Higher density residential to the north of Balmoral Road
- Greenway link along Elizabeth Macarthur Creek to connect open space, maintain biodiversity and provide for passive recreation
- Heritage - ensure new development respects the significance of heritage items including the setting and views
- Need to respond to demand created by incoming population for infrastructure such as open space and community facilities

		Existing (2011)	Planned growth under current controls	Additional growth under strategy	Forecast Dwellings (2036)
Dwellings	NWRL Corridor Strategy	1,288	2,252	1,749	5,289
	The Hills Corridor Strategy	1,288	2,252	1,838	5,378

Table 10.1: Bella Vista Projected Dwellings

		Existing (2011)	Planned growth under current controls	Additional growth under strategy	Forecast Jobs (2036)
Jobs	NWRL Corridor Strategy	9,222	4,208	6,570	20,000
	The Hills Corridor Strategy	9,222	4,208	7,869	21,299

Table 10.2: Bella Vista Projected Jobs

Note: Existing dwellings/jobs and planned growth under current controls under the NWRL Corridor Strategy have been adjusted to match current data and Hills Council analysis to enable accurate comparison of additional growth projections.



Figure 10.4: Bella Vista Desired Outcomes

Area	Net Developable Area (ha)	Maximum Dw/Ha	Minimum Employment FSR	Residential uptake	Employment uptake	Existing dwellings	Additional dwellings	Existing jobs	Additional jobs
	3.6	N/A	3.75:1	N/A	90%	0	0	0	4,106
	4.9	N/A	3:1	N/A	90%	0	0	0	4,437
	4.8	264	0.5:1	90%	80%	0	1,152	0	511
	11.5	168	N/A	90%	N/A	0	1,746	0	0
	8	96	N/A	70%	N/A	4	533	0	0
Remainder of Precinct	Existing Potential Under Existing Controls (within the remainder of the NWRL Corridor Strategy Precinct)					1,284	658	9,222	3,023
Total	33					1,288	4,090	9,222	12,077

Table 10.3: Bella Vista Projected Yields



Bella Vista and Norwest Business Park (looking east)

Source: The Hills Shire Council

11 KELLYVILLE PRECINCT

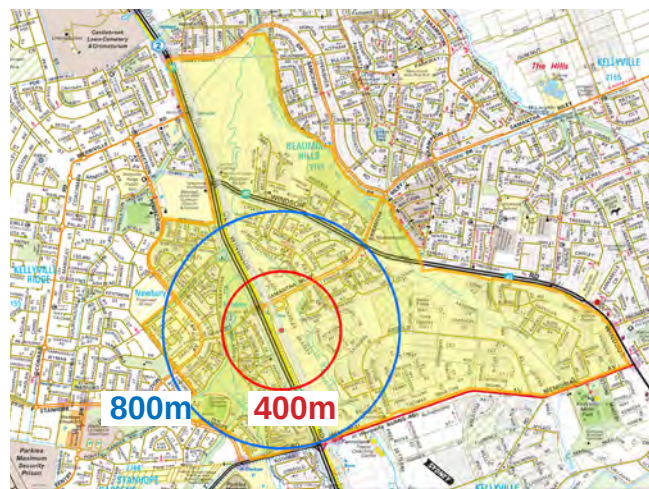


Figure 11.1: Kellyville Station Catchment
Source: Sydway 2011

The Kellyville Station Precinct is an established residential area with local schools and retail/commercial centre and is located within both the Hills Shire and Blacktown Local Government Areas. It is envisaged that Kellyville will become a transit oriented Precinct with a variety of housing typologies and local retail services with strong connectivity to other smaller centres within the vicinity.

Kellyville station is a skytrain station and the largest commuter station with 1200 commuter car parking spaces, 160 additional transitway parking spaces and parking and storage for 45 bicycles, providing the opportunity that allows customers to easily transfer between different types of transport including bike, bus, taxi and car. The skytrain structure will begin just past Balmoral Road, Kellyville.

Kellyville Station has been identified as a Priority Precinct Station. Priority Precincts are areas that are considered to have redevelopment potential on a scale that is important in implementing the State's planning objectives. They are larger areas that will be capable of delivering significant additional growth, requiring co-ordination from State and local government to realise their potential. Council will be able to access up to \$5 million in local infrastructure funding to support new development.

11.1 CONSTRAINTS

Accessibility

The Precinct is accessed by four (4) major routes Windsor Road, Old Windsor Road, Sunnyholt Road/Memorial Avenue and Samantha Riley Drive. Whilst providing direct road access to Parramatta, Blacktown and the CBD (via the M2), these roads are subject to considerable congestion in peak periods.

Pedestrian accessibility within the Precinct is limited due to the lack of dedicated footpaths and connectivity. Memorial Avenue, Samantha Riley Drive and Windsor Road are also barriers to pedestrians' movement. The parallel operation of Old Windsor Road, the Transitway and the rail line present challenges to the pedestrian connectivity.

Drainage

The station is located parallel to Windsor Road and within the Elizabeth Macarthur Creek riparian corridor catchment which, along with the Strangers Creek catchment, drains into the Caddies Creek and Hawkesbury River catchments that lie to the north. The precinct contains a number of lower order drainage lines that form part of either the Elizabeth Macarthur or Strangers Creek system. The large areas of open space adjoining Elizabeth Macarthur Creek, Caddies Creek and Strangers Creek are subject to flood risk.

Heritage

There are a number of heritage items within the Precinct including Windsor Road from Baulkham Hills to Box Hill and the archaeological remains of the original White Hart Inn which was built in the 1820's. Development in around these items should minimise any adverse impacts.

It should be noted that Windsor Road is designated as a General Heritage item and Old Windsor Road an Archaeological Heritage Item subject to a Conservation Management Plan prepared by Roads and Maritime Services. The Precinct sits within a significant aboriginal cultural landscape, with a number of known sites providing evidence of past occupation. Suitable controls requiring archaeological assessments for major development sites and subdivisions, similar to the process that currently occurs for the Balmoral Road Release Area, will be needed to provide for an appropriate management regime.

Vegetation

There are pockets of Cumberland Plain Woodland within the Precinct which is listed as a Critically Endangered Ecological Community under the Threatened Species Conservation Act and the Environment Protection and Biodiversity Conservation Act. Future development in proximity to the vegetation will need to be guided by flora and fauna assessment and will need to avoid, mitigate and/or offset impacts to any threatened entities found on site.

Housing Stock

Land which has been recently developed for low density residential dwellings in the eastern part of the precinct inhibits development opportunities beyond the immediate rail corridor.

