

**ATTACHMENTS FOR: AGENDA NO. 3/16
Planning and Environment Committee**


Meeting Date: Tuesday 12 April 2016
Location: Committee Room 2, Level 5, Civic Centre, 1 Devlin Street, Ryde
Time: 5.00pm


ATTACHMENTS FOR PLANNING AND ENVIRONMENT COMMITTEE

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 City of Ryde
**Affordable
Housing Policy**
2016 - 2031



A plan to deliver key worker
housing to City of Ryde

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Executive Summary

The City of Ryde Affordable Housing Policy 2016 - 2031 offers a comprehensive framework to advocate for, facilitate, provide and manage affordable housing in Ryde Local Government Area (LGA) between now and 2031.



Council's determination to address housing affordability for essential key workers in Ryde LGA aims to lessen the negative impacts that housing stress is having across the community. This Policy acknowledges that without intervention, there will be very little affordable housing for households on very low, low or moderate incomes in the future.

For example, the Policy identifies a clear target: that 5% of new dwellings built between 2016 to 2031 will be affordable housing dwellings. : Based on current population and housing forecasts, this could equate to between 40 new affordable housing dwellings each year. This compares with approval rates of 1.2 affordable housing dwellings each year; by contrast, from 2011 to 2015, 1.2 affordable housing dwellings were approved each year.

“Every one has a right to shelter”

This policy recognises that while local government has not traditionally intervened directly to increase the supply of affordable housing dwellings, the City of Ryde Council intends to become a leading council in Sydney in the provision of affordable housing, working with the NSW Government, the development industry, community housing providers and community members to meet this goal.

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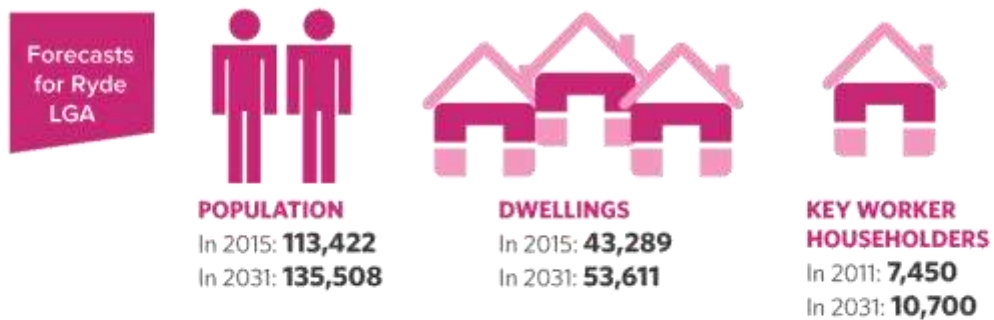
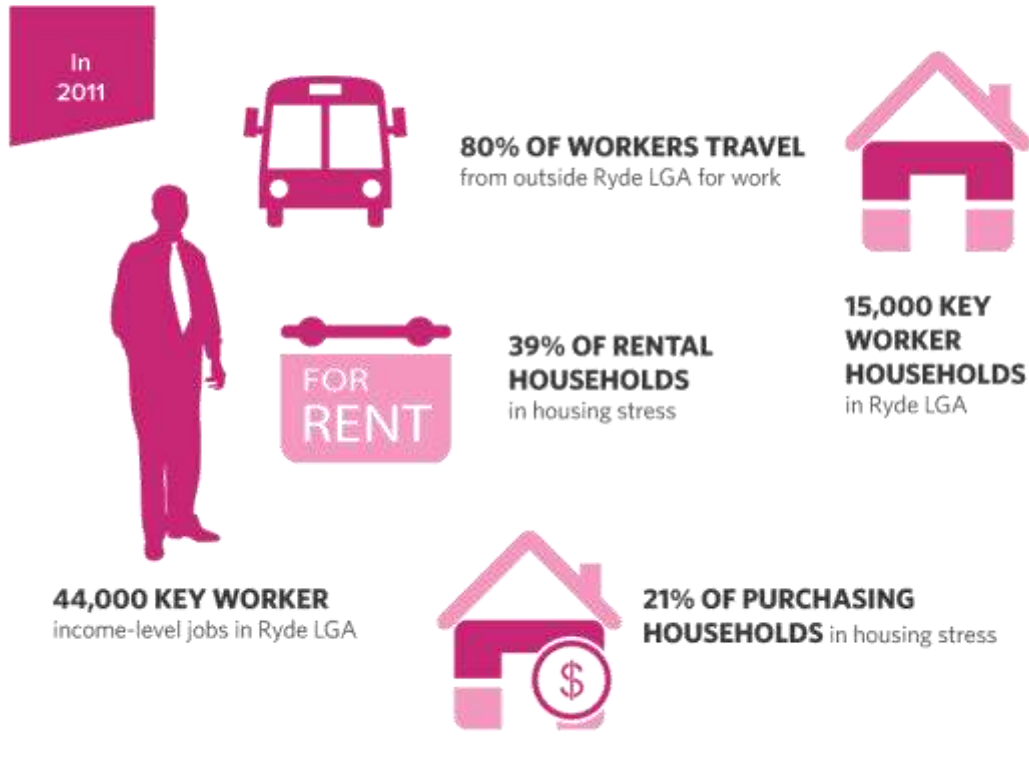
This Policy will not only increase the supply of affordable housing for key workers, it could also address the negative social impacts that a failing housing market is having in Ryde LGA. Research undertaken as part of this Policy has found that some key workers feel personally burdened with the stress of their current situation, as well as their future, leading to health issues. Others suffer from being unable to spend time with friends and family as they seek to work longer hours or travel further for work.

Essentially, the Policy's focus on providing affordable housing for key workers in Ryde LGA:

- Identifies what is meant by affordable housing
- Identifies which segments of the community are classified as key workers
- Details the extent of the housing affordability issue for these people in Ryde LGA
- Sets out the role of local government to advocate for, facilitate and provide affordable housing and some of the mechanisms available
- Identifies 21 programs to support the Policy's vision and goals.

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1.1 Vision and goals

The Policy's vision is:

By 2031, the City of Ryde Council will be a leading council in Sydney in the provision of affordable housing and an increasing number of key workers in the local economy will live locally.

This will be supported through three goals:

1. By 2031, 5% of all new dwellings in Ryde LGA will be affordable housing for key worker households on very low to moderate incomes.
2. By 2031, Council and stakeholders will be operating under a clear and transparent framework to deliver affordable housing outcomes.
3. By 2031, Council will have well-established partnerships with the NSW Government, community housing providers and other relevant stakeholders that help to deliver the vision.

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1.2 Responding to the crisis

This Policy identifies affordable housing as housing that is appropriate for a range of very low, low and moderate income households and priced so that these households can also meet other basic living costs such as food, clothing, transport, medical care and education.

These households are made up of the essential key workers that support local communities and economies in frontline services such as health care, education, child care, aged care, emergency services, community services, retail and hospitality. Key workers are necessary for the normal functioning of a city and community.

People on low incomes living in rental housing are some of the most vulnerable people in the community and at highest risk if there is any tightening of supply or price increases in the private rental market. Low income households renting through the private market have virtually no option but to live in housing stress, and data indicates that no very low, low or moderate income households can affordably purchase in Ryde.

This comes within the context of increasing house prices: the median sales price of housing in Ryde LGA has increased by 30% since 2011 in real terms and rents have increased by 8% in real terms (compared to cost of living). Housing supply in Ryde LGA has also lagged behind in all housing forms (low, medium and higher density development).

Households that struggle to pay housing can face issues such as:

- Living with unmanageable levels of debt, further exacerbating housing vulnerability
- Working long hours to pay for housing
- Travelling long distances to work or services
- Living in overcrowded or substandard housing
- Going without essentials such as adequate food, heating, medication or education
- Missing out on other opportunities because housing costs are too high relative to income.

In response, this Policy works alongside existing NSW Government plans and strategies, including *A Plan for Growing Sydney*, as well as wider strategic planning for Ryde LGA as a whole. It identifies Council's ability to:

- Advocate to protect existing affordable housing and lower-cost housing available by setting affordable housing benchmarks, prioritising the supply of affordable housing and pushing the NSW Government for progress on affordable housing initiatives
- Facilitate the supply of affordable housing through planning incentives, value-capture mechanisms and changes to existing planning controls
- Provide affordable housing through partnerships with community housing providers, voluntary planning agreements or creating housing or demonstration projects on council-owned land.

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The practical delivery of these actions is detailed in 21 projects under seven programs that will deliver the vision of this Policy.

“To afford this housing, I need to work more and spend less time with my family”*

1.3 Next steps

This Policy reflects the strong interest and support within the community for Council's leadership on this issue. It follows a Housing Affordability Summit, held in November 2014, and the exhibition of a draft housing affordability policy in late 2015.

The Policy presents a positive framework that will see affordable housing introduced into the housing market over the next decade or so. It is a flexible framework that will be monitored, reported on and, where required, reviewed regularly to respond to contemporary changes in Ryde LGA's housing and employment market.

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2.0 Introduction

The City of Ryde Affordable Housing Policy 2016 - 2031 offers a comprehensive framework to advocate for, facilitate, provide and manage affordable housing in Ryde LGA between now and 2031.



The Policy determines the current and future need for affordable housing, sets out where this housing should be located and which segments of the community require it. It has a specific focus on the rental market.

The Policy includes extensive analysis of trends in the housing market, rates of housing stress, demographic profiling, income levels, the local economy and forecast population growth. It also considers the most appropriate models or mechanisms to deliver affordable housing, aiming to create and retain appropriate levels of affordable housing without placing an excessive impost on development.

The Policy has a particular focus on the roles and responsibilities of Council, as well as stakeholders, carefully considering which stakeholders will fund, build and manage affordable housing, and who will live in affordable housing.

These stakeholders include NSW Government agencies; landowners and developers; community housing providers; and various community groups.

In considering these roles and responsibilities, the Policy looks at what actions Council can take in terms of affordable housing, recognising that while local government is somewhat constrained by the hierarchical levels of government in Australia, it must take a role to tackle housing affordability given the breadth of the crisis and its direct impact on the Ryde community.

The Policy also identifies the appropriate governance and reporting processes that can ensure its continued communication, implementation and monitoring. The Policy may require amendments and adjustments as circumstances change, and this will be undertaken during periodic reviews.

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2.1 Why a Policy is needed?

The housing market is failing householders on very low, low or moderate incomes in the City of Ryde local government area (Ryde LGA). Without intervention, there will be very little affordable housing for these households in the future.

This will negatively impact communities and the local economy as these key workers who help the community to operate and flourish will not be able to find housing near where they work. They may choose to work elsewhere, or may need to move further away from where they work.

Already, some workers drive from the Central Coast - 100 kilometres away - each day for work. Research undertaken as part of this Policy has found that some key workers feel personally burdened with the stress of their current situation, as well as their future, leading to health issues, while others suffer from being unable to spend time with friends and family as they seek to work longer hours or travel further for work.

“... But we love the community we are a part of here - and this is what is keeping us here at the moment”*

The detailed analysis that supports this Policy has found that rental properties are affordable to a narrow range of households that would be eligible for affordable housing. A snapshot of advertised rental properties found that none were affordable to very low income households, only 7% were affordable to low income households (with almost all of these one-bedroom apartments), while 56% were affordable to moderate income households.

Low income households renting through the private market have virtually no option but to live in housing stress, apart from those at the top of the band wishing to rent a one-bedroom apartment. While smaller households in the top half of the moderate income band can generally affordably to rent a one-bedroom apartment in Ryde LGA, their choices are constrained if they need a two-bedroom apartment. In terms of buying a home, data indicates that no very low, low or moderate income household can affordably purchase any first quartile (lower priced) dwelling in Ryde.

Further, the median sales price of housing in Ryde LGA has increased by 30% since 2011 in real terms and rents have increased by 8% in real terms (compared to cost of living). Housing supply in Ryde LGA has also lagged behind in all housing forms (low, medium and higher density development), with stock in Greater Sydney growing by 12% compared with 7% in Ryde LGA.

With a limited supply of affordable housing for very low, low and moderate income key worker householders in the market, the requirements for key worker households will increase. In 2011 7,450 key worker households in Ryde LGA were in need of affordable priced housing; it is estimated that by 2031, Ryde LGA will need 10,700 affordable housing dwellings for key workers. This equates a required supply of 40 affordable housing dwellings on average each year, yet in the five years from 2011 to 2015, only six affordable housing dwellings (1.2 per year on average) were approved (but not built) in Ryde LGA. Clearly, significant intervention is required.

**Davis, M., Naam, N., and Siomas, P., 2015, Arresting Vulnerability: Housing Affordability in the City of Ryde. Prepared for Macquarie University Internship in Social Research, Sydney.*

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2.2 A vision for affordable housing in the Ryde LGA

The Policy is underpinned by a clear vision for affordable housing in Ryde:

By 2031, the City of Ryde Council will be a leading council in Sydney in the provision of affordable housing and an increasing number of key workers in the local economy will live locally.

The success of delivering on the vision will be determined against three key goals:

Goal	How to meet goal
1. By 2031, the equivalent of 5% of all new dwellings in Ryde LGA will be affordable housing for key worker households on very low to moderate incomes.	To meet this goal, Council will: <ul style="list-style-type: none"> Advocate the NSW Government to deliver 500 new affordable housing dwellings on government-owned land and through the development approval process Facilitate delivery of an additional 250 affordable housing dwellings through the development process.
2. By 2031, Council and stakeholders will be operating under a clear and transparent framework to deliver affordable housing outcomes.	To meet this goal, Council will: <ul style="list-style-type: none"> Review its planning and development assessment processes to remove barriers to housing supply, housing diversity or affordable housing Amend planning controls to include affordable housing objectives and obtain the necessary approvals for these amendments Adopt, implement, monitor, evaluate and amend (if necessary) this Policy.
3. By 2031, Council will have well-established partnerships with the NSW Government, community housing providers and other relevant stakeholders that help to deliver the vision.	To meet this goal, Council will: <ul style="list-style-type: none"> Communicate regularly with NSW Government agencies, community housing providers, community groups and other councils Sign a memorandum of understanding with a registered community housing provider to assist in managing, partnering and advocating for affordable housing in Ryde LGA.

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2.3 Guiding principles

Seven guiding principles drive the Policy's vision and goals and set the foundation for 21 projects that will deliver positive affordable housing outcomes.

These guiding principles are to:

- 1. INCREASE** the amount of affordable housing available in Ryde LGA to households with very low, low and moderate incomes
- 2. PROTECT** the existing stock of low cost rental accommodation in the Ryde LGA
- 3. ENCOURAGE** a diverse range of housing in the Ryde LGA
- 4. COLLABORATE** with other councils and stakeholders in the region
- 5. ADVOCATE** the protection and facilitation of affordable housing to other levels of government and the community
- 6. SUPPORT** households in housing stress
- 7. IMPLEMENT, EVALUATE and MONITOR** the Affordable Housing Policy.