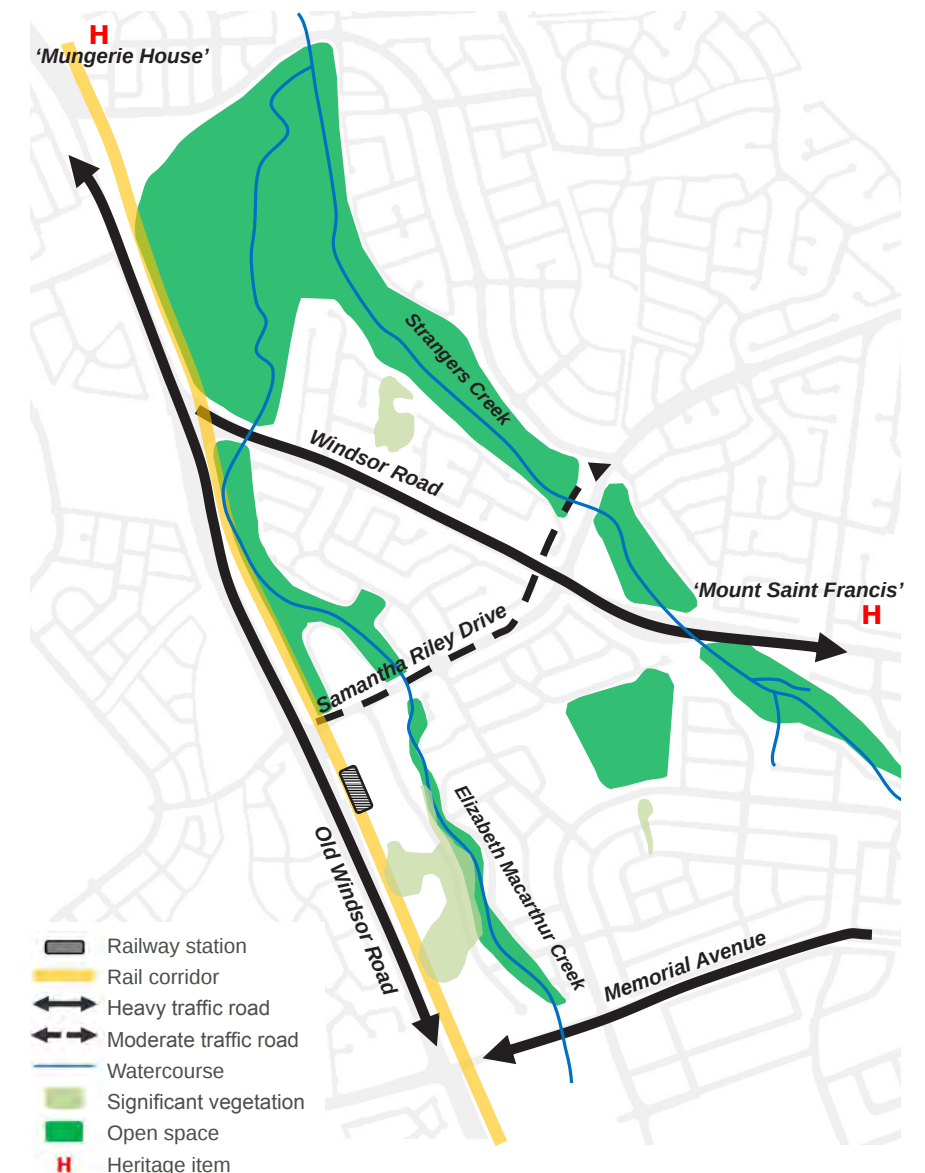


Figure 11.2: Kellyville Constraints

11.2 OPPORTUNITIES

Accessibility

The existing bus services that operate along the Transitway and Sunnyholt Road, linking Rouse Hill and Beaumont Hills/Kellyville to Parramatta and the City/North Sydney and Blacktown will complement the operation of the Sydney Metro Northwest. A pedestrian path and regional cycle way is located on the eastern side of Old Windsor Road south from the intersection with Memorial Avenue and west along Sunnyholt Road. As part of the future redevelopment there will be opportunities to enhance the permeability of the road and pedestrian network for better access to the station.

Vegetation

The Precinct includes tracts of River-flat Eucalypt Forest, listed as an Endangered Ecological Community under the Threatened Species Conservation Act, located in the north-east, south and east. These are generally located within open space and riparian areas and provide opportunity for the enhancement of the riparian corridors to improve pedestrian connections.

Open Space

Key open spaces within the Precinct includes Arnold Avenue Sports Complex which is a local sports field that is to be developed for traditional mainstream sports such as soccer, rugby, junior AFL and cricket. Multipurpose courts for netball, small sided soccer and/or outdoor basketball are to be included.

The Precinct also includes Caddies Creek which will consist of soccer fields/cricket oval and a rugby field, a sporting pavilion including outdoor BBQ facilities and seating areas, and car park. A separate baseball field is proposed to the west of Caddies Creek with a smaller sporting pavilion and car park.

Services

The area currently has access to a full range of utility services such as electricity, telecommunication, gas, water, sewer and stormwater drainage. All services are capable of being upgraded if required.

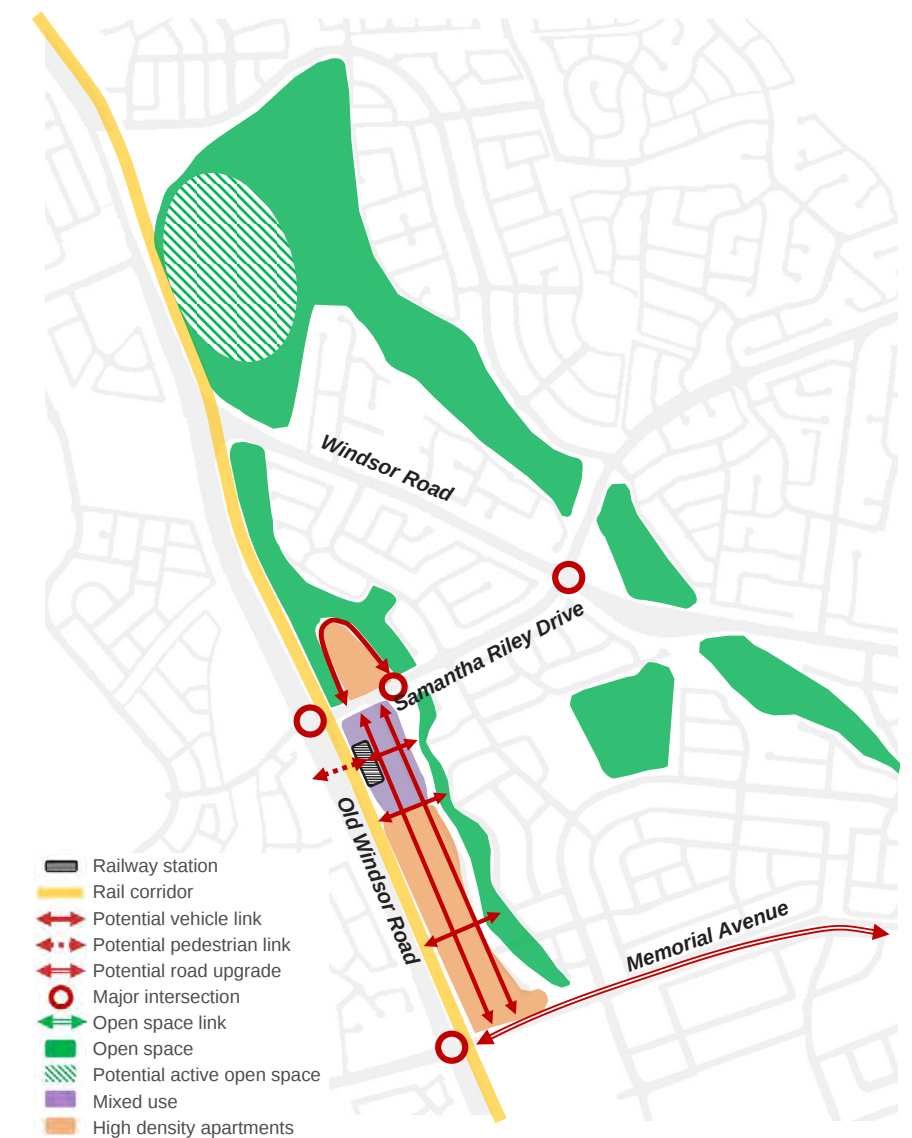


Figure 11.3: Kellyville Opportunities

KELLYVILLE PRECINCT VISION

“Commuter station that is supported by local retail and business services and higher density residential living.”

11.3 DESIRED OUTCOMES

The vision for the Kellyville Precinct is to increase residential densities within walking distance of the station, involving a mix of apartment sizes to ensure there is appropriate housing for all members of the community, particularly families.