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3.0 Background

Key workers are necessary for the normal functioning of a city and community, and the lack of affordable housing for these workers impacts individuals as well as the broader community.



3.1 Affordable housing

Affordable housing is housing that is appropriate for a range of very low, low and moderate income households and priced so that these households can also meet other basic living costs such as food, clothing, transport, medical care and education. Housing is generally considered affordable if it costs less than 30 per cent of gross household income.

Certain eligibility criteria must be met to access affordable housing. Although affordable housing is sometimes available for purchase, it is most commonly available for rent. This Policy focuses on the rental market.

Affordable housing is usually owned by government or not-for-profit organisations but can also include private investors. It is typically managed by a registered community housing provider.

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Figure 1: The spectrum and relationships between the different types of housing across the income levels and associated levels of government support (source: NSW Government Affordable Housing Taskforce: Interim Report, March 2012)

The *Environmental Planning and Assessment Act 1979* (NSW) (EP&A Act) defines affordable housing as “housing for very low, low or moderate income households”. These incomes are defined in State Environmental Planning Policy No. 70 Affordable Housing (Revised Schemes) (SEPP 70). SEPP 70 defines very low income households as those on less than 50% of median household income, low income households as those on 50-80% of median household income, and moderate-income households as those on 80-120% of median household income for Sydney Statistical District.

Unlike social housing, affordable housing is open to a broader range of household incomes, including that which earn higher levels of income. Social housing is typically restricted to households on very low incomes and income support. People who are eligible for social housing may also be eligible for affordable housing.

Affordable housing is managed more like a private rental property. Tenants must meet eligibility criteria and managers are mostly not-for-profit community housing providers. Vacancies are usually advertised and people apply to the manager just as they would if applying through the private rental market.

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3.2 Key workers

Key workers are people on very low, low and moderate income levels. They are usually employed in essential frontline services such as health care, education, child care, aged care, emergency services, community services, retail and hospitality. Key workers are necessary for the normal functioning of a city and community.

There is no legal definition of the term key workers. NSW planning legislation considers levels of income rather than specific occupations (for example, a police officer) or industry sectors (such as education). Community housing providers advise that key worker criteria should be based on income rather than occupation, as prescriptive criteria can make it difficult to find tenants.

The NSW Government and community housing providers use the term ‘affordable housing’ rather than ‘key worker housing’. Explicit ‘key worker housing’ is provided by Defence Housing Australia, teacher housing authorities and mining companies, restricted to their employees only.

Households on very low income include occupations in retail or manufacturing, as well as people earning the minimum wage or who are on an aged or disability pension or other government benefit. Households on a low income could include child care workers, secretaries or cleaners, while people on a moderate income could include teachers, police or nurses, depending on the stage of their career.

Table 1 shows the benchmark this Policy uses when referring to affordable housing.

	Very low income	Low income	Moderate income
Income Benchmark (% of gross median household income for Greater Sydney)	<50%	50-80%	80-120%
Income Range (per week)	<\$779	\$779-\$1,246	\$1,246-\$1,870
Income Range (per year)	<\$40,508	\$40,508-\$64,792	\$64,792-\$97,240
Affordable Rental Benchmarks (per week)	<\$234	\$235-\$374	\$375-\$561
Affordable Purchase Benchmarks	<\$225,000	\$225,001- \$360,000	\$360,001- \$540,000

Table 1: Income benchmarks¹

¹Adapted from JSA’s Background Report 2015, based on 2011 Census data indexed to March Quarter 2015 dollars and consistent with relevant NSW legislation. Rental benchmarks calculated as 30% of total household income. Purchase benchmarks calculated using ANZ Loan Repayment Calculator, using 11 June 2015 interest rate (5.38%) and assuming a 20% deposit for a 30 year ANZ Standard Variable Home Loan and 30% of total household income.

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CASE STUDIES

Very low income key worker households

Brian works full time as a cleaner, earning \$720 a week. His partner stays at home caring for their six-month old son.

For Brian to avoid housing stress, he can only pay a maximum of \$235 rent per week (i.e. less than 30% of weekly income). However, there is virtually nothing available for his family to rent in Ryde LGA; sometimes, a very small, older strata unit may come on the rental market. They could never afford to buy a property in Ryde LGA.

Brian is therefore forced to live outside the LGA, and instead of spending time with his family, is spending several hours a week travelling to work.



Moderate income key worker households

Moderate income key worker households earn \$1,250 - 1,800 per week. This could include couples or families, such as a couple with one person working full-time as an aged care worker and the other as a social and community services officer (approx. \$1,800 per week), or a family of five, with three school-aged kids, where one parent works full-time as a teacher and the other works part-time as a cleaner (\$1,800 per week).

These households need to pay between \$375 and \$560 rent per week for their housing to be affordable (i.e. less than 30% of weekly income). This is a particular challenge for larger families, and only those on the upper end of this income band could potentially purchase a one-bedroom strata dwelling in Ryde LGA.



Low income key worker households

Important civic roles are filled by people earning low incomes of between \$780-\$1,250 per week. This could include an ambulance officer (\$900 per week), a teacher (\$900-\$1,200 per week), or a firefighter (approx. \$1,000 per week).

These households need to pay between \$235 and \$375 rent per week for their housing to be affordable (i.e. less than 30% of weekly income) - a challenge for those working part time or supporting a family. They would also be unable to affordably purchase any home in Ryde LGA.



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3.3 Current situation

People need affordable housing for many reasons. This may include people who work full or part-time in lower paid jobs, where their household income is not high enough to pay market rent in the area in which they live and/or work, or even people working full-time in an essential service such as a police officer, a nurse or a child care worker, particularly if they are just starting out in their career or supporting a family on only one income.

People may also need affordable housing because a change in their lives has impacted their financial circumstances – for example, a household member has lost their job, a family has separated, a family moves to a single income household after a baby has been born, or when a spouse has died. Affordable housing is sometimes only needed for shorter periods, depending on the life changes a household is experiencing.

People living in Sydney earning very low to moderate incomes are increasingly unable to access housing that is affordable: demand for affordable housing far exceeds supply. This puts pressure on rents and house prices and leads to a decline in the number of available affordable properties, even in suburbs experiencing an overall increase in the supply of rental properties.

People on low incomes living in rental housing are some of the most vulnerable people in the community and at highest risk if there is any tightening of supply or price increases in the private rental market. Households that struggle to pay housing can face issues such as:

- Living with unmanageable levels of debt, further exacerbating housing vulnerability
- Working long hours to pay for housing
- Travelling long distances to work or services
- Living in overcrowded or substandard housing
- Going without essentials such as adequate food, heating, medication or education
- Missing out on other opportunities because housing costs are too high relative to income.

“Housing costs can become a source of stress which can exacerbate all kinds of pre-existing physical and mental health issues...”*

The kind of households that may need affordable housing during their lifetime can include:

- Young people seeking to live near where they grew up
- Recently separated or divorced people for whom conventional home ownership is no longer possible
- Households dependent on one (or even two) low-waged jobs
- An older person on a reduced retirement income
- Families with a special need, such as a disability
- People at risk of homelessness.

A lack of affordable housing not only affects the quality of life of individual and families, it also hinders economic development. The loss of young families and workers in lower paid essential service jobs is contributing to labour shortages in some areas of metropolitan Sydney.

The lack of affordable housing for most very low to moderate income earners has created a high level of unmet demand for key worker housing and high levels of housing stress. For example, evidence indicates child care providers in Ryde LGA are struggling to attract and retain staff.

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The impact: as reported in July 2015

In July 2015, paramedic Gareth Copland told the Sydney Morning Herald that on a good day, it can take him an hour to travel from his home on the Central Coast to his workplace at Ryde.

As an essential worker, Mr Copland was reported as being one of many who is being priced out of Sydney's suburbs, caught up in a "growing crisis... that is forcing the government to consider new ways of providing attainable accommodation to residents at all income levels."

Mr Copland told the paper that "if prices keep rising at the rate they are people could be driven away from the profession and Sydney."

"A one-hour commute might be acceptable now," he added, "but people can only put up with lengthy commutes for a matter of time."



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3.3.1 Housing stress

The number of households in 'housing stress' is a commonly used measure of underlying need for affordably priced housing. A household is in housing stress if they pay more than 30% of their gross income on housing costs, and 'severe housing stress' when paying more than 50% of income on rental or mortgage repayments. Other factors will affect the financial and social wellbeing of a family, including the adequacy and appropriateness of their housing, and other inequalities such as high health care or transport costs.

Rental market

In 2011, **39% of renting households in Ryde LGA were in housing stress**. This equated to **5,050 renting households** and was significantly higher among very low and low income households:

- 68% of all very low income renting households (3,150 households)
- 56% of all low income renting households (1,400 households)
- 16% of all moderate income renting households (500 households).

In terms of household type, rates of **rental stress were higher for family and other households at 44%** compared to lone person or couples without children households (35%).

The Housing NSW Rent and Sales Report for the March Quarter 2015 indicates that the biggest gaps in the market are for all very low income households, most low income households, and larger moderate income families with children requiring more than two bedrooms. Moreover, low income households renting through the private market have virtually no option but to live in housing stress, apart from those at the top of the band wishing to rent a one-bedroom apartment.

Households in the top half of the moderate income band consisting of one person, couples without children and smaller households with children should generally be able to privately rent in Ryde LGA without falling into rental stress in one or two-bedroom apartments, although their choices are more constrained with regard to two-bedroom apartments. The affordably priced rental situation for most low income families with children is problematic in Ryde LGA, particularly for those who want to rent a three-bedroom dwelling.

Purchasing market

Ryde LGA has a slightly lower rate of housing stress for purchasers (21%) compared to NSW and Greater Sydney (22%). Despite this, **0% of key workers on very low, low or moderate incomes can afford to purchase housing of any type** (e.g. one-bedroom unit) anywhere Ryde LGA (even the lower priced areas).

In 2011, around **2,400 purchasing key worker households faced housing stress in Ryde LGA**, with housing stress suffered by:

- 76% of very low income purchasing households (725 households)
- 66% of low income purchasing households (750 households)
- 41% of moderate income purchasing households (925 households).

In terms of household type, purchase stress is lower for family and larger households (19%) than for smaller households (lone persons and couples without children) (25%).

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3.3.2 Housing need

The need for more affordable housing is spread across Ryde LGA. Housing in West Ryde and Meadowbank is generally less expensive than other parts of Ryde LGA, whereas housing in Ryde, Putney and Gladesville is particularly expensive for both rental and purchasing. The current need for affordable dwellings is shown right.

Current housing need

Income Type	Rent	Purchase
Very low income	4,525	1,050
Low income	2000	1,075
Moderate income	725	1,325



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4.0 The process so far

Council is actively working to increase the supply of affordable housing and intends to play a lead role in the provision of affordable housing.



As part of Council's commitment to affordable housing, it resolved in August 2014 to hold an Affordable Housing Summit and was briefed by the General Manager on the main recommendations of the Summit.

The Summit was held in November 2014. It included speakers, a panel discussion and a workshop exercise with the 100 participants, including local residents, community groups, business owners, real estate agents, chambers of commerce, housing providers, councillors, council staff (from across Sydney), NSW Government agencies, and the invited guest speakers and panelists.

The speaker topics included:

- The Provision of Affordable Housing in Sydney and Ryde
- Local Government's Role in the Provision of Affordable Housing
- Options for Ryde Council in the Delivery of Affordable Housing

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The common themes that emerged related to the:

- NSW Government's affordable housing policy
- Future of the Ivanhoe Estate and associated residents at Macquarie Park
- Scale of problem in terms of young people trying to enter the property market
- Practical measures local government can take to address housing affordability.

The workshop exercise identified the following three top issues:

- Public perceptions of affordable housing and a lack of community understanding and education on the issue
- Insufficient housing stock and increasing land value
- Few housing options to meet diverse needs such as low incomes or student housing.

Participants also called for ongoing workshops and community consultations to engage and educate the community, as well as a need to work with community housing providers, the NSW Government and other local councils.

Following the Summit, Council endorsed the preparation of this Affordable Housing Policy.

A detailed Background Report was prepared by Judith Stubbs and Associates to inform the Policy. The Policy has also been informed by the *Arresting Vulnerability* Research Project, which looked at the evidence of the impact of increasing rental and mortgage stress on the community, as well as the impact of rising utility costs on household food security. The draft report found that:

- Almost every area of Ryde LGA is affected by rental stress to some degree with some areas further strained by additional mortgage stress
- Adult homelessness is on the rise
- More low to medium income families are seeking food relief; however, supply is not meeting demand
- The people most affected include low income families, ageing single women and long-term unemployed.

Council endorsed the outcomes of the Summit on 12 May 2015 and resolved to progress this vital issue with the preparation of Affordable Housing Policy.

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5.0 Housing market analysis

An analysis of the housing market clearly demonstrates the need for action.



Council has undertaken substantial analysis to understand how the housing market works in Ryde LGA. Further detail is included in Appendix A.

5.1.1 Cost of housing

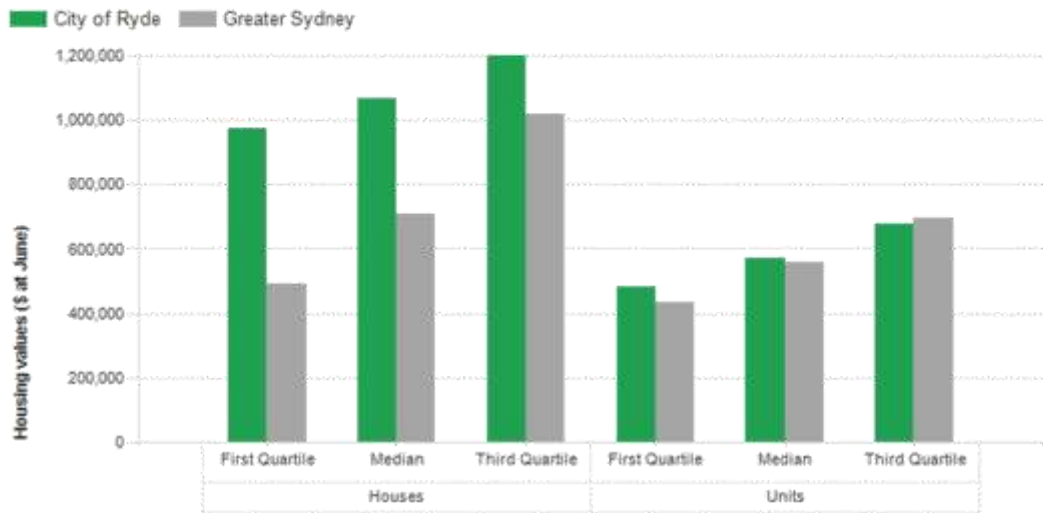
From 2010 to 2014, a house in Ryde LGA in the lowest quartile price was approximately \$1,000,000, almost double the lowest quartile average for Greater Sydney. The price of a unit in the lowest quartile price range, typically a one-bedroom unit, was approximately \$500,000.