The desired outcome for the Kellyville Precinct is a residential density of 300 dwellings per hectare around the station including some landmark building elements and an average height of around 12 storeys. The areas surrounding the station will provide a mixed use outcome incorporating retail uses on the ground and first floor. A residential density of around 168 dwellings per hectare is envisaged within the areas south of the station. Land north of Samantha Riley Drive will develop under the existing controls which envisage a density of around 283 dwellings per hectare contained within buildings ranging between 6-15 storeys in height.

Heights shall transition downward in a southerly direction from the station to Memorial Avenue. Given that the Balmoral Road Release Area has progressed significantly since its release, it is unlikely that these areas will redevelop for higher density in the short to medium term.

There are currently 1,402 existing dwellings within the Kellyville Precinct accommodating an existing population of 4,763 people. Under the current development controls, it is anticipated that there is growth potential for an additional 1,354 dwellings (approximately 3,271 additional people). The growth envisaged under the existing controls, along with the additional opportunity sites, could achieve a yield in the order of 4,473 additional dwellings, resulting in a corresponding population of 10,707 additional people.

It is also envisaged that the Precinct will accommodate 2,050 additional jobs. This is based on uptake rates of 80-100% for high density residential and mixed use development which recognises the opportunity for the development of large vacant landholdings along Old Windsor Road surrounding the station.

INFLUENCES

- State framework for transit oriented development to provide the highest density close to the station and growth in line with the State Corridor Strategy
- Urban living - mixed use development around station
- Growth on vacant land close to the station
- Existing buffer - focus future high density development west of Elizabeth Macarthur Creek (land east of creek to develop under existing controls)

- Existing creek corridor presents opportunities for additional playing fields on Government owned land and pedestrian connectivity improvements
- Heritage - ensure new development respects the significance of heritage items including the setting and views
- Need to respond to demand created by incoming population for infrastructure such as open space and community facilities

		Existing (2011)	Planned growth under current controls	Additional growth under strategy	Forecast Dwellings (2036)
Dwellings	NWRL Corridor Strategy	1,402	1,354	2,684	5,440
	The Hills Corridor Strategy	1,402	1,354	3,119	5,875

Table 11.1: Kellyville Projected Dwellings

		Existing (2011)	Planned growth under current controls	Additional growth under strategy	Forecast Jobs (2036)
Jobs	NWRL Corridor Strategy	63	2,283	-1,446*	900
	The Hills Corridor Strategy	63	2,283	-233**	2,113

Table 11.2: Kellyville Projected Jobs

Note: Existing dwellings/jobs and planned growth under current controls under the NWRL Corridor Strategy have been adjusted to match current data and Hills Council analysis to enable accurate comparison of additional growth projections.

*Note: The additional growth projected under the NWRL Corridor Strategy within The Hills Shire part of the Kellyville Precinct is less than what could be achieved under current controls. This is the result of an underprojection of existing jobs and growth in jobs that could be achieved under current controls.

**Note: It is anticipated that under the Strategy, the number of jobs created would be less than that which could be achieved under current controls as some areas currently identified for commercial development will instead accommodate mixed use commercial/residential development.

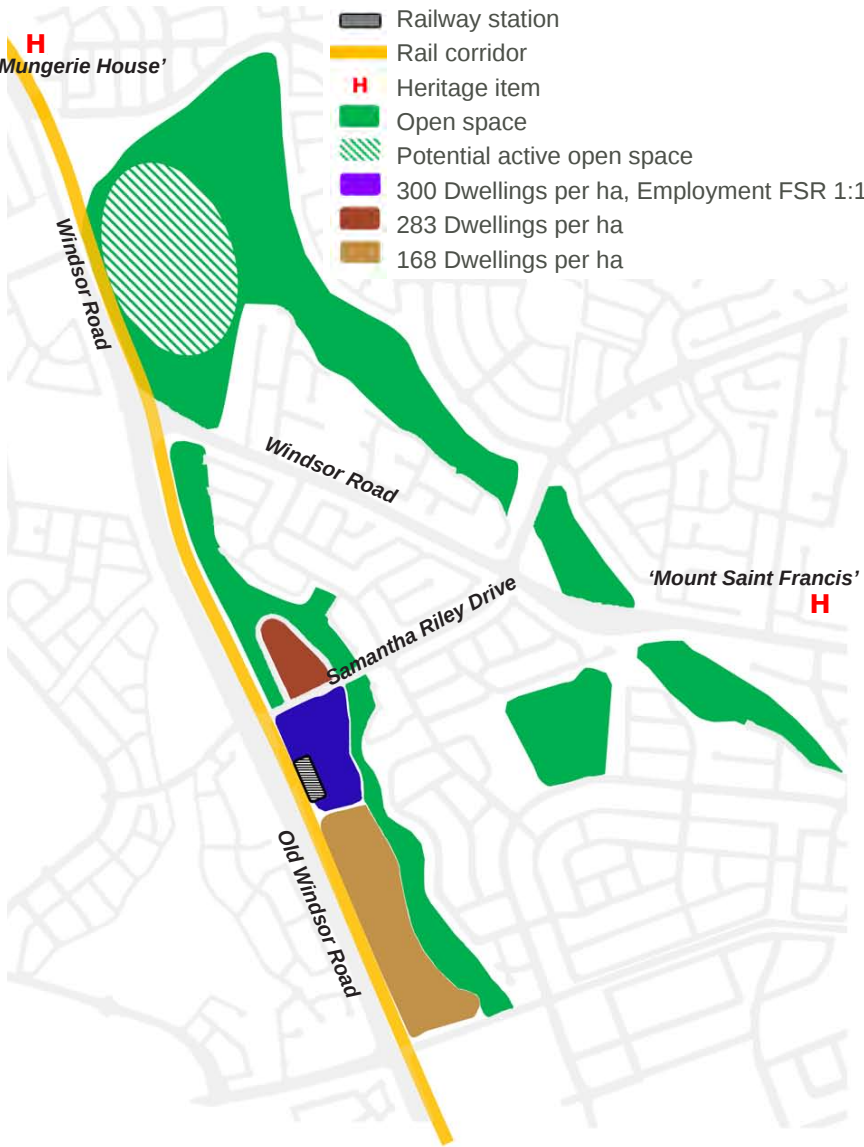


Figure 11.4: Kellyville Desired Outcomes

Area	Net Developable Area (ha)	Maximum Dw/Ha	Minimum Employment FSR	Residential uptake	Employment uptake	Existing dwellings	Additional dwellings	Existing jobs	Additional jobs
	2.29	283	Planning Proposal	100%	100%	0	650	0	50
	6	300	1:1	90%	80%	0	1,620	0	2,000
	9.7	168	N/A	80%	N/A	1	1,298	0	0
Remainder of Precinct	Existing Potential Under Existing Controls (within the remainder of the NWRL Corridor Strategy Precinct)					1,401	905	63	0
Total	18.0					1,402	4,473	63	2,050

Table 11.3: Kellyville Projected Yields



Beaumont Hills, Kellyville and surrounds (looking south)

Source: The Hills Shire Council

12 ROUSE HILL PRECINCT

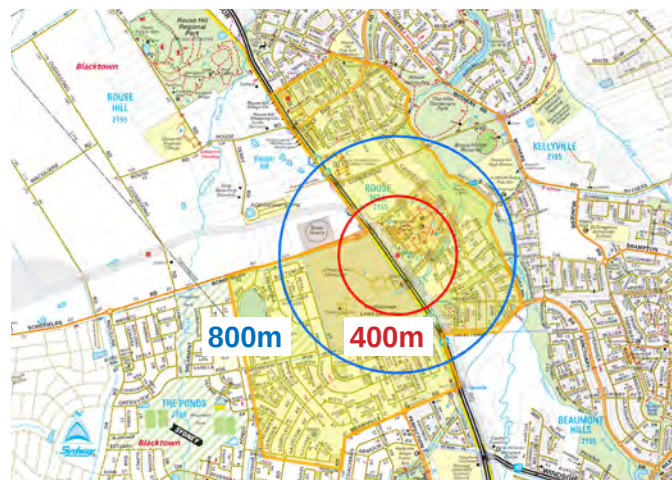


Figure 12.1: Rouse Hill Station Catchment
Source: Sydway 2011

The Rouse Hill Station Precinct is an established residential and retail/commercial centre and is located within both Blacktown and The Hills Shire Local Government Area. It is envisaged that Rouse Hill station will become a mixed use destination with the potential to transform into a Major Centre enabling increased commercial and residential uptake. Rouse Hill will be a prominent retail and commercial hub for the North West by expanding the existing commercial and retail areas.