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Housing values, 2014



Source: HomeTrack 2010-2014, Housing Valuation System



By 2015, non-strata purchase prices in Ryde LGA were greater than those for Greater Sydney while strata dwellings are similarly priced.

The median price for all dwellings in Ryde LGA is 34% higher than the Greater Sydney median; the median price for strata dwellings is 3% higher and the median price for standalone housing 60% greater than the Greater Sydney median.

Dwelling Type	Area	1st Quartile	2nd Quartile	3rd Quartile
All Dwellings	Ryde LGA	\$613,000	\$939,000	\$1,300,000
	Greater Sydney	\$520,000	\$700,000	\$1,000,000
Strata Dwellings	Ryde LGA	\$545,000	\$623,000	\$750,000
	Greater Sydney	\$480,000	\$621,000	\$780,000
Non-Strata	Ryde LGA	\$1,163,000	\$1,300,000	\$1,500,000
	Greater Sydney	\$550,000	\$801,000	\$1,200,000

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Housing prices in Ryde LGA have grown over the past five years, with the cheapest house prices rising by around \$220,000. This far exceeds the Greater Sydney average of a rise of just over \$100,000 in house prices in the lowest quartile.

Likewise, units have also experienced price increases over the past five years.

Units in the lowest quartile (typically the cheapest one-bedroom apartments) have increased by over \$100,000. This is slightly higher than the Greater Sydney average.



Source: JSA 2015, using data from Housing NSW Rent and Sales Report Issue 111 (Sales Price Trend) and ABS Consumer Price Index, All Groups, Australia

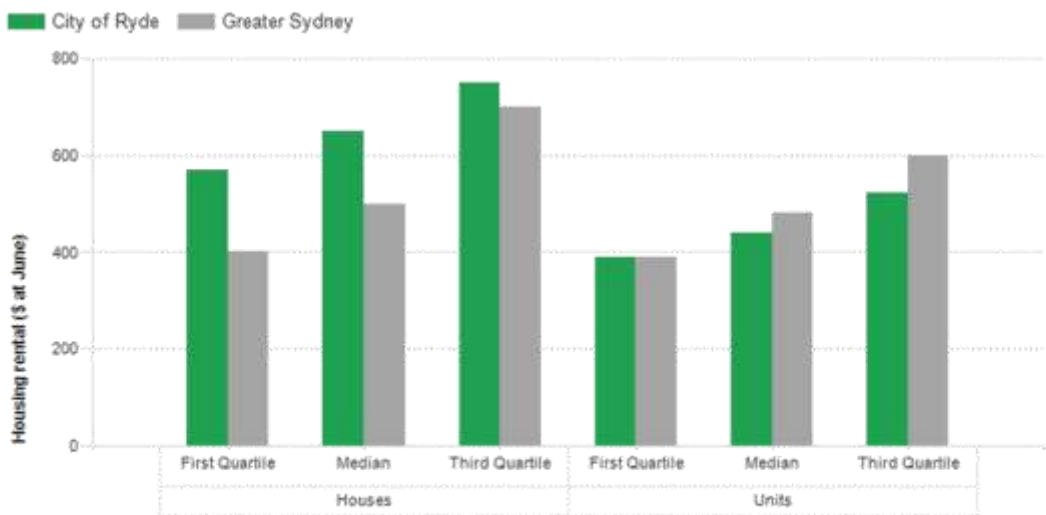
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5.1.2 Cost and location of renting

In 2014, the lowest price for renting for a house in Ryde LGA was approximately \$580 per week, \$180 more than the Greater Sydney average for the lowest quartile housing rental. The lowest price for renting a unit (typically one-bedroom) in Ryde LGA was just below \$400 per week, equal to Greater Sydney.

Rental listings, 2014



Source: Homebuck 2012-2014, Automated Valuation System



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Usually a family will prefer a three-bedroom house rather than a one or two-bedroom unit. Table 2 shows how housing affordability adversely affects young families with rental for a three-bedroom house in Ryde LGA costing at least \$575 per week.

Dwelling Type	Area	1st Quartile	2nd Quartile	3rd Quartile
One-bedroom flat/unit	Ryde LGA	\$360	\$470	\$515
	Greater Sydney	\$400	\$479	\$540
Two-bedroom flat/unit	Ryde LGA	\$410	\$450	\$545
	Greater Sydney	\$415	\$520	\$640
Two-bedroom separate house	Ryde LGA	\$480	\$500	\$550
	Greater Sydney	\$350	\$420	\$560
Three-bedroom separate house	Ryde LGA	\$575	\$650	\$700
	Greater Sydney	\$400	\$450	\$580

Table 2: Comparing Ryde LGA and Greater Sydney Rental Prices - source: JSA 2015, based on data from Housing NSW Rent and Sales Report Issue 111 (March Quarter 2015)

Analysis of rental advertisements from 3 June 2015 provides further evidence that Ryde LGA is not affordable for the majority of families requiring a three-bedroom dwelling. Of the 350 properties available for rent:

- **None** were affordable to **very low** income households
- **7%** (23 dwellings) were affordable to **low** income households of which 19 were one-bedroom apartments
- **56%** (197 dwellings) were affordable to **moderate** income households, including only nine three-bedroom dwellings.

The lowest medians were in West Ryde and Meadowbank and North Ryde and Gladesville were the most expensive areas.

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Suburb	No.	1st Quartile	2nd Quartile	3rd Quartile
Chatswood	1	-	-	-
Denistone	5	-	-	-
East Ryde	2	-	-	-
Eastwood	45	\$430	\$500	\$680
Gladesville	64	\$430	\$565	\$650
Macquarie Park	19	\$440	\$530	\$565 (s)
Marsfield	26	\$480	\$540	\$727.50 (s)
Meadowbank	47	\$420	\$470	\$600
Melrose Park	3	-	-	-
North Ryde	11	\$550	\$670	\$800 (s)
Putney	5	-	-	-
Ryde	82	\$438.75	\$547.50	\$642.50
West Ryde	40	\$398.75	\$455	\$593.75

s = small sample size (10-30)

Table 3: Rental Costs by Suburb within Ryde LGA, Source: JSA 2015, based on data from www.realestate.com.au on 3 June 2015

“I’m not planning on leaving the City of Ryde... however the rising cost of rent is becoming a concern”*

*Davis, M., Naam, N., and Siomos, P., 2015, Arresting Vulnerability: Housing Affordability in the City of Ryde, Prepared for Macquarie University Internship in Social Research, Sydney.

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5.1.3 House tenure

In 2011, over 95% of housing stock was privately owned. Social housing accounted for 4.7% of housing in Ryde LGA, either owned by the government or a community housing provider.

The supply of social housing in Ryde increased by 23% from 1,497 dwellings in 2001 to 1,836 (approx.) dwellings in 2011. Over this same period the number of dwellings in Ryde increased by 6%, showing real proportional growth in social housing. This represents the first net increase in social housing stock for a number of decades.

No boarding houses were recorded in Ryde LGA in the 2011 Census. However, as of 29 June 2015 there were seven registered boarding houses in Ryde LGA. A proprietor of one of these boarding houses advised that his boarding house had five rooms rented at \$400 per week.

By comparison, a median one-bedroom apartment rent for Ryde suburb was \$500 suggesting that boarding house rentals are likely to be around 80% of median one-bedroom rentals, and typically \$360 per week for Ryde LGA.

Housing tenure, 2011



Source: Australian Bureau of Statistics, Census of Population and Housing, 2011 (Enumerated data)
Compiled and presented in profile.id by .id, the population experts.



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6.0 The Role of Local Government

This Policy identifies a number of mechanisms through which Council can achieve its affordable housing target, through advocacy, facilitation and direct provision.



Before considering the mechanisms available to Council, it is necessary to understand where affordable housing fits into State and local strategic, funding and legal framework.

There are limits to the mechanisms Council can use in regards to affordable housing due to its subordinate relationship to the NSW Government, its lack of planning autonomy, the prescriptive nature of the land use zoning system, and finance and funding constraints. Despite these issues, Council can use land use planning controls to impact affordability, and can proactively create or retain affordable housing.

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Each layer of government has a different role to play in addressing housing affordability:

- The Australian Government is responsible for tax policy associated with property ownership, which influences where money is invested and housing prices. For example, negative gearing makes investing in housing attractive given the possible deductions in taxable income.
- The NSW Government has the primary role in providing social and affordable housing. It also sets the legal framework through which planning legislation is enacted and sets housing targets, including affordable housing targets, for local government areas.
- Local government, while not having primary responsibility for affordable housing provision, still has an influence, as all NSW Government plans related to affordable housing are implemented at the local level. Councils can actively intervene in the market by developing appropriate planning mechanisms and strategies and through advocacy, facilitation and provision.

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Source: Stubbs (2003); ISA (2011)

Figure 2: Strategies to create affordable housing

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6.1 NSW Government policies and statutory controls

A *Plan for Growing Sydney* is the NSW Government's plan to manage Sydney's growth to 2031. Goal 2 of the Plan is to "deliver more opportunities for affordable housing".

- Action 2.3.1 requires each Council to prepare a local housing strategy that considers (among other things) local affordable housing needs and strategies to provide affordable housing.
- Action 2.3.2 aims to remove barriers to subdivision of existing lots of a suitable size.
- Action 2.3.3 aims to deliver more opportunities for affordable housing by involving all stakeholders, providing affordable housing on government-led urban renewal projects and government-owned sites, and requiring Councils to include affordable housing in their local housing strategies, to respond to local demand.

A *Plan for Growing Sydney* also identifies two priority precincts in Ryde LGA, one at North Ryde Station and one at the Macquarie University Station Precinct.

The *Making it Happen* State Priorities also identify a need to increase housing supply to put downward pressure on housing, with a target to deliver more than 50,000 housing approvals every year. As part of this the Premier has a specific priority for 90% of housing approvals to be determined within 40 days.

The NSW Government has increased funding for affordable housing through the \$1 billion Premiers Innovation Fund. The NSW Department of Family and Community Services currently offer grants of \$10,000 per room to encourage the construction of new boarding houses or the addition of new rooms to existing premises under the Boarding House Financial Assistance Program.

Previous initiatives focused on building community housing sector capacity to deliver and manage affordable housing by increasing funding, transferring social housing stock to providers (including some with title) and providing regulatory support to increase professionalism and capacity.

The NSW Government is now looking to incorporate social and affordable housing developments on public land in partnership with community housing providers. This increased emphasis can make the most efficient use of Australian and NSW Government funding and resources, including between State and local government, the private sector and community housing providers. These partnerships leverage State and Federal funding through access to Council or other publicly-owned land, access to resources created through the planning system, or through the accumulated funds or the borrowing capacity against equity of larger community housing providers.

From a legislative perspective, the *Environmental Planning and Assessment Act 1979 (NSW)* (EP&A Act) has express provisions relating to affordable and low cost housing, and other provisions that support affordable housing. Council, accordingly, has roles and responsibilities relating to affordable housing under planning legislation including State Environmental Planning Policies (SEPPs). State Environmental Planning Policy (Affordable Rental Housing) 2009 (AHSEPP) and State Environmental Planning Policy No. 70 Affordable Housing (Revised Schemes) (SEPP 70) encourage the development of new affordable housing and the maintenance of existing affordable housing. Appendix B details the provisions under the EP&A Act and relevant SEPPs.

AHSEPP in City of Ryde to date

The Affordable Housing SEPP has not resulted in any new infill affordable housing in Ryde LGA. Similar to Greater Sydney, there has been a significant increase in the number of granny flats (secondary dwellings) in Ryde. This provides for greater housing choice. Over the last five years one affordable housing dwelling has been obtained through a Voluntary Planning Agreement and four dwellings have been approved as part of a former Part 3A Approval for a major development site.

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6.2 Council policies and reports

Council plans that relate to affordable housing are listed below:

- **City of Ryde Community Strategic Plan 2031** is Council's overall strategic plan. One of the key outcome areas is "A City of Liveable Neighbourhoods" that recognises the need for affordable housing in Ryde LGA.
- **Ryde Local Environmental Plan (LEP) 2014** and the Ryde Development Control Plan (DCP) regulate development in Ryde LGA. The current LEP does not contain specific affordable housing objectives and incentives.
- **Ryde Voluntary Planning Agreement (VPA) Policy** guides the nature of voluntary planning agreements associated with development in Ryde LGA. It allows for the provision of affordable housing as a potential material public benefit in any planning agreement.
- **Ryde Economic Development Plan 2015 - 2019** provides a supportive framework for local economic development in Ryde LGA. It is concerned with business and employment growth but acknowledges the need to tackle housing affordability to ensure a diverse workforce.
- **Draft Arresting Vulnerability Report** identifies people on lower incomes in Ryde LGA are at particular risk of homelessness and vulnerability.

6.3 Options available to local government

6.3.1 Advocacy

Local government can monitor affordable housing and rates of housing stress in their local government area and lobby the NSW Government to provide additional affordable housing. Councils can also protect existing affordable housing and lower-cost housing available through AHSEPP. Developers can be required to mitigate the loss of affordable housing through either a 'bricks and mortar' or financial contribution.

Other examples of advocacy include:

- Defining affordable housing and setting affordable housing benchmarks
- Monitoring rates of housing stress and assessing where gaps exist in the housing market
- Pushing the NSW Government for progress on affordable housing initiatives
- Conducting staff training to improve capacity for affordable housing issues
- Holding and participating in affordable housing forums.

6.3.2 Facilitation

Local government prepares and implements land use planning controls to influence development outcomes. Councils can assist the delivery of new affordable housing through by incorporating affordable housing objectives in their LEPs and DCPs.

Where appropriate, Councils can offer a mix of incentives and requirements so that affordable housing is included in the total development. Financial contributions may also be collected towards an affordable housing delivery fund. Other actions to facilitate affordable housing are to:

- Include affordable housing aims, objectives and provisions in planning controls
- Include incentive-based variations to controls encourage affordable housing
- Include mandatory provisions or 'value share' mechanisms to share the benefit of uplift for affordable housing
- Develop an affordable housing calculator to assist in 'value sharing' negotiations.

6.3.3 Provision

Councils can directly deliver affordable housing by creating housing on council-owned land, leasing council land to community housing providers for affordable housing developments, or using financial contributions through the development process (e.g. voluntary planning agreements) to purchasing units to be used as affordable housing.

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Other examples include:

- Signing an MoU with a registered Community Housing Provider to manage affordable housing stock and enter into joint venture partnerships where appropriate
- Undertaking an affordable housing demonstration project that incorporates a specified percentage of affordable housing into the development
- Using funds collected through the mandatory contributions process to deliver affordable housing.