Rouse Hill train station is a skytrain station which will run for approximately four (4) kms between Kellyville and Rouse Hill. It is expected that the skytrain station will have a deck approximately 11 m wide which is enough room for two (2) rail lines plus a maintenance walkway for rail workers. The skytrain will be used only by passenger trains, and not for cycle ways or pedestrian walkways. There is no commuter car parking at this station.

12.1 CONSTRAINTS

Accessibility

The Precinct is accessed by two (2) major routes Windsor Road and Schofields Road. At the present time it is not subject to the same level of congestion as other precincts during peak periods, however with increased residential development in the Cudgegong Precinct and The Ponds there is likely to be reductions in the level of service of these roads and congestion entering the Rouse Hill Precinct.

Drainage

The station is located parallel to Windsor Road and within the Caddies Creek riparian corridor catchment, this catchment and the Second Ponds Creek catchment drain into the Hawkesbury River catchment which lies to the north. The large areas of open space adjoining Caddies Creek adjacent to the Precinct are subject to flood risk.

Heritage

There are a number of significant heritage items within the precinct or nearby. Development should not impact on significant elements in the grounds of heritage items or shall not impede appreciation of significant buildings or vista.

Vegetation

The Precinct contains both Shale Sandstone Transition Forest and Cumberland Plain Woodland both listed as Critically Endangered Ecological Communities under the Environment Protection and Biodiversity Conservation Act. Future development in proximity to the vegetation will need to be guided by flora and fauna assessment.

Housing Stock

Recent residential development within the Rouse Hill Centre and surrounds limits new development opportunities.



Figure 12.2: Rouse Hill Constraints

Masterplan

Land at Rouse Hill was first acquired by the NSW Government in the 1980s for urban purposes. A Master Plan for the centre was approved on 26 March 2004. It divides the centre into 2 commercial precincts (Town Centre Core and Northern Frame) and 4 key residential precincts (North, South, Central and East Precincts) and establishes a number of key principles to guide the development of the centre.

Council has granted approval for a number of Precinct Plans including the most recent for the Northern Frame in December 2014. A significant portion of the centre is developed or nearing completion including the Town Centre Core, Southern and Eastern Residential Precincts, limiting the opportunities for future growth relative to other station precincts. However the Northern Frame and Northern Residential Precincts are yet to commence providing a small window of opportunity.

12.2 OPPORTUNITIES

Accessibility

Under the planning controls for the area, it is proposed that Caddies Boulevard connect to Green Hills Drive. This link has not occurred as adjacent development has not yet commenced. There is opportunity to review the outcomes for such land to facilitate improved accessibility to the wider area.

The existing bus services along the Transitway and Schofields Road will complement the operation of the Sydney Metro Northwest.

The area is well serviced by pedestrian paths and cycleways along Windsor Road to the north and south, Schofields Road to the west and low density residential areas north-east of the Precinct via the open space corridor associated with Caddies Creek.

Open Space

There is an open space corridor associated with the Caddies Creek Riparian Corridor which can be used for passive open space/cycleway. This open space corridor connects into the broader greenway link/open space corridor running from Rouse Hill in the north to Bella Vista and Baulkham Hills in the south. The Precinct is well connected to a range of open space facilities by pedestrian path/cycleway including Rouse Hill Regional Park, Bruce Purser Reserve, Kellyville Netball Complex, and Caddies Creek Conservation Area and playing fields and Connie Lowe Reserve.

Employment

Rouse Hill station is expected to be a mixed use destination which is identified as a strategic centre in A Plan for Growing Sydney. The Plan has an objective to grow such centres as areas of intense mixed economic and social activity built around the transport network. Opportunity exists for additional employment floor space to be provided on vacant land to the north of the Mean Fiddler fronting Windsor Road.

Remaining Master Plan Precincts

Remaining development in the 'Northern Frame' includes 65,000m² retail, 40,000m² commercial and 375 dwellings in buildings up to nine (9) storeys. Further apartment development is proposed in the 'Northern Residential' Precinct.

Given that development of these Master Plan precincts has not yet commenced it is considered to be an opportunity to review the outcomes and investigate whether more intense residential development is possible to make the most of the strategic location. State Government can take a lead role in implementing the objectives of transit oriented developments.

Services

The area currently has access to a full range of utility services such as electricity, telecommunication, gas, water, sewer and stormwater drainage. All services are capable of being upgraded if required.



Figure 12.3: Rouse Hill Opportunities

ROUSE HILL PRECINCT VISION

“A regional centre that provides higher density residential living surrounding a strong retail and business core.”

12.3 DESIRED OUTCOMES

The Rouse Hill Precinct can play an important role in the Sydney Metro Northwest corridor, as a mixed use destination. The introduction of the rail will provide the impetus for the precinct to become a major transport and retail/commercial hub for the surrounding suburbs centred on a new train station and a hub for the North West Growth Centre.

The desired outcome for the Rouse Hill Precinct is for it to enhance the outcomes established under the current controls to enable transition to a more vibrant residential location. There are two opportunity sites to the north of the commercial core where a commercial and residential outcome could be achieved. The rail link will support the residential and employment growth planned for the centre under the Rouse Hill Regional Centre Master Plan, however there is opportunity to investigate increased residential outcomes.

Land adjoining Green Hills Drive will have a maximum residential density of 72 dwellings per hectare (around 3 storeys) where adjacent to low density residential, transitioning to 144 dwellings per hectare closer to Commercial Road. Redevelopment of this site will facilitate the Green Hills Drive extension to Commercial Road. Land to the north of the Mean Fiddler will provide additional commercial floor space with a floor space ratio of 1:1 fronting Windsor Road and additional residential development at the rear of the site in the form of townhouses transitioning to existing low density residential development surrounding the site.

There are currently 698 existing dwellings within the Rouse Hill Precinct accommodating an existing population of 2,262 people. Under the current development controls,

it is anticipated that there is growth potential for an additional 961 dwellings (approximately 2,691 additional people). The growth envisaged under the existing controls, along with the additional opportunity sites, could achieve a yield in the order of 1,185 additional dwellings, resulting in a corresponding population of 3,151 additional people. It is also envisaged that the Precinct will accommodate 4,221 additional jobs, the majority of which will be delivered under existing controls. This is based on uptake rates of 80% for all commercial and residential development.