6.4 Specific mechanisms

In considering the most appropriate options and planning mechanisms, Council must be aware of the local housing market, development cycles and demographics when selecting the appropriate mechanism for affordable housing delivery. Measures to protect existing low-cost or affordable housing must be used very carefully to ensure that the conditions do not impose a barrier on new development.

Planning incentives are voluntary provisions that aim to increase development yield in exchange for the provision of community benefits such as affordable housing. Potential incentives include reducing the time or cost of development assessment, or providing bonuses that increase the overall yield of a development.

6.4.1 Value sharing agreements

Value Sharing Agreements (VSAs) can be applied to larger scale, major redevelopment projects or master planned communities. VSAs are negotiated between council and the developer based on the uplift in value received from a rezoning that grants the development an increase in floor space ratio (FSR) and height. Under this model the developer can make either a monetary or physical contribution towards affordable housing.

Voluntary agreements provide greater scope for the developer and council to agree on a mechanism that suits both parties and, by being negotiated for one particular site, means mechanisms can be tailored to suit the individual circumstances of the development, rather than applying a more general rule that may not fit specific proposals.

Council already has a similar process in place through Voluntary Planning Agreements (VPAs). However, these are only voluntary and there are competing objectives for VPA funding (e.g. green space, affordable housing or community space).

To improve this process Council could develop an affordable housing calculator as an objective affordable housing evaluation tool to assist in negotiations with developers.

6.4.2 Precinct-based density bonus model

A precinct-based density bonus is a mandatory inclusion. There are many variations of a density bonus model but in simple terms it involves offering increased height and/or floor space in return for the inclusion of a percentage of affordable housing within the development. It incentivises the provision of affordable housing so there is no loss to the developer while still having controls in place for height.

For example, a 30% bonus in building height could be approved in return for a profit-share of 50% of the additional floor space, with this 50% allocated to key worker housing.

Preliminary testing in Ryde LGA indicates these incentives would likely be taken up by the developer. The outcome would be that approximately 15% of the total development would be key worker housing (depending on size).

A precinct-based density bonus offers some level of control over where the affordable housing is located. For example, there is greater control to ensure the affordable housing is located in areas close to public transport.

This model would require further planning studies and detailed planning controls for each precinct before adoption. A potential weakness is the density bonus could be in conflict with other planning objectives (e.g. the intended built form outcomes and amenity).

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6.4.3 Mandatory inclusions

Mandatory inclusions require developers to provide affordable housing as part of a development. They are best introduced when land rezoning creates significant uplift in the value of land. They allow the cost of providing affordable housing to be offset by the larger value gain achieved through rezoning of the land. For example, a developer may seek to rezone a parcel of land to R4 (residential) or B4 (mixed use), which permits high density residential development.

Under this model, a certain percentage (e.g. 2%) of units in large residential developments (e.g. more than 20 units) must be designated affordable housing as a mandatory condition of the rezoning.

Incentives may also be offered to offset any losses to the developer, such as allowing for increases in the number or size of dwellings that can be provided on a particular site which can improve profitability particularly for high value/high growth markets. As with density bonus offers, any incentives must protect the amenity of the location for other residents.

Combining mandatory inclusions with incentives it is the most effective means of delivering affordable housing over the long term. The model provides certainty for developers and transparency of the community.

To enact the mandatory inclusions model a further planning/feasibility study will need to be conducted to determine the appropriate inclusion percentages and amendments made to the Ryde LEP.

6.5 Affordable housing target

An affordable housing target will underpin the many programs and projects needed to meet this Policy's clear vision. The success of otherwise of the Policy will be measured against a target that the equivalent of 5% of all new housing growth in the next 15 years will be affordable housing for key worker households.

The affordable housing target is based on analysis undertaken as part of the Background Report. This found that:

- In 2011 there were 7,450 key worker households in Ryde LGA in need of affordable priced housing.
- By 2021 there are forecast to be 8,925 key worker households in Ryde LGA in need of affordable priced housing.
- By 2026 there are forecast to be 9,750 key worker households in Ryde LGA in need of affordable priced housing.
- By 2031 there are forecast to be 10,700 key worker households in Ryde LGA in need of affordable priced housing.

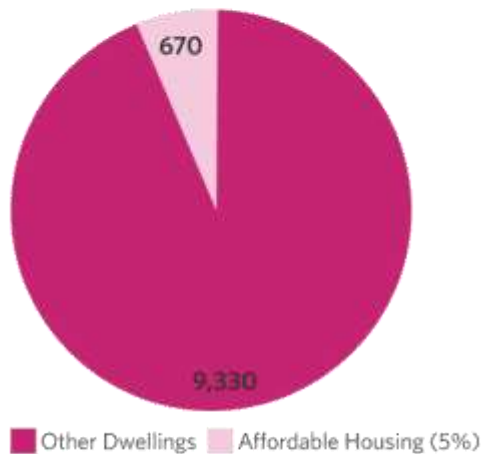
These figures denote the underlying need for affordable housing based on the incidence of housing stress among key worker households rather than the target. They sit far beyond the scope of what Council can realistically deliver in terms of new affordable housing dwellings within the next 15 years.

For this reason, Council has instead set the 5% target as a realistic and achievable target.

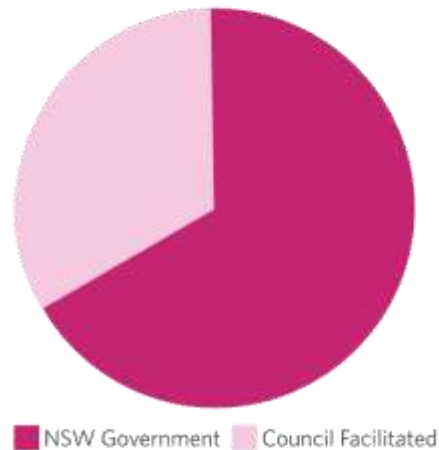
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NEW DWELLINGS 2015 - 2031 (10,000)



DELIVERY OF AFFORDABLE HOUSING



This target illustrates a significant shift on current activity. For example:

- In 2014 only seven affordable housing dwellings were completed in Ryde LGA (Source: FACS NSW)
- During 2011 - 2015 only six affordable housing dwellings were approved (but not yet built) in Ryde LGA - an average of 1.2 a year
- The percentage of affordable housing approvals as a proportion of total new dwellings from 2011 to 2015 was just 0.18%.

Therefore, to meet this target, the 21 projects (see next chapter) will be driven by a mix of Council and NSW Government activity. The 5% target equates to 750 additional affordable housing dwellings by 2031 for key worker households. Of these:

- 500 will be delivered by the NSW Government, equating to 33 new affordable housing dwellings a year
- 250 will be delivered by City of Ryde Council, equating to 17 new affordable housing dwellings a year.

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7.0 Programs and projects

The goals and objectives of the Policy will be delivered via 21 projects under seven programs.



7.1 Programs and projects

State Government Affordable Housing Stock Program:

1. Advocate for the inclusion of affordable housing in urban renewal sites on government-owned land.
2. Advocate the NSW Government for progress on affordable housing initiatives and targets.

Council-Facilitated Affordable Housing Stock Program:

3. Develop an affordable housing calculator to support negotiations with the development industry.
4. Identify training and professional development needs to facilitate the delivery and management of Council's affordable housing stock.
5. Undertake a demonstration project with a designated percentage (e.g. 5 - 10%) of affordable housing.

6. Monitor and identify relevant grants in relation to affordable housing and its provision.

7. Create an Affordable Housing Fund that collects mandatory and voluntary financial contributions.

8. Manage the Affordable Housing Fund, using funds to build or purchase affordable housing stock.

Planning Controls Review Program:

9. Review planning controls to identify and remove barriers to the creation of affordable housing.
10. Undertake a local housing study as part of the LEP planning process.
11. Continue to assess the appropriate mix of housing choice available in Ryde LGA.
12. Monitor housing needs associated with changing household sizes (e.g. increases in lone person households).

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Affordable Housing Planning Incentives Program:

13. Include affordable housing aims, objectives and provisions such as mandatory inclusions, inclusionary zoning, or precinct based density bonus schemes in land use planning controls.

Affordable Housing Policy Review Program:

14. Establish an Affordable Housing Working Group to implement and review this Policy, ensuring a whole of Council approach.
15. Review the Affordable Housing Policy and determine whether amendments are necessary.
16. Work with businesses and organisations to help attract key workers.

Affordable Housing Communication Program:

17. Conduct granny flat workshops and information nights for the local community.
18. Include affordable housing updates in regular Council and community communication.
19. Build capacity of the not-for-profit sector and connect with government agencies to support vulnerable groups.

Affordable Housing Partnership Program:

20. Appoint a registered community housing provider(s) to manage affordable housing stock.
21. Establish eligibility criteria for key workers to access affordable housing.

7.2 Project implementation

Community housing providers would manage the day-to-day functioning of affordable housing after it has been created and allocated/dedicated to Council. A proportion of the rent would go to the provider for their tenant administration services, to maintain the asset and potentially to acquire new affordable housing stock, with specifics detailed in an MoU.

Council would call for expressions of interest for an accredited community housing provider through standard council procurement process. As part of the development of this Policy, interviews with a range of service providers gave Council a more detailed understanding of the need for affordable housing, the local service context, and to explore the potential for partnerships in affordable housing delivery and management. Several community housing providers have demonstrated an interest in becoming more active in Ryde LGA.

7.2.1 Criteria

The criteria for who is eligible for affordable housing would be identified in conjunction with the community housing provider. It usually depends on the level of household income which is set by the NSW and Australian Governments. The common factors considered as a part of selection criteria include:

- Permanently employed
- Australian citizen or permanent resident
- Whether the household could secure suitable or adequate housing in the private rental market
- Whether the household owns any assets (e.g. a property) they could be reasonably expected to use to solve their housing need
- Whether they are a key worker in the LGA
- Whether they already live in Ryde LGA
- If they earn very low, low or moderate incomes.

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7.2.2 Rental rates

Affordable housing rents vary, and are set either as a discount to the market rent or as a percentage of a household's income.

Where rent is set as a discount of the market rent, the discount is usually between 20% and 25% compared to the market rent for a similar property in the area.

Where rent is set as a proportion of a household's income, households may be charged between 25% and 30% of their before tax income for rent, although providers may charge slightly more in some circumstances.

Rental rates aim to ensure that affordable housing properties are available to a range of income groups, balanced with a need to ensure rents cover the cost of managing the properties and will most likely be determined in when the relevant planning controls are drafted.

7.2.3 Reporting on the Policy

It is critical to the successful implementation of the policy that delivery partners, the NSW Government and the community are kept engaged and informed in the process. Council will report regularly on the results of the Affordable Housing Policy through its Annual Report, internal reporting, Council meetings and regular communication channels.

Temporary working groups may oversee an aspect of the Policy as needed. This might include the initial launch of the Policy, a major affordable housing development project, or a review of the Policy. Relevant stakeholders will be invited to participate in these working groups as an expression of interest.

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7.2 Implementation Plans

Goal 1: By 2031, 5% of all new dwellings in Ryde LGA will be affordable housing for key worker households on very low to moderate incomes.

To meet this goal, Council will:

- Advocate the NSW Government to deliver 500 new affordable housing dwellings on government-owned land and through the development approval process
- Facilitate delivery of an additional 250 affordable housing dwellings through the development process
- Review its planning and development assessment processes to remove barriers to housing supply, housing diversity or affordable housing.

Program	Project	Partner	Timing
State Government Affordable Housing Stock Program	1. Advocate for the inclusion of affordable housing in urban renewal sites on government-owned land	NSW Government, NSW DoPE, NSW Land and Housing Corporation & NSW Centre for Affordable Housing	Ongoing
	2. Advocate the NSW Government for progress on affordable housing initiatives and targets	NSW Government, NSW DoPE & NSW Centre for Affordable Housing	Ongoing
Council-Facilitated Affordable Housing Stock Program	3. Develop an affordable housing calculator to support negotiations with the development industry		2016/17
	4. Identify training and professional development needs to facilitate the delivery and management of Council's affordable housing stock	NSW Centre for Affordable Housing	Ongoing
	5. Undertake a demonstration project with a designated percentage (e.g. 5 - 10%) of affordable housing		2021
	6. Monitor and identify relevant grants in relation to affordable housing and its provision		Ongoing
	7. Create an Affordable Housing Fund that collects mandatory and voluntary financial contributions		2018
	8. Manage the Affordable Housing Fund, using funds to build or purchase affordable housing stock		Ongoing
Planning Controls Review Program	9. Review planning controls to identify and remove barriers to the creation of affordable housing		2016/18
	10. Undertake a local housing study as part of the LEP planning process		2020
	11. Continue to assess the appropriate mix of housing choice available in Ryde LGA		Ongoing
	12. Monitor housing needs associated with changing household sizes (e.g. increases in lone person households)	NSW DoPE	

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Goal 2: By 2031, Council and stakeholders will be operating under a clear and transparent framework to deliver affordable housing outcomes.

To meet this goal, Council will:

- Amend planning controls to include affordable housing objectives and obtain the necessary approvals for these amendments
- Adopt, implement, monitor, evaluate and amend (if necessary) this Policy.

Program	Project	Partners	Timing
Affordable Housing Planning Incentives Program	13. Include affordable housing aims, objectives and provisions such as mandatory inclusions, inclusionary zoning, or precinct based density bonus schemes in land use planning controls	NSW Centre for Affordable Housing	2017/18
Affordable Housing Policy Review Program	14. Establish an Affordable Housing Working Group to implement and review this Policy, ensuring a whole of Council approach		2016/17
	15. Review the Affordable Housing Policy and determine whether amendments are necessary	NSW Centre for Affordable Housing & Community Housing Providers	2021
	16. Work with businesses and organisations to help attract key workers	NSW Centre for Affordable Housing, Community Housing Providers & Council	Ongoing

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Goal 3: By 2031, Council will have well-established partnerships with the NSW Government, community housing providers and other relevant stakeholders that help to deliver the vision.

To meet this goal, Council will:

- Communicate regularly with NSW Government agencies, community housing providers, community groups and other councils
- Sign a memorandum of understanding with a registered community housing provider to assist in managing, partnering and advocating for affordable housing in Ryde LGA.