INFLUENCES

- State framework for transit oriented development to provide the highest density close to the station and growth in line with the State Corridor Strategy
- Existing Master Plan - Respond to the Rouse Hill Regional Centre Master Plan
- Limited opportunities for further commercial or residential growth
- Opportunities to improve vehicular connections through new development
- Heritage - ensure new development respects the significance of heritage items including the setting and views
- Need to respond to demand created by incoming population for infrastructure such as open space and community facilities

		Existing (2011)	Planned growth under current controls	Additional growth under strategy	Forecast Dwellings (2036)
Dwellings	NWRL Corridor Strategy	698	961	-759*	900
	The Hills Corridor Strategy	698	961	224	1,883

Table 12.1: Rouse Hill Projected Dwellings

Note: Existing dwellings/jobs and planned growth under current controls under the NWRL Corridor Strategy have been adjusted to match current data and Hills Council analysis to enable accurate comparison of additional growth projections.

*Note: The additional growth projected under the NWRL Corridor Strategy within The Hills Shire part of the Rouse Hill Precinct is less than what could be achieved under current controls. This is the result of an underprojection of existing dwellings/jobs and growth in dwellings/jobs that could be achieved under current controls.

**Note: It is anticipated that under the Strategy, the number of jobs created would be less than that which could be achieved under current controls as some areas currently identified for commercial development will instead accommodate mixed use commercial/residential development.

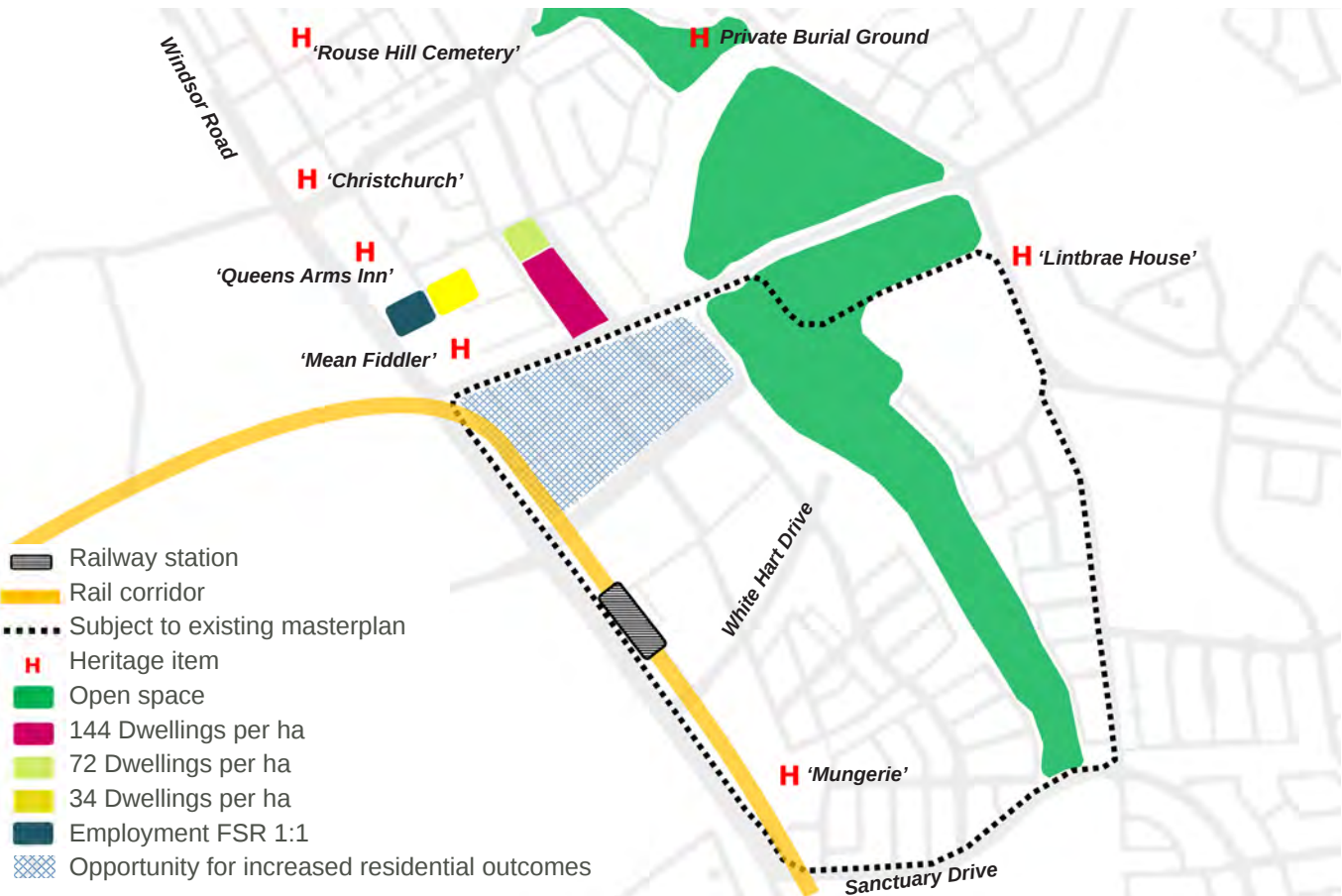


Figure 12.4: Rouse Hill Desired Outcomes

		Existing (2011)	Planned growth under current controls	Additional growth under strategy	Forecast Jobs (2036)
Jobs	NWRL Corridor Strategy	4,666	4,375	-1,801*	7,240
	The Hills Corridor Strategy	4,666	4,375	-154**	8,887

Table 12.2: Rouse Hill Projected Jobs

Area	Net Developable Area (ha)	Maximum Dw/Ha	Minimum Employment FSR	Residential uptake	Employment uptake	Existing dwellings	Additional dwellings	Existing jobs	Additional jobs
	0.6	N/A	1	N/A	80%	0	0	0	160
	0.6	34	N/A	80%	N/A	0	16	0	0
	1.6	144	N/A	80%	N/A	0	184	0	0
	0.4	72	N/A	80%	N/A	0	23	0	0
	Rouse Hill Regional Centre						505	4,666	3,500
Remainder of Precinct	Existing Potential Under Existing Controls (within the remainder of the NWRL Corridor Strategy Precinct)					698	456	314	561
Total	3.2					698	1,185	4,980	4,221

Table 12.3: Rouse Hill Projected Yields



Rouse Hill Town Centre

Source: The Hills Shire Council

13 INFRASTRUCTURE

The additional population resulting from future development within the railway corridor will increase demand for various public facilities and services. One of the key principles underpinning this Strategy is that the future population within the corridor is provided with a similar level of infrastructure provision to that enjoyed by the existing residents within The Hills Shire. A lower level of service will not be tolerated by existing community nor the future higher density community. Local open space and community facilities are important to the daily lives of residents and will help people feel connected with their local community.

The additional population will generate demand for the following key public services and public amenities:

- Increased demand for local active and passive recreation facilities, such as playing fields, playgrounds, and greenway links;
- Increased demand for spaces that will foster community life and the development of social capital including community centres and libraries;
- Increased demand for facilities that will support safe and convenient travel such as new roads and public transport facilities; and
- Increased demand for water cycle management facilities as a result of the extra stormwater runoff generated by impervious surfaces associated with urban development.

The following section identifies the scope of infrastructure required to cater for the expected population across the rail corridor. This includes the identification of opportunity sites where the additional demand for active open space could be accommodated as well as an indication of preferred locations for local and neighbourhood parks and community facilities.

13.1 OPEN SPACE AND RECREATION FACILITIES

This section considers the open space and recreational facilities required to meet the needs of the future population within the Corridor. The analysis considers the size of the forecast resident population and analyses the population against benchmarks and trends in the provision of open space and recreational facilities.

It is forecast that future development around the Sydney Metro Northwest stations will result in 16,050 additional dwellings (26,688 additional people) over and above what could be achieved under the existing controls.

It is anticipated that the future population within the corridor will be characterised by a predominance of family households. Accordingly, the Strategy seeks to ensure that residents of new developments are able to access open space, recreation and community facilities commensurate with the lifestyle enjoyed by existing Hills residents. It is noted that existing playing fields within the Shire are currently used to capacity and as a result, to cater for the additional population, new open spaces and additions and improvements to existing open spaces will be required.

The Growth Centre Commission - Development Code (2006) provides a broad guiding benchmark for the provision of open space and recreation at a rate of 2.83ha per 1,000 people (comprised of 1.21ha of active open space such as playing fields and 1.62ha of passive open space per 1,000 people). It is noted that IPART has recognised a rate of provision of 2.83ha per 1000 people as an acceptable level of provision of open space. While an accepted benchmark, other factors need to be considered to ensure sufficient space for future needs is provided.

Based on this method of calculating open space provision, future development around the Sydney Metro Northwest stations will generate demand for an additional 75.5ha of public open space (comprising 32.3ha of active open space/playing fields and 43.2ha of passive open space).

The NSW Department of Planning and Infrastructure's Recreation and Draft Open Space Planning Guidelines for Local Government (2010) provide the following standards to assist in planning for specific open space facilities.

	Hierarchy Level	Size	Distance from Dwelling
Parks	Local	0.5-2ha	400m
	District	2-5ha	2km
Active Recreation	Local	5ha	1km
	District	5-10ha	2km
Parks	Regional	5ha+	5-10km
Active Recreation	Regional	10ha	5-10km

Table 13.1: Parks and Active Recreation Thresholds

Active Recreation

As detailed above, a population of 26,688 people would generate demand for 32.3ha of active open space. Based on The Hills Shire Council's recreation standards, which factor in participation rates for each sport, the following activities would be required as a result of the new population.

Sport Distribution	Standard	No. Required
Athletics tracks	40,000	0.4
Australian Rules ovals	45,000	0.4
Baseball diamonds	14,000	1.2
Cricket ovals	3,000	5.5
Hockey fields	30,000	0.6
League fields	17,000	1.0
Netball courts	2,500	6.6
Soccer fields	2,800	5.9
Softball diamonds	20,000	0.8
Tennis courts	2,100	7.9
Rugby union fields	52,000	0.3

Table 13.2: THSC Standard Needs Based on Population Threshold

A preliminary analysis of the Council's open space network as well as lands in Government ownership suggests the following opportunities that could be explored to meet the recreation demand generated by additional growth within the railway corridor. Further, there may be opportunities to utilise land under the viaduct for the purpose of additional hockey fields and tennis courts.

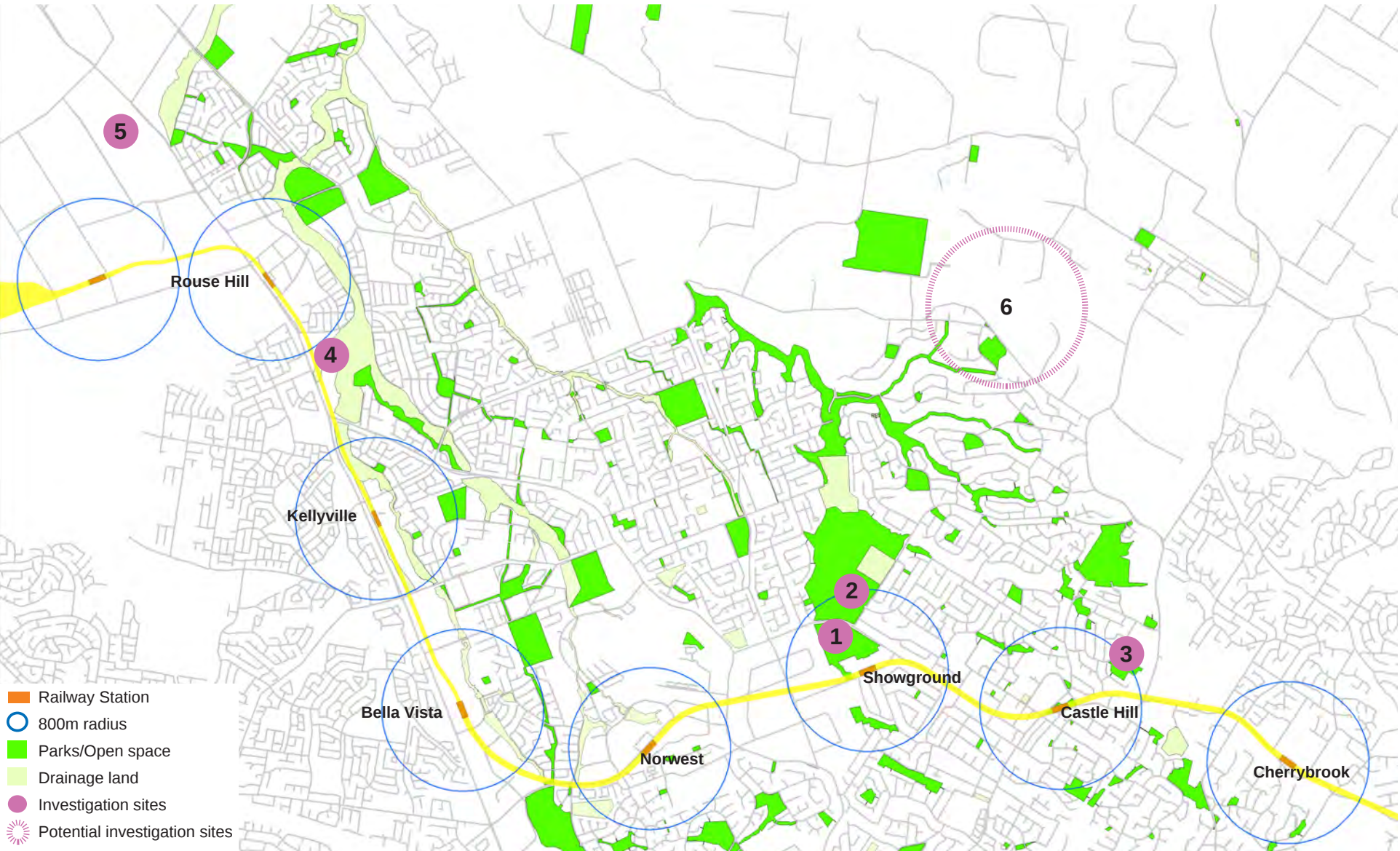


Figure 13.1: Additional Active Recreation Opportunities

No.	Location	Opportunity	Constraint
1	Castle Hill Showground	One (1) cricket/AFL oval	Minor
2	Castle Hill Pony Club	Crown Land - One (1) cricket oval including two (2) fields plus and one (1) small synthetic surface for short format games	Crown Land and would need to relocate the Pony Club
3	Pioneer Place Reserve, Castle Hill	One (1) field	Steep topography Surrounding residences - change of use
4	Department of Planning land near Caddies Creek	One (1) oval including two (2) playing fields. Potential for two (2) ovals	Potential impact on creek and vegetation
5	Rouse Hill Regional Park	District sports complex - potentially four (4) cricket ovals including eight (8) fields	Located within Blacktown LGA and has Heritage significance
6	Potential land in Glenhaven	Large rural lots subject to further investigation	Potential slope constraints

Table 13.3: Additional Active Recreation Opportunities

Passive Recreation

A population of 26,688 people will generate demand for approximately 43.2ha of passive open space. It is anticipated that this will take the form of local parks, neighbourhood parks and greenway links through the station precincts. Dwellings should generally be located within 400 metres of a local park.

Further investigation will be required to identify opportunities for new local parks within station precincts as well as ways in which the capacity of existing local parks can be increased to accommodate additional demand generated by future residential development.