Program	Project	Partner	Timing
Affordable Housing Communication Program	17. Conduct granny flat workshops and information nights for the local community		Annually
	18. Include affordable housing updates in regular Council and community communication		Ongoing
	19. Build capacity of the not-for-profit sector and connect with government agencies to support vulnerable groups		Ongoing
Affordable Housing Partnership Program	20. Appoint a registered Community Housing Provider(s) to manage affordable housing stock	Community Housing Provider	2017
	21. Establish eligibility criteria for key workers to access affordable housing		2017

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8.0 Glossary

Term	Meaning
Affordable housing	Housing that is appropriate for a range of very low, low and moderate income households and priced so that these households can also meet other basic living costs such as food, clothing, transport, medical care and education. Housing is generally considered affordable if it costs less than 30 per cent of gross household income.
Community housing providers	Non-government organisations that provide housing and associated support to people on very low, low and moderate incomes.
Development contributions	Contributions that councils can levy on a development where that development generates an increased demand on Council's services and facilities.
Housing stress	A household or an individual is said to be in "housing stress" when they are paying more than 30% of their gross household income on housing costs whether rental or mortgage payments. Those paying more than 50% of gross income on housing are regarded as being in 'severe housing stress'.
Key workers	Key workers are people on very low, low and moderate income levels. They are usually employed in essential frontline services such as health care, education, child care, aged care, emergency services, community services, retail and hospitality. Key workers are necessary for the normal functioning of a city and community.
Income (very low)	Less than 50% of the Greater Sydney gross median household income, or less than \$40,508 per year.
Income (low)	Between 50 to 80% of the Greater Sydney gross median household income, or between \$40,508 and \$64,762 per year.
Income (moderate)	Between 80 to 120% of the Greater Sydney gross median household income, or between \$64,762 and \$97,240 per year.
Planning controls	The suite of plans and policies used by councils as an urban planning framework to regulate development and conservation in their local government area. These can be local (council) controls or State controls (such as legislation or State Environmental Planning Policies).

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Precinct-based density bonus	While there are several models, in simple terms this involves offering increased height in return for the inclusion of a percentage of affordable housing within the development. It incentivises the provision of affordable housing so there is no loss to the developer while still having controls in place for height.
Urban renewal sites	Sites of government-owned land that have been identified for a renewed use, such as new residential, retail or commercial purposes, or a mix of these uses.
Value sharing agreements	Negotiated between council and the developer based on the uplift in value received from a rezoning that grants the development an increase in floor space ratio (FSR) and height. Under this model the developer can make either a monetary or physical contribution towards affordable housing.

Type of Housing	Reason for Housing
Crisis Housing	For emergency situations or homeless people
Boarding Houses	Low cost forms of shared rental accommodation typically for individuals
General/Social/Public Housing	Terms given to government-owned housing designated for households on very low incomes or income support
Affordable Housing	For very low to moderate income households
Supported Private Rental	Renters receive some additional support from government or non-government organisations
Supported Home Ownership	Government contributes to home ownership
Private Rental	The private housing rental market
(Private) Home Ownership	Normal private home ownership

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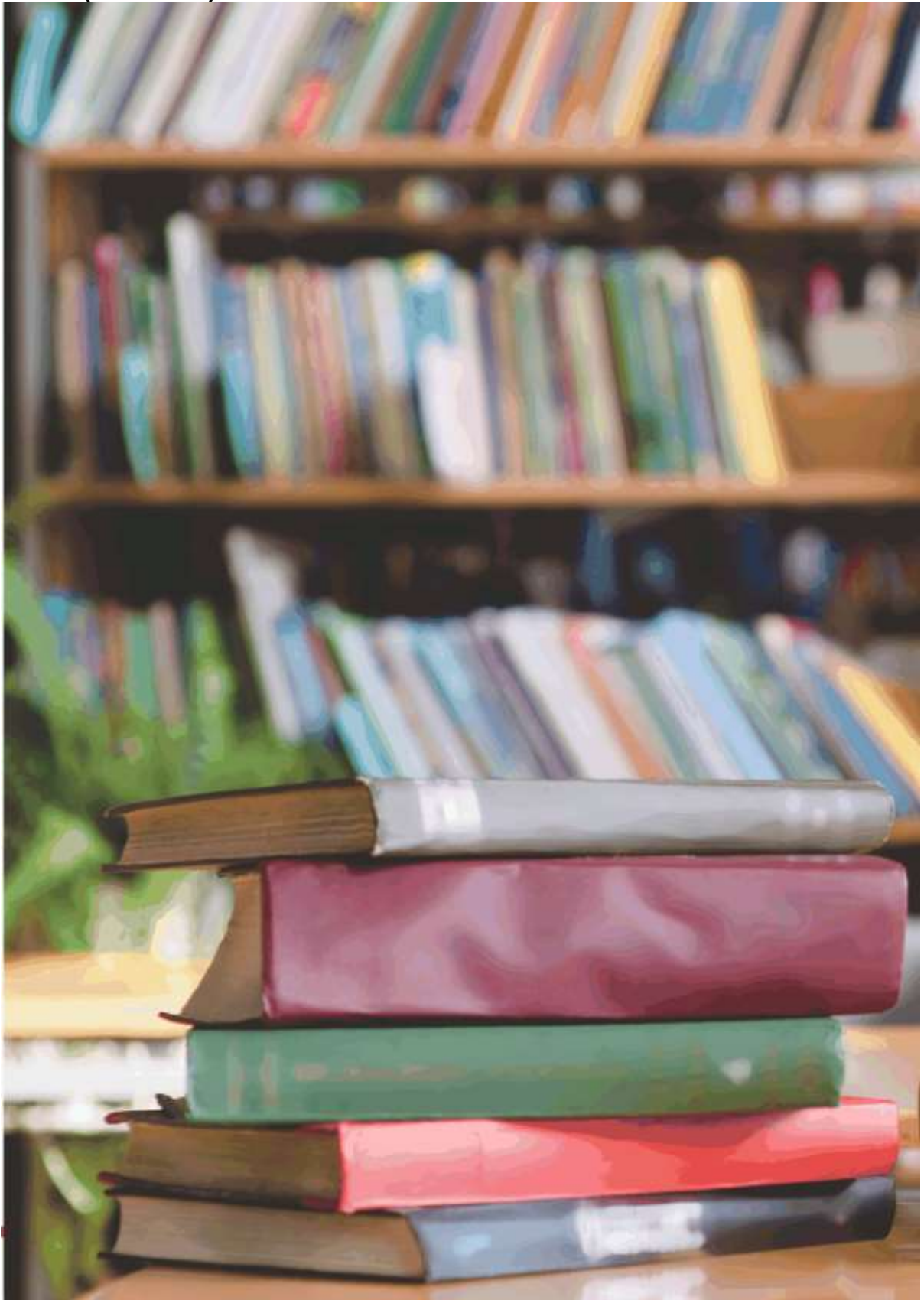
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10.0 Appendix A Detailed Data

10.1 The workforce

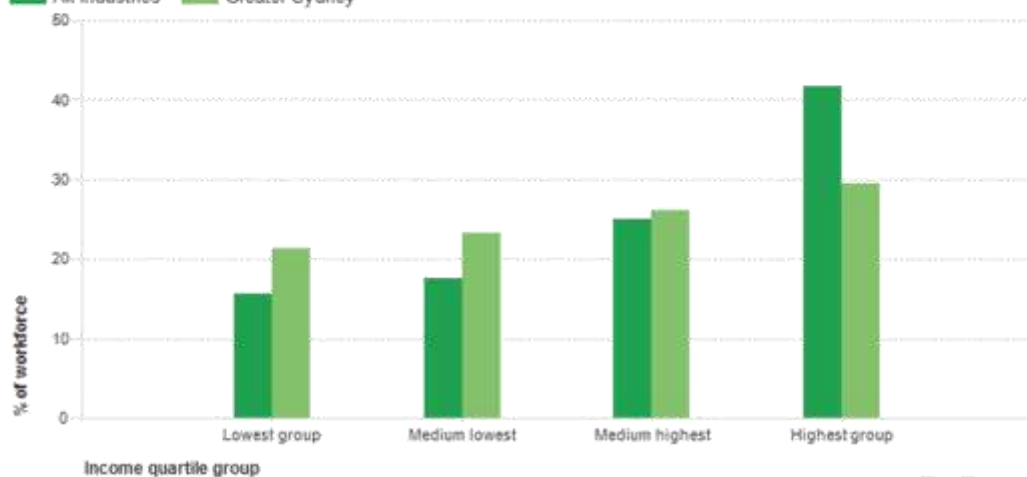
In 2011, about 90,000 people worked in Ryde LGA, with around 44,000 of these people earning incomes that would be classified as 'key worker' income levels. Of these 44,000 workers, around:

- 12,000 earned very low incomes
- 16,000 earned low incomes
- 16,000 earned moderate incomes.

Workforce individual income quartiles, 2011

City of Ryde - All industries

■ All industries
 ■ Greater Sydney



Source: Australian Bureau of Statistics, Census of Population and Housing, 2011
 Compiled and presented in economy.id by .id, the population experts.



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10.1.1 Employment by industry

In 2013/14, the majority of people worked in the industry sectors of 'Professional, Scientific and Technical Services', 'Wholesale Trade' and 'Information, Media and Telecommunications'. Of essential workers, 2,563 worked in Public Administration and Safety, 9,377 in Health Care and Social Assistance, and 7,257 in Education and Training.

Employment (total) by industry 2013/14



Source: National Institute of Economic and Industry Research (NIER) 80016
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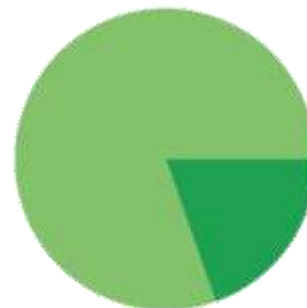
10.1.2 Commute to Work

In 2011, around 80% of workers came from outside Ryde LGA every day for work.

Residential location of workers, 2011

City of Ryde - All occupations

- Live and work in the area
- Work in the area, but live outside



Source: Australian Bureau of Statistics, Census of Population and Housing, 2011 (Usual residence data)



ITEM 5 (continued)

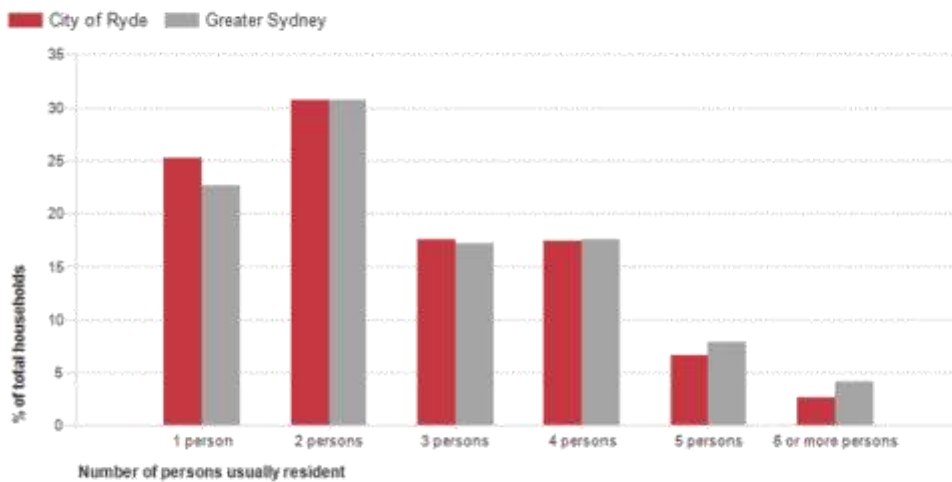
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10.2 Households

10.2.1 Household Size

In 2011, the most dominant household size was two-person households. A quarter of households contained one person and there were less larger-sized households in Ryde LGA than the Greater Sydney average.

Household size, 2011



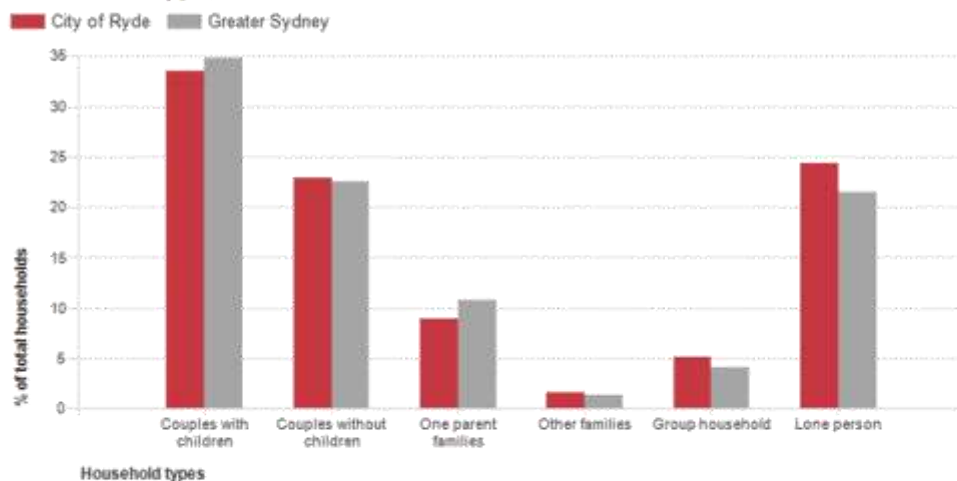
Source: Australian Bureau of Statistics, Census of Population and Housing, 2011 (Enumerated data)
Compiled and presented in profile.id by .id, the population experts.



10.2.2 Household Type

A third of households were made up of couples with children in 2011. There are slightly less couples with children and slightly more lone person households than the Greater Sydney average.

Household type, 2011



Source: Australian Bureau of Statistics, Census of Population and Housing, 2011 (Enumerated data)
Compiled and presented in profile.id by .id, the population experts.



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10.2.3 Household incomes

In 2011, the distribution of household income in Ryde LGA closely resembled that for Greater Sydney, with some over-representation in higher income groups.

Weekly household income, 2011

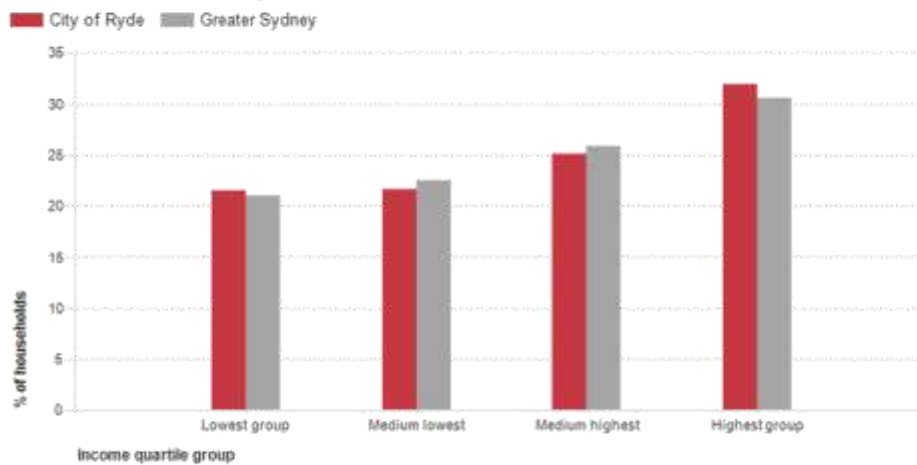


Source: Australian Bureau of Statistics, Census of Population and Housing, 2011 (Enumerated data)
Compiled and presented in profile.id by .id, the population experts.