13.2 COMMUNITY FACILITIES AND SERVICES

The future residents within the corridor will generate demand for a range of local, district and regional services. To determine the facilities required to support this population an analysis has been undertaken utilising the standards produced by the NSW Growth Centres Commission.

The outcome of the analysis is included below. It is noted that Council is not the responsible authority for the delivery of the majority of the following infrastructure which will mostly be provided by State Government. However, it is critical to identify the community and social facilities within this Strategy to assist the relevant Government agencies in planning for their provision.

Projected additional population:	26,688
Projected additional dwellings:	16,050
Projected No. children 0-4 years:	1,762
Projected No. residents (70+):	1,690

Table 13.4: Population Summary

**Note: the above figures refer to the additional growth over and above what could be achieved under the existing controls.*

Education

The future population within the Corridor will generate demand for an additional four public high schools and eleven public primary schools. It is noted that the calculation of the number of primary schools is based on the infrastructure standards produced by the Growth Centres Commission (2006). However using the NSW Department of Education and Communities standard of one primary school for 2,500 dwellings would generate demand for an additional six public primary schools.

Hospitals

Utilising a rate of 2 beds per 1,000 additional people, the future growth within the Corridor will generate demand for approximately 53 additional hospital beds.

Aged Care Housing

An additional three Aged Care Housing Centres would be required to meet demand of the future population. An additional 68 high care beds and 81 low care places would also be required. Whilst the provision of aged care facilities is critical, it is considered that this service can be provided by the market more cost effectively.

Family and Community Support Services

The additional population within the Corridor will generate demand for one additional community health centre, one youth centre and 40% of a community service centre. The provision of health and community support services will be a matter for more detailed review by the NSW Departments of Health and Family and Community Services.

Childcare Facilities

Based on the projected demographic characteristic of the Corridor it is anticipated that there will be approximately 1,762 additional residents aged 0-4 years over and above what could be achieved under the existing controls. According to the standard provided by the Growth Centre Commission - Development Code (2006) this will generate demand for 352 child care places (children aged 0-4 years). In addition to this approximately five Long Day Care Centres would also be required. Whilst the provision of

childcare places is critical, it is considered that this service can be provided by the market more cost effectively.

Type of Facility	Benchmark (Number per Population)	Estimated Requirements
Education		
Public Primary School	1: 1,500 new dwellings (approx.)	10.7
Public High Schools	1: 4,500 new dwellings (approx.)	3.6
Health and Social Welfare		
Community Health Centre	1 : 20,000 people	1.3
Hospital	2 beds: 1,000 people	53 beds
Aged Care - Aged Care Housing - High Care (Nursing Home) - Low Care (Hostel) Places	1 : 10,000 (Centre) 40 beds: 1,000 people (70+yrs.) 48 places: 1,000 people (70+yrs.)	2.7 centres 68 high care beds 81 Low care beds
Youth Centres	1 : 20,000 people	1.3
Community Service Centres	1 : 60,000 people	0.4
Childcare Facility	1 place: 5 children 0-4 yrs.	352 places
Long Daycare Centre	1 centre: 320 children aged 0-4 yrs.	5.5
Culture		
Branch Library	1 : 33,000 people	0.8 (1)
District Library	1 : 40,000 people	0.7 (1)
Performing Arts/ Cultural Centre	1 : 30,000 people	0.9 (1)
Community Centre		
Local	1 : 6,000 people	4.4
District	1 : 20,000 people	1.3

Table 13.5: Growth Centre Commission – Development Code (2006)

Culture (Libraries and Cultural Centres)

An additional 26,688 people will generate demand for 80% of a branch library and 70% of a district library. In accordance with the Growth Centres Commission, the indicative size requirement for a branch library and district library is around 2,400m² per library. It is anticipated that the provision of any new/additional library services will occur as part of a co-located operation with a community centre. Spaces within libraries will need to be multi-functional and will need to be adaptable for a wider variety of after-hour uses through design and layout. Further investigation will be required with respect to the provision and funding of such facilities which may be achieved through a combination of Section 94 Contributions Plans and/or Voluntary Planning Agreements with developers.

Community Centre

An additional four local community centres and one district community centre would be required to support an additional 26,688 people within the corridor. In accordance with the Growth Centres Commission, the indicative size requirement for a local community centre is 1,500-2,400m² and 2,000-2,500m² for a district community centre. Further investigation will be required with respect to the provision and funding of such facilities which may be achieved through a combination of Section 94 Contributions Plans and/or Voluntary Planning Agreements with developers.

13.3 TRAFFIC AND TRANSPORT

The new stations are being constructed within an existing road network, much of which is already operating with congested conditions during peak travel periods.

Public transport and commuter car park usage will alter traffic patterns and place additional demand on key intersections around the stations. Consideration has been given to potential traffic impacts and the works required to increase the capacity of the road network to accommodate the anticipated change in traffic patterns.

A preliminary review of required traffic infrastructure is outlined in the tables below.

Cherrybrook	
Location	Proposed works
Castle Hill Road and Coonara Avenue	Extended right turn lane in Castle Hill Road to 150m
	Widen Coonara Avenue and Edward Bennet Drive by 1 lane for traffic signal phase improvements
Castle Hill Road	Pedestrian underpass/overpass
Castle Hill Road and Highs Road	Intersection realignment and bus priority
	Cycle and pedestrian path enhancement

Table 13.6: Required Transport Infrastructure in Cherrybrook

Castle Hill	
Location	Proposed works
Old Northern Road and McMullen Ave	Intersection realignment
Castle Street and Carramar Road	Roundabout
Carramar Road and Gilham Street	Roundabout
Old Castle Hill Road and Gilham Street	Roundabout
Old Castle Hill Road and Gilham Street	Cycleway and pedestrian path enhancement

Table 13.7: Required Transport Infrastructure in Castle Hill

Showground	
Location	Proposed works
Showground Road and Carrington Road	Intersection upgrade
Showground Road and Victoria Avenue	Intersection realignment and upgrade
Showground Road and Windsor Road	Intersection upgrade
Victoria Avenue and Carrington Road	Replace roundabout with traffic signals
Victoria Avenue and Salisbury Road	Replace roundabout with traffic signals
Victoria Avenue and Hudson Avenue	Replace roundabout with traffic signals
Windsor Road and Norwest Boulevard	Bus link opposite Norwest Boulevard – Stage 1 200m, including acquisition
Windsor Road and Norwest Boulevard	Bus link opposite Norwest Boulevard – Stage 2 500m, including acquisition
Anella Avenue to Showground Precinct	Bridge access and road construction – including acquisition
Anella Avenue to Showground Precinct	Cycleway and pedestrian path enhancement

Table 13.8: Required Transport Infrastructure in Showground

Norwest	
Location	Proposed works
Norwest Boulevard and Century Circuit	Replace roundabout with traffic signals
Norwest Boulevard and Reston Grange	Replace roundabout with traffic signals
Norwest Boulevard and Reston Grange	Cycleway and pedestrian path enhancement

Table 13.9: Required Transport Infrastructure in Norwest

Bella Vista	
Location	Proposed works
Norwest Boulevard and Lexington Avenue	Replace roundabout with traffic signals
Old Windsor Road and Celebration Drive	Intersection upgrade
Old Windsor Road and Celebration Drive	Cycleway and pedestrian path enhancement

Table 13.10: Required Transport Infrastructure in Bella Vista

Kellyville	
Location	Proposed works
Old Windsor Road and Samantha Riley Drive	Intersection upgrade
Samantha Riley Drive and car park access	New traffic signals
Samantha Riley Drive and car park access	Cycleway and pedestrian path enhancement

Table 13.11: Required Transport Infrastructure in Kellyville

Rouse Hill	
Location	Proposed works
Windsor Road	Pedestrian overpass
Windsor Road	Cycleway and pedestrian path enhancement

Table 13.12: Required Transport Infrastructure in Rouse Hill

14 IMPLEMENTATION

The Strategy seeks to guide and facilitate residential and employment growth that responds to the long serving values of the Hills Shire, is well supported by necessary infrastructure and maintains the quality of life of current and future residents. It establishes Council's position with respect to how the areas around the station should develop into the future.

Given the strategic nature of this document, residential yields have been expressed in terms of 'maximum dwellings per hectare' and as such these yields would not be subject to fluctuation or increase as a result of more detailed factors such as the apartment mix and sizes within future development. Accordingly, the residential yields identified within this strategy are the maximum yields envisaged within the corridor and infrastructure requirements have been considered on this basis.

Notwithstanding this, it is assumed that these maximum residential yields will only be achieved where future development meets specific design and development criteria prescribed by Council (including compliance with Council's controls relating to apartment mix and size and car parking). In order to achieve this, it is envisaged that future planning controls under LEP 2012 will be drafted to allow for partial uplift in densities on land within station precincts, with the maximum uplift envisaged under this strategy only available for development which facilitates the delivery of apartments which satisfy the needs and expectations of the Hills Shire residents and suit the family demographic expected for the Shire into the future.

Further, it is assumed that the maximum yields identified within this Strategy will only be achieved where development can be accommodated within an appropriate built form in the context of each individual site. For example, where this Strategy identifies a maximum yield of 144 dwellings per hectare on a portion of land, this assumes an **average** development yield across large areas of land which could be achieved through a range of different built form outcomes such as:

- 50% of development at 4 storeys and 50% at 8 storeys; or
- 25% of development at 4 storeys, 50% at 6 storeys and 25% at 8 storeys; or
- 50% of development at 5 storeys and 50% at 7 storeys; or
- 100% of development at 6 storeys (this may be acceptable on individual sites but uniformity in building height is not an intended built form outcome across larger areas of a Precinct).

Accordingly, in preparing local controls such as floor space ratios and building envelope controls, further detailed investigations will be completed to determine appropriate built form on specific land within each Precinct which would achieve the yields envisaged under this Strategy whilst also delivering appropriate built form outcomes within the context of each individual Precinct.

To implement the vision and guiding principles outlined within this Strategy, a package of amendments to Council's planning documents will be needed, including:

- Local Environmental Plan 2012;
- Development Control Plan 2012; and
- New or amended Contribution Plans for infrastructure.



Active Recreation
Source: The Hills Shire Council



Passive Recreation
Source: The Hills Shire Council

14.1 LOCAL ENVIRONMENTAL PLAN

LEP 2012 will need to be amended to achieve the desired outcomes envisaged within the Strategy. This will include amendments to the Land Zoning, Height of Buildings, Floor Space Ratio, Minimum Lot Size and Land Reservation Acquisition maps. The Floor Space Ratio map will be the primary mechanism for ensuring yields consistent with this Strategy.

In preparing local controls such as maximum floor space ratios, further detailed investigations will be completed to determine appropriate densities and built form on land within each Precinct which would achieve the yields envisaged under this Strategy whilst also delivering appropriate built form outcomes within the context of each individual Precinct.

In order to encourage improved development outcomes an incentives clause shall be used to facilitate the delivery of the densities identified within this strategy.

To promote the housing outcomes advocated by Council to suit the needs of expected future residents, incentive provisions will be drafted as part of future detailed planning investigations. Incentive provisions will provide certainty to Council, developers and the community and will be consistent with the outcomes of the discussions with the NSW Planning Minister on 3 June 2015 regarding the application of SEPP 65 to The Hills Shire, where one of the options canvassed was development of an incentive arrangement to be endorsed by the Minister to amend Council's LEP to only provide increased development opportunity provided the development meets Council's standards. Through the use of a 'baseline' and 'bonus' floor space ratio scheme, the full extent of increased development opportunities will only be available where developers are willing to deliver the housing product that meets Council's apartment mix, apartment size and relevant car parking rate.

The bonus floor space will provide significant yield and financial incentives to developers that deliver a housing product and choice consistent with the expected future demographic profile of the Hills. Development that does not fully comply with the criteria will be subject to the base Floor Space Ratio and will not receive the additional floor space incentive.

Achievement of the design criteria will improve the quality and diversity of apartment stock and make this style of development attractive to a broader range of household types with different needs and expectations.

An additional clause will also be prepared to encourage site amalgamation on key sites. Subject to detailed planning investigations, this clause would provide objectives and incentivise amalgamations (through granting additional floor space) on key sites that are strategically located and have capacity to deliver improved built form outcomes and public domain improvements.

Whilst higher densities are expected, it is important that the built form be outstanding to provide not only the housing we need but a positive contribution to the public realm. To this end, the existing design excellence clause within Council's LEP will be amended to ensure the achievement of a high standard of quality in built form for buildings with a proposed height of 25 metres (8 storeys) or more within the Shire. This would involve the use of a Design Excellence Panel.

14.2 DEVELOPMENT CONTROL PLAN

Controls will be drafted to ensure that future development contributes to a desired future character that encourages site consolidation, optimises solar access, consideration of open space and has a conscious design approach that pays attention to orientation and sensitive interfaces.

Building envelope controls such as setbacks, landscaped areas and height in storeys will be important in achieving built form outcomes and will need to be considered in partnership with Floor Space Ratio controls.

Site specific controls will be prepared to achieve a well-connected road and pedestrian network, active street frontages, high quality architectural style and character, attractive streetscapes and public realm and common open space within developments that add to resident's quality of life.

14.3 INFRASTRUCTURE PLAN

Precinct specific contributions plans will be needed to ensure future development is serviced by sufficient infrastructure to meet the needs of incoming residents. Contributions will be levied on development for the provision of certain local infrastructure including passive open space, sports fields, traffic infrastructure, community facilities and services and stormwater management.

Contribution plans may cover an entire precinct or multiple precincts. As a number of precincts cover multiple LGAs certain infrastructure required to support additional population within The Hills may need to be provided within an adjoining LGA. In these situations any future contribution plan may need to levy development for the collection of funds to be allocated toward the delivery of infrastructure within the adjoining LGA.

Where a proponent comes forward with a proposal that demonstrates innovation and design excellence, but is inconsistent (exceeds the maximum yield envisaged) the proponent would need to demonstrate how the necessary infrastructure to meet the demands of the additional population (above that planned in this Strategy) will be achieved. Mechanisms available to provide such infrastructure include Voluntary Planning Agreements, entered into by Council and a developer under which the developer agrees to provide or fund public amenities and public services, and/or transport or other infrastructure through either dedication of land, monetary contributions, construction of infrastructure or provision of materials for public benefit and/or use.

14.4 STRATEGIC PROJECTS

The Strategy will assist in reinforcing Council's position with respect to the following key projects:

- Showground, Bella Vista and Kellyville Priority Precincts, led by the Department of Planning & Environment. The Strategy will guide Council's response.
- The Urban Transformation Program, led by Urban Growth NSW. The Strategy will guide Council's approach toward the planning of the Cherrybrook, Castle Hill, Norwest and Rouse Hill Precincts.
- Castle Hill North Precinct Plan, led by Council has been drafted and exhibited and will inform planning instrument changes. The Strategy will assist in finalising development controls and infrastructure planning.
- Individual planning proposals, led by private landowners/ developers. The Strategy will guide Council response.
- Update of Local Strategy: the work undertaken for the Strategy will inform the update of the Local Strategy.

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