In 2011, there were around 15,000 key worker households living in Ryde LGA, spread evenly between the three income brackets of very low, low and moderate.

Household income quartiles, 2011



Source: Australian Bureau of Statistics, Census of Population and Housing, 2011 (Enumerated data)
Compiled and presented in profile.id by .id, the population experts.



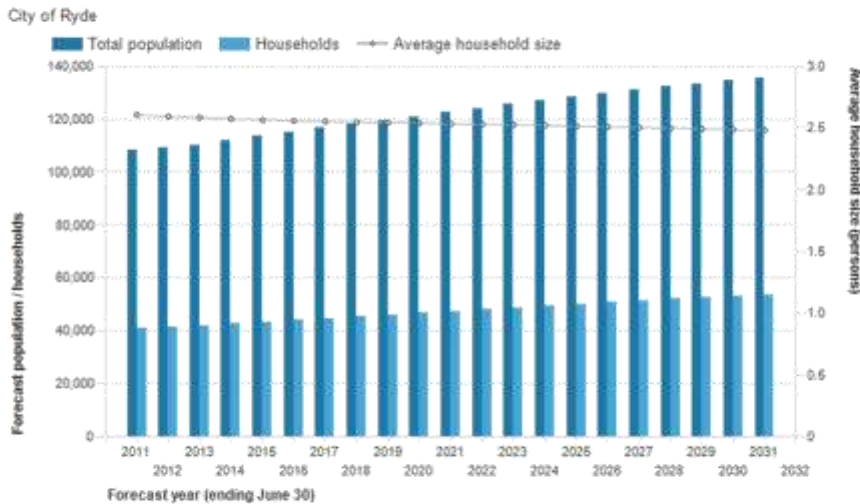
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10.2.4 Forecasts

In 2015, the population of Ryde LGA was estimated at 113,422. This is forecast to grow by 1,472 per year to reach 135,508 by 2031. In 2015 there were approximately 43,289 dwellings in Ryde LGA. This is forecast to grow by 688 dwellings per year to 53,611 in 2031. As the total population and dwelling numbers increase, the average household size is gradually decreasing.

Forecast population, households and average household size



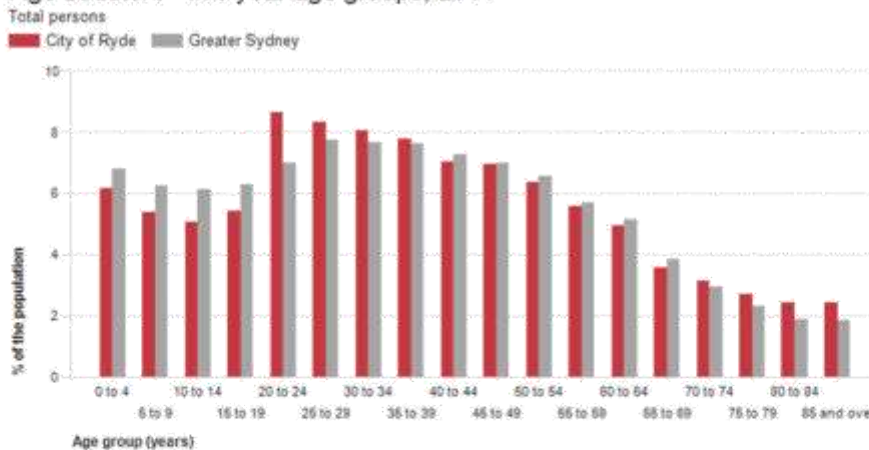
Population and household forecasts, 2011 to 2031, prepared by .id the population experts, November 2011.



10.2.5 Age Profile

Ryde LGA had a higher proportion of people aged 20-29 and a higher proportion of people aged over 70 in 2011 compared to Greater Sydney, probably due to the location of Macquarie University and more than 20 aged care and retirement villages.

Age structure - five year age groups, 2011



Source: Australian Bureau of Statistics - Census of Population and Housing, 2011 (Usual residence data). Compiled and presented in profile.id by .id, the population experts.



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10.2.6 Homelessness

The ABS estimated there were 240 homeless people in Ryde-Hunters Hill in 2011. This includes people in improvised dwellings, tents or sleeping out; people in supported accommodation for the homeless; or people staying temporarily with other households, in boarding houses, in other temporary lodgings, or in severely crowded dwellings.

No rough sleepers were counted in Ryde LGA in 2011, and no homeless shelters or boarding houses were counted, suggesting the people counted came from other categories. There is reported to be an increase in homelessness and risk of homelessness by service providers. However, this is difficult to detect from Census data.

10.2.7 Boarding Houses

While no boarding houses were recorded in Ryde LGA in the 2011 Census, seven were registered in Ryde LGA as of 29 June 2015. A proprietor of one of these boarding houses advised that his boarding house had five rooms rented at \$400 per week.

By comparison, a median one-bedroom apartment rent was \$500, suggesting boarding house rentals are likely to be around 80% of median one-bedroom rentals, and typically \$360 per week for Ryde LGA.

10.2.8 Social Housing

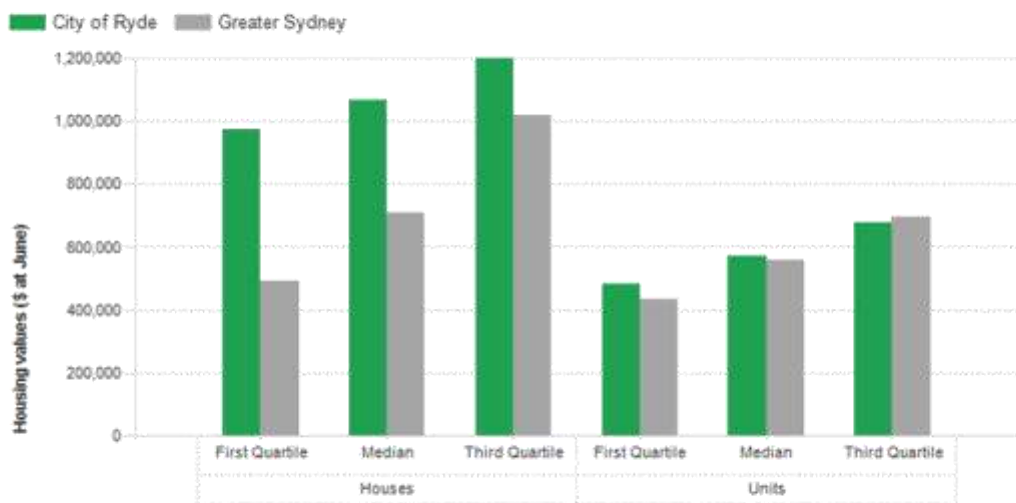
The supply of social housing in Ryde increased from 1,497 dwellings in 2001 to 1,836 dwellings in 2011, a 23% increase. Over the same period the number of dwellings in Ryde increased by 6%, showing real proportional growth in social housing. This represents the first net increase in social housing stock for a number of decades.

10.3 Housing Market

10.3.1 Average Prices 2010-2014

During 2010-2014, a house in Ryde LGA in the lowest quartile price was approximately \$1,000,000, almost double the lowest quartile average for Greater Sydney. The price of a unit in the lowest quartile price range, typically a one bedroom unit, was approximately \$500,000, slightly higher than the Greater Sydney average.

Housing values, 2014



Source: Homeback 2013-2014, Housing Valuation System



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10.3.2 2015 House Prices

By 2015, non-strata purchase prices in Ryde LGA were greater than those for Greater Sydney while strata dwellings are similarly priced. The median price for all dwellings in Ryde LGA is 34% higher than the Greater Sydney median; the median price for strata dwellings is 3% higher and the median price for standalone housing 60% greater than the Greater Sydney median.

Dwelling Type	Area	1st Quartile	2nd Quartile	3rd Quartile
All Dwellings	Ryde LGA	\$613,000	\$939,000	\$1,300,000
	Greater Sydney	\$520,000	\$700,000	\$1,000,000
Strata Dwellings	Ryde LGA	\$545,000	\$623,000	\$750,000
	Greater Sydney	\$480,000	\$621,000	\$780,000
Non-Strata	Ryde LGA	\$1,163,000	\$1,300,000	\$1,500,000
	Greater Sydney	\$550,000	\$801,000	\$1,200,000



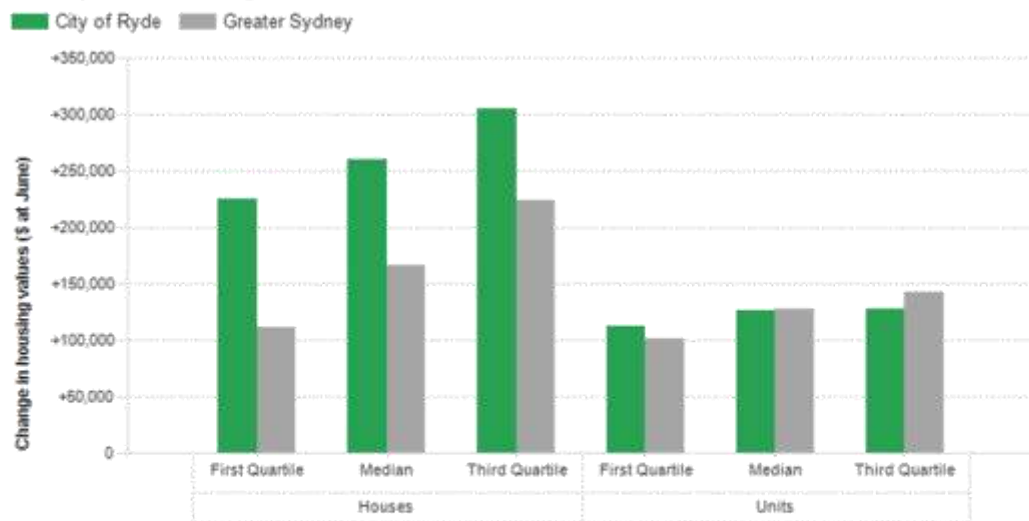
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Housing prices in Ryde LGA have grown over the past five years, with even the cheapest housing increasing by approximately \$220,000. This far exceeds the Greater Sydney average of just over \$100,000 for house prices in the lowest quartile.

Likewise, units have also experienced price increases over the past five years. Units in the lowest quartile (i.e. typically the cheapest one-bedroom apartments) have increased by over \$100,000.

Change in housing values, 2010 to 2014



Source: Hometrack 2010-2014, Housing Valuation System



Median Purchase Price, All Dwellings, Selected Areas, March Quarter 1991 to December Quarter 2014, adjusted for Inflation (to March Quarter 2015 Dollars)

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10.3.3 Increases in Housing Values

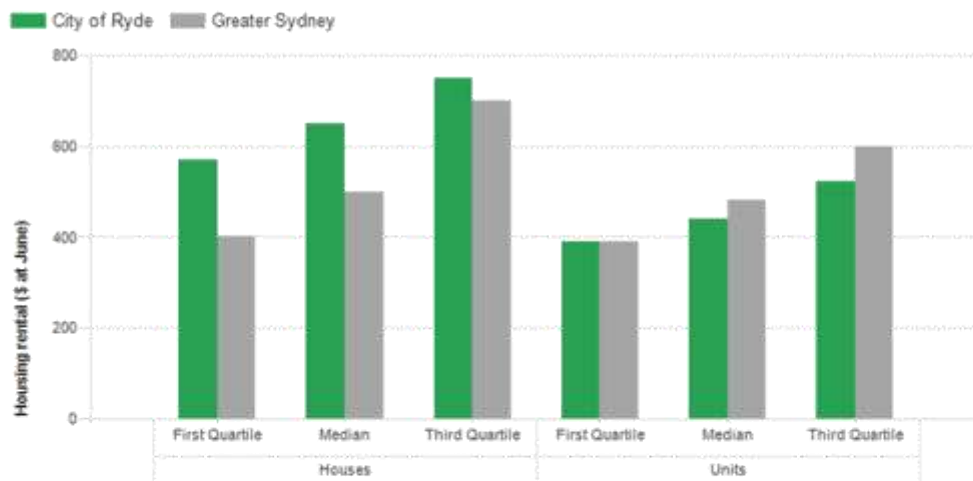


Source: JSA 2015, using data from Housing NSW Rent and Sales Report Issue 111 (Sales Price Trend) and ABS Consumer Price Index, All Groups, Australia

10.3.4 Rental Prices

In 2014, the lowest price for renting for a house in Ryde LGA was approximately \$580 per week, \$180 more than the Greater Sydney average for the lowest quartile housing rental. The lowest price for renting a unit (typically one-bedroom) in Ryde LGA was just below \$400 per week.

Rental listings, 2014



Source: Hometrack 2012-2014, Automated Valuation System



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10.3.5 Rental Price by Size of Dwelling

The table below shows more current rental prices for Ryde LGA compared to Sydney. The figures have been further broken down into the number of rooms in the dwelling.

Usually a family will prefer a three-bedroom house rather than a one or two-bedroom unit. The figures below make it even more apparent how housing affordability adversely affects young families with rental for a three-bedroom house in Ryde LGA costing at least \$575 per week.

Dwelling Type	Areas	First Quartile	Second Quartile	Third Quartile
One-bedroom flat/unit	Ryde LGA	\$360	\$470	\$515
	Greater Sydney	\$400	\$479	\$540
Two-bedroom flat/unit	Ryde LGA	\$410	\$450	\$545
	Greater Sydney	\$415	\$520	\$640
Two-bedroom separate house	Ryde LGA	\$480	\$500	\$550
	Greater Sydney	\$350	\$420	\$560
Three-bedroom separate house	Ryde LGA	\$575	\$650	\$700
	Greater Sydney	\$400	\$450	\$580

Ryde LGA and Greater Sydney Rental Prices. Source: JSA 2015, based on data from Housing NSW Rent and Sales Report Issue 111 (March Quarter 2015)

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10.3.6 Rental by Location

A snapshot of rental advertisements from 3 June 2015 provided further evidence that Ryde LGA is not affordable for most families requiring a three-bedroom dwelling. Of the 350 properties available for rent:

- None were affordable to 'very low' income households
- 7% (23 dwellings) were affordable to 'low' income households of which most (19) of which were one-bedroom apartments

- 56% (197 dwellings) were affordable to 'moderate' income households, including only nine three-bedroom dwellings.

The lowest medians were in the suburbs of West Ryde and Meadowbank and North Ryde and Gladesville were the most expensive areas.

Suburb	No.	1st Quartile	2nd Quartile	3rd Quartile
Chatswood	1	-	-	-
Denistone	5	-	-	-
East Ryde	2	-	-	-
Eastwood	45	\$430	\$500	\$680
Gladesville	64	\$430	\$565	\$650
Macquarie Park	19	\$440	\$530	\$565 (s)
Marsfield	26	\$480	\$540	\$727.50 (s)
Meadowbank	47	\$420	\$470	\$600
Melrose Park	3	-	-	-
North Ryde	11	\$550	\$670	\$800 (s)
Putney	5	-	-	-
Ryde	82	\$438.75	\$547.50	\$642.50
West Ryde	40	\$398.75	\$455	\$593.75

s = small sample size (10-30)

Rental Costs by Suburb in Ryde LGA. Source: JSA 2015, based on data from www.realestate.com.au on 3 June 2015.

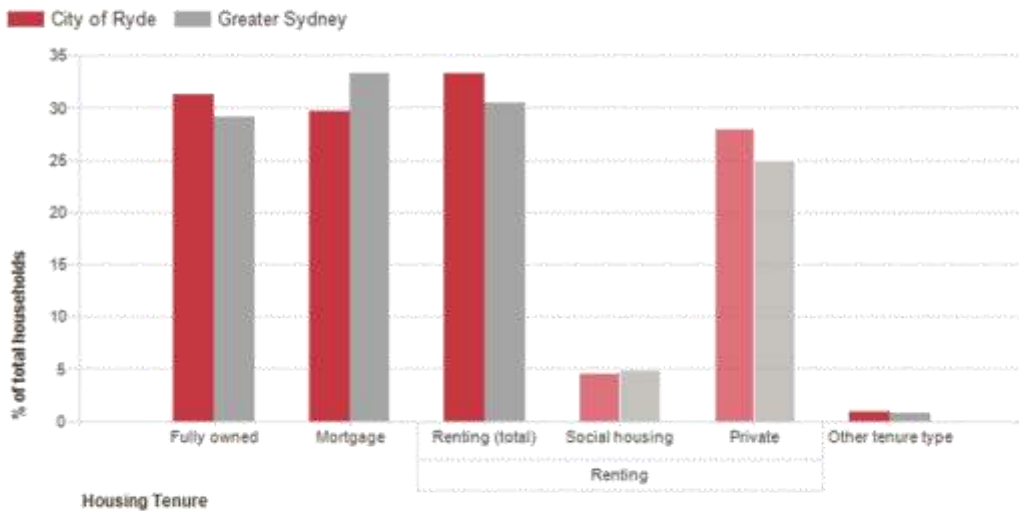
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10.3.7 House Tenure

In 2011, over 95% of housing stock was privately owned. 4.7% of housing in Ryde LGA was social housing either owned by the government or a not-for-profit community housing provider. This was slightly below the Greater Sydney average of 5%.

Housing tenure, 2011



Source: Australian Bureau of Statistics, Census of Population and Housing, 2011 (Enumerated data). Compiled and presented in profile.id by .id, the population experts.



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11.0 Appendix B

Affordable housing statutory provisions:

11.1 EP&A Act 1979

- **Section 5(a)(viii)** provides an objective of the “maintenance and provision of affordable housing”.
- **Section 79C(1)(b)** states it is a requirement of the consent authority to take into account “social and economic impacts” of a development application. This is been applied to development applications that result in the loss of affordable or low cost housing, such as low cost flats and boarding houses.
- **Section 94F & 94G** were introduced to provide consent authorities with express power to impose such conditions “if a State Environmental Planning Policy (SEPP) identifies that there is a need for affordable housing within an area” and certain other conditions are met. This allows for the inclusion of mandatory contributions of affordable housing if the SEPP has identified the area as being in need of affordable housing (of which Ryde LGA is identified).
- **Section 93F** allows for voluntary planning agreements in relation to proposed amendment to a planning instrument or development application. Under such an agreement, the developer is required to dedicate land, make a financial contribution or provide a material public benefit (or combination thereof) towards a public purpose. Affordable housing is listed as one of the public purposes.
- **Section 94f(5)** makes it clear that “nothing in this section prevents the imposition on a development consent of other conditions relating to the provision, maintenance and retention of affordable housing.” (For example through targets and diversity planning in master plans or DCPs and requiring social impact statements).

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11.2 SEPPs

- **SEPP 70 Affordable Housing (Revised Schemes)** amends local and regional planning instruments to enable the levying of development contributions to provide for affordable housing. SEPP 70 provides guidance regarding assessing housing need, setting contribution levels, apportionment, administration and accountability, and specifies relevant income and rental criteria.
- **SEPP (Affordable Rental Housing) 2009 (AHSEPP)** provides a consistent planning regime to increase the supply and diversity of affordable rental housing to different groups. The intention was that through liberalising zoning it would provide increased affordable housing close to places of work. The AHSEPP covers villas, townhouses and apartments that contain an affordable rental housing component, along with secondary dwellings (granny flats), new generation boarding houses, group homes, social housing and supportive accommodation. The aims of this policy are:
 - a) To provide a consistent planning regime for the provision of affordable rental housing
 - b) To facilitate the effective delivery of new affordable rental housing by providing incentives by way of expanded zoning permissibility, floor space ratio bonuses and non-discretionary development standards
 - c) To facilitate the retention and mitigate the loss of existing affordable rental housing
 - d) To employ a balanced approach between obligations for retaining and mitigating the loss of existing affordable rental housing, and incentives for the development of new affordable rental housing
 - e) To facilitate an expanded role for not-for-profit-providers of affordable rental housing
 - f) To support local business centres by providing affordable rental housing for workers close to places of work
 - g) To facilitate the development of housing for the homeless and other disadvantaged people who may require support services, including group homes and supportive accommodation.

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**TOP RYDE CENTRE
AND NORTH RYDE SMALL CENTRES
PEDESTRIAN ACCESS AND MOBILITY PLAN (PAMP)**

FOR

CITY OF RYDE



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1. INTRODUCTION

1.1 BACKGROUND

The City of Ryde (CoR) is exploring ways to identify a continuous and comprehensive integrated pedestrian network across the key centres of Ryde and small centres such as Cox's Road and Blenheim Road shopping centres. *Pedestrian Access and Mobility Plans (PAMPs)* have been developed in recent years for a few key centres, namely:

- Eastwood;
- Macquarie Park; and
- Gladesville.

A PAMP is a comprehensive strategic and action plan to develop pedestrian policies and build pedestrian facilities. It aims to coordinate investment in safe, convenient and connected pedestrian routes by providing a framework for developing pedestrian routes or areas identified by the community as important for enhanced, sustainable safety, convenience and mobility.

These PAMPs are developed upon the Ryde Integrated Transport and Land Use Strategy. The CoR is continuing in developing PAMPs for the rest of the key centres and selected small centres. To support these initiatives, Bitzios Consulting has been commissioned by CoR to develop PAMPs for Top Ryde Centre, Cox's Road small centre and Blenheim Road small centre.

This report presents the findings of the study and contains:

- An assessment of the existing situation, pedestrian desire lines and activity centres;
- Deficiencies in the existing pedestrian network;
- Community consultation and stakeholder issues;
- An audit of identified pedestrian routes; and
- A list of recommendations to detail further projects for Council to implement.

1.2 STUDY OBJECTIVES

The aim of a PAMP is to provide a plan to improve the pedestrian safety and to promote walking within the study area. Key objectives of the CoR PAMP are:

- To facilitate sustainable improvements in the level of pedestrian access and priority, particularly in areas of pedestrian concentration;
- To reduce access severance and enhance safe and convenient crossing opportunities on major roads;
- To identify and propose resolutions to any pedestrian crash clusters;
- To facilitate improvements in the level of personal mobility and safety for pedestrians with disabilities and older persons, through the provision of pedestrian infrastructure and facilities which cater for the needs of all pedestrians;
- To provide links with other transport services to achieve an integrated network of transport and land use facilities that comply with best practice technical standards;
- To develop a guiding policy and strategy for the key and small centres, linking Council's existing plans in a coordinated manner, (for example: Bike Plans, City of Ryde LEP/DCP, Footpath maintenance and upgrade programs);
- To ensure that pedestrian facilities remain appropriate and relevant to the surrounding land use and pedestrian user groups;
- To enable pro-active infrastructure planning from all available funding sources, and identifying required partnerships with other government agencies;
- To further Council's obligations under the Commonwealth Disability Act (1996) with particular focus on the requirements for DDA compliant bus stops; and



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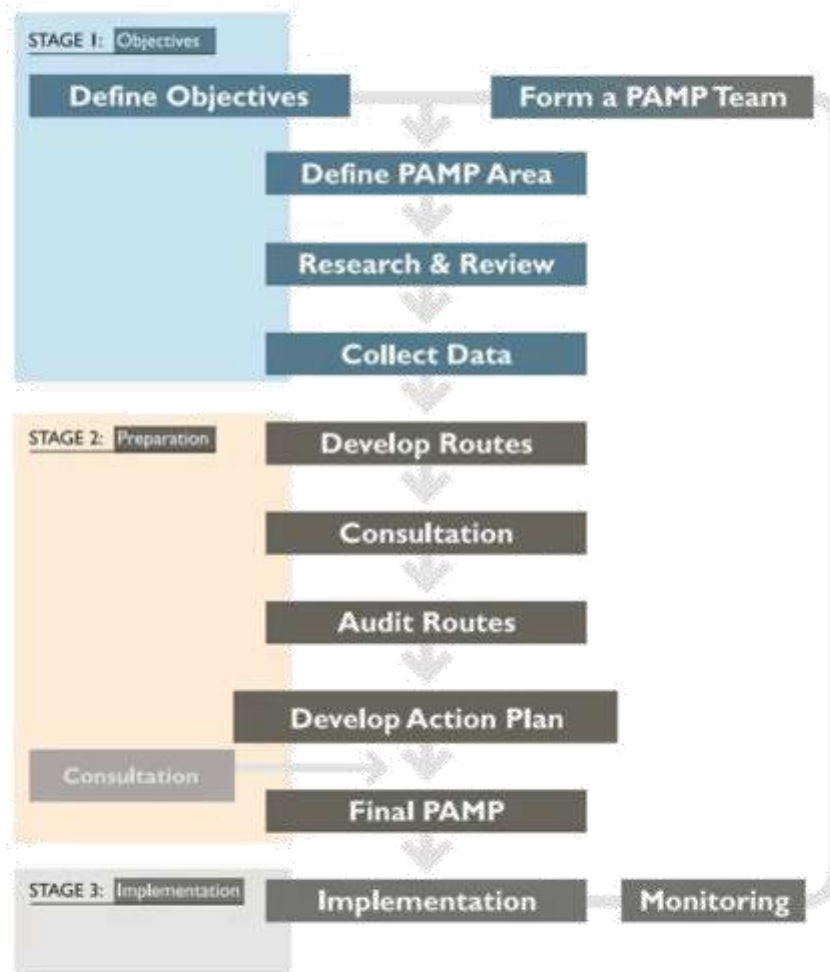
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- To establish a prioritised works program that includes works schedules, maintenance and upgrade programs to integrate into the City of Ryde Council's four year plan.

1.3 PAMP METHODOLOGY

This PAMP was prepared in accordance with the document 'How to Prepare a Pedestrian Access and Mobility Plan' published by NSW Roads and Maritime Services (RMS). This document identifies three stages in the PAMP process (Figure 1.1), namely:

- Stage 1: Objectives definition,
- Stage 2: Community consultation; and
- Stage 3: Implementation



Source: Roads and Maritime Services

Figure 1.1: PAMP Development Methodology

This PAMP study focuses on one key centre (Top Ryde Centre) and two small centres (Cox's Road and Blenheim Road). The locality of the areas are shown in Figure 1.2 below.

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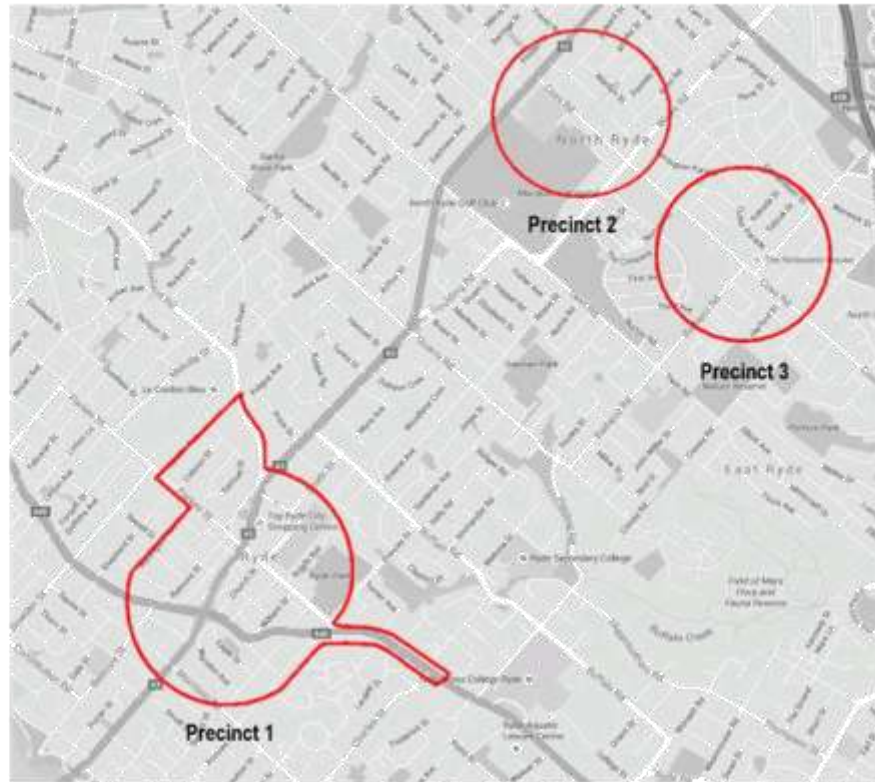


Figure 1.2: PAMP Study Precincts

A review of current Council plans and other relevant documents, as well as an analysis of existing community survey and pedestrian crash data was conducted to identify PAMP routes. These routes were then prioritised based on a range of criteria, as discussed in this report. Following community consultation and feedback from CoR, a recommended works program and suggested implementation program was established to improve and/or maintain the pedestrian facilities observed during the audit.

1.4 STRUCTURE OF THIS REPORT

This report has been structured to provide:

- Background on the study area such as demographics and existing public transport facilities;
- A review of relevant documentation, crash data, or previous studies in the area;
- The findings of the study investigations, route audits, and stakeholder responses; and
- Recommendations to improve pedestrian facilities and encourage walking within the study area.

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2. CHARACTERISTICS OF THE STUDY AREA

2.1 GEOGRAPHY

The City of Ryde is a Local Government Area (LGA) located 12km northwest of Sydney with an area of 40,651 km². The area is bounded by Terry's Creek, Epping and Marsden Road to the west, Parramatta River to the south, Lane Cove River to the north and Pittwater Road and Lane Cove River to the east. Development is spread evenly throughout the area with 16 suburbs contained within the boundaries and with typically low density residential development with pockets of infrastructure and public recreation areas. The topography of the area is lower in the south-east, south and north east along Parramatta and Lane Cove Rivers and generally slopes upward towards the west and north-west, peaking in Eastwood and Denistone West. For the purpose of this study three precincts have been outlined to focus upon.

Precinct 1 is located around Top Ryde, the major town centre of the LGA. Top Ryde is built on a plateau with only gentle gradients in the immediate vicinity. *Precinct 2* and *Precinct 3* are located around the small business centres along Cox's Road in North Ryde. North Ryde slopes gently from the south-east to the north-west along Cox's Road with no major undulations.

The LGA is split into three wards; namely:

- West Ward: Melrose Park to Macquarie Park
- Central Ward: Meadowbank to Macquarie Park
- East Ward: Putney/Tennyson Point to Macquarie Park

Figure 2.1 shows the LGA and ward boundaries.



Source: City of Ryde

Figure 2.1: City of Ryde LGA and Ward Boundaries

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The three precincts chosen by CoR for the PAMP study are located within the Central and East Wards and revolve around centres with high pedestrian generating potential such as schools, shopping centres and public transport hubs.

Precinct 1 is located in the areas surrounding the Top Ryde Shopping Centre with the area determined by a reasonable walking journey to and from the shopping centre. It contains the following land uses which also act as generators of pedestrian activity:

- Top Ryde Shopping Centre
- Ryde Public School
- Ryde Park
- Bus Interchange

The location of *Precinct 1* is shown in Figure 2.2.



Source: City of Ryde Council

Figure 2.2: Precinct 1 Area

Victoria Road and Church Street form a major intersection in *Precinct 1*, with Victoria Road connecting the City with Parramatta, and Church Street connecting Strathfield with North Ryde. Other intersections of note include the intersection of Devlin Street and Blaxland Road and the intersection of Devlin Street, Blaxland Road and Lane Cove Road.

Precinct 2 and *Precinct 3* are located in the areas surrounding the Coxs Road shops and Blenheim Road shops respectively, along Cox's Road, with *Precinct 2* in the west and *Precinct 3* in the East. They contain the following land uses which also act as generators of pedestrian activity:

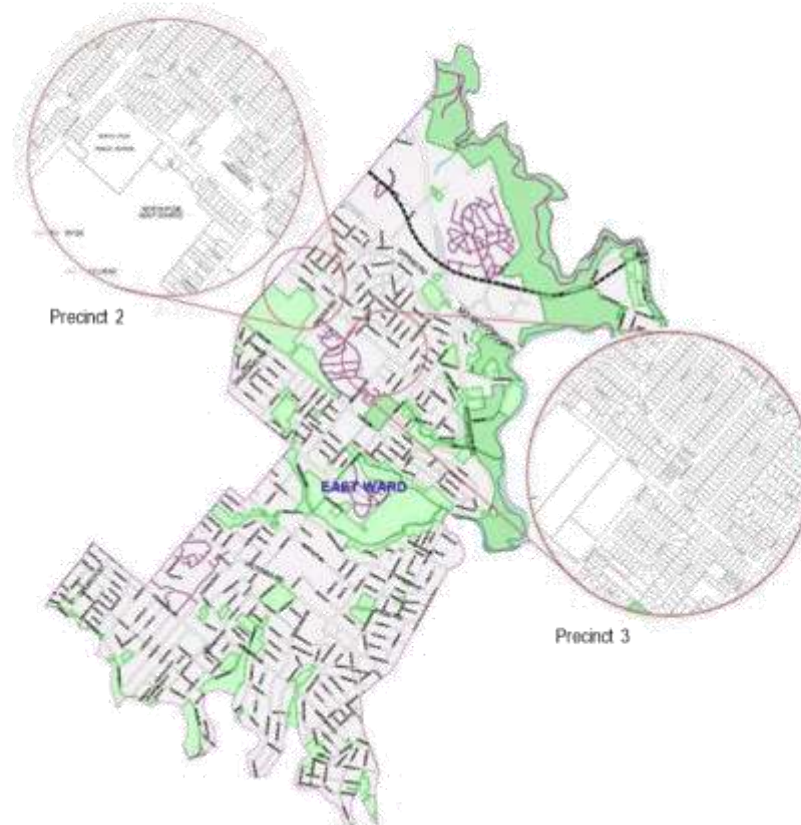
- North Ryde Public School

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- North Ryde Golf Course
- Coxs Road Shops
- Holy Spirit Catholic Primary School
- Blenheim Road Shopping Centre
- Religious establishments

The location of *Precinct 2* and *Precinct 3* is shown in Figure 2.3.



Source: City of Ryde Council

Figure 2.3: Precinct 2 and Precinct 3 Areas

Cox's Road intersects with Lane Cove Road in what is the major intersection in *Precinct 2* and *Precinct 3*, with Cox's Road connecting Lane Cove Road and Pittwater Road, and Lane Cove Road connecting North Ryde to Strathfield. Cox's Road also intersects with other significant intersections at Wicks Road, Badajoz Road and Blenheim Road.

2.2 POPULATION AND DEMOGRAPHICS DATA

The City of Ryde LGA has a total population of 114,598 (Australian Bureau of Statistics (ABS) Estimated Resident Population, 2014) across 16 suburbs. It is characterised by predominantly low density residential development with public recreation areas, infrastructure, shopping centres and a band of national park in the north.

The suburbs with the highest populations in the City of Ryde based on the 2011 Census Data (ABS) are Ryde (21%), West Ryde (12%), North Ryde (10%) and Macquarie Park (6%). Eastwood and Gladesville also provided a large portion of the population of Ryde but their full impact is difficult to evaluate as they are

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spread over two LGAs. The density of Ryde is an average is 28.32 persons per hectare, that varies between 0.70 and 187.91 persons per hectare. Areas of Ryde, West Ryde, Eastwood and Meadowbank experience the highest population densities. The composition of the population spread in the City of Ryde is shown below in Figure 2.4.

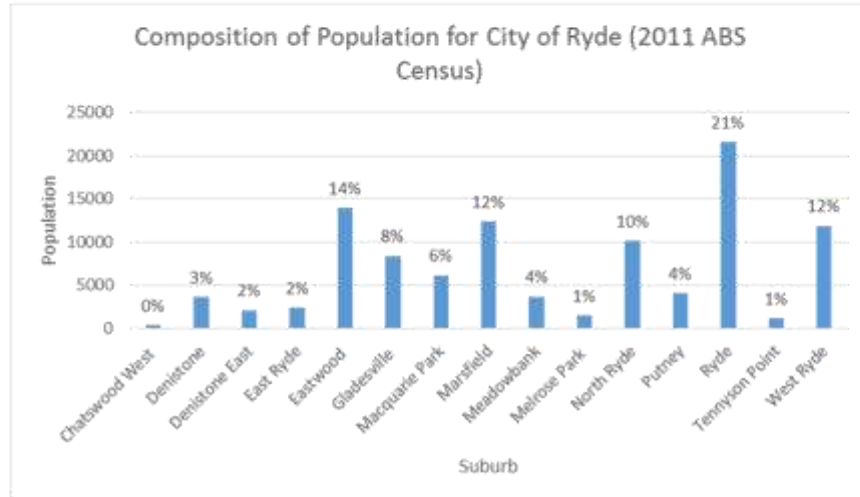


Figure 2.4: City of Ryde Population Breakdown by Suburb

Precinct 1 covers a very similar area to the region defined as Top Ryde with an approximate population of 5000 people (ABS ERP, 2014). It is characterised by low density residential development, mixed use, high density residential development, public recreation areas and shopping centres. The population density for Top Ryde is 42.03 people per hectare (profile.id, City of Ryde), with some variance between the public spaces and high density residential areas.

Precinct 2 is located towards the western edge of North Ryde with an approximate population of 1500 (atlas.id, City of Ryde). It is characterised by low density residential development, educational facilities, a golf club, a community centre and shopping centre. The population density for this area is approximately 27 people per hectare (atlas.id, City of Ryde) with variance between the residential and community, shopping, recreational and education centres.

Precinct 3 is located in central North Ryde with an approximate population of 1200 (atlas.id, City of Ryde). It is characterised by low density residential development, religious and community services, medical grounds, and a shopping centre. The population density of this precinct is approximately 30 people per hectare (atlas.id, City of Ryde) with variance between the residential and medical, religious, shopping and community centres.

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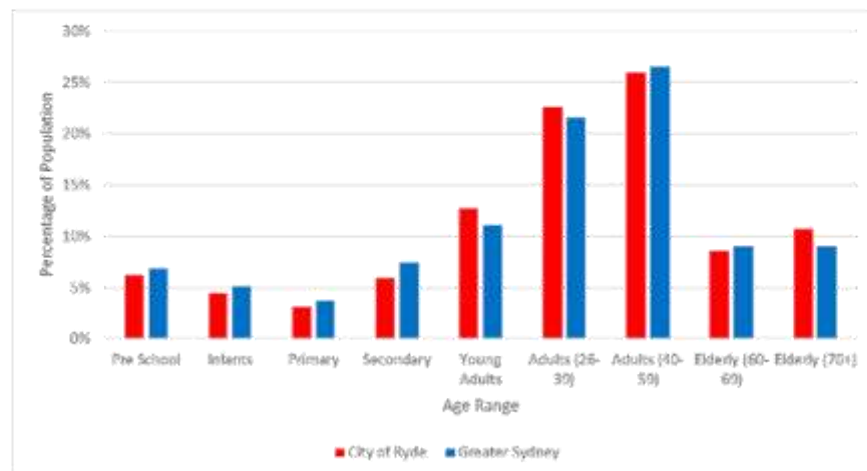
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2.3 PEDESTRIAN USER GROUPS

Pedestrian planning considers a number of pedestrian facility user groups based on age and assumed capabilities. The ranges are classified as the following:

- Pre-school (ages 0-4)
- Infants (ages 5-8)
- Primary (ages 9-11)
- Secondary (ages 12-17)
- Young Adults (ages 18-25)
- Adults (aged 26-59)
 - Adults (a) from 26-39 years old
 - Adults (b) from 40-59 years old
- Elderly (aged 60+)
 - Elderly (a) from 60-69 years old
 - Elderly (b) 70+ years of age)

The age profile for the City of Ryde LGA is presented in Figure 2.5 below. In comparison to the Greater Sydney area, the City of Ryde LGA has a higher proportion of 20 to 39 year old and 70 years plus residents. Subsequently there are lower proportions in the City of Ryde in all other age ranges with the most significant disparity occurring in the 10-19 years range. With the exception of having noticeably higher proportions of residents in the 20-29 years range and lower proportions of residents in the 10-19 years range, the two samples are comparable with only small differences.



Source: ABS 2011 Census of Population and Housing

Figure 2.5: Age Profile of the Study Area, compared with Greater Sydney

2.4 JOURNEY TO WORK DATA

The Australian Bureau of Transport Statistics (BTS) 2011 Census Journey to Work data provides an indication of popular origins, destinations, as well as the typical mode share for commuters moving from and into the study areas.

2.4.1 Precinct 1

One third of workers within the Top Ryde area travel from within the Ryde and Hunters Hill area (33%) with another third of workers travelling from non-neighbouring regions (31%) to the Precinct 1. Other workers to the Top Ryde area come from neighbouring areas, such as Parramatta, Canada Bay and Carlingford among others, in very similar volumes (100-200 workers per day).

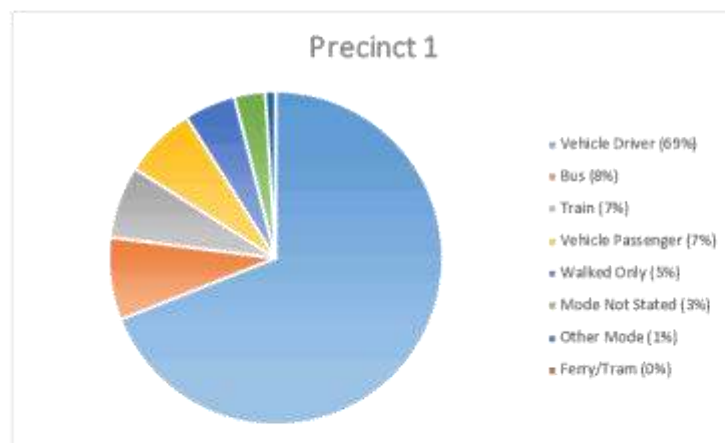
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In addition, one third of persons employed within the City of Ryde LGA (33%) also resided within the area with a large number also travelling to Sydney Inner City (19%) and non-neighbouring areas (18%). Other areas with a reduced commuter volume from the City of Ryde include Chatswood (8%), North Sydney (4%), Canada Bay (4%) and Parramatta (3%). Overall the data shows that there are a higher volume of non-local journeys to work with similar levels of inbound and outbound commuter trips.

Of the journeys to work to Top Ryde by commuters the overwhelming majority are undertaken by private vehicles with 76% of trips made involving a commuter driving or acting as a passenger. Public transport accounts for 15% of trips which is above the average Sydney Greater Metropolitan Area (defined by Bureau of Transport Statistics as including the Illawarra and Newcastle statistical divisions) public transport mode split of 9%, based on the 2010/11 Household Travel Survey. Walking journeys also make up a relatively high 5% of journeys to work. The mode share for persons employed within Precinct 1 is shown in Source: Australian Bureau of Statistics (ABS) 2011 Journey to Work (JTW) Data

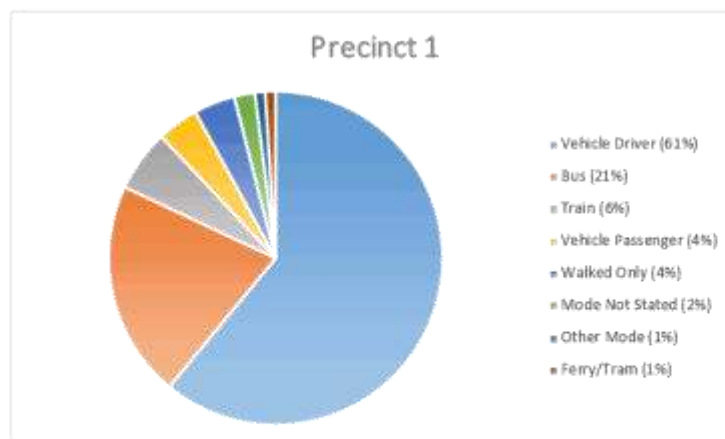
Figure 2.6



Source: Australian Bureau of Statistics (ABS) 2011 Journey to Work (JTW) Data

Figure 2.6: Journey to Work Mode Share – Persons Employed in Precinct 1

Of the journeys to work from Top Ryde by commuters residing in Precinct 1 the overwhelming majority are undertaken by private vehicles with 65% of trips made involving a commuter driving or acting as a passenger. Public transport accounts for 27% of trips which is three times the average Sydney Greater Metropolitan Area public transport mode split of 9%, based from the 2010/11 Household Travel Survey. Walking journeys also make up a relatively high 4% of journeys to work. The mode share for persons residing within Precinct 1 is shown in Figure 2.7.



Source: ABS 2011 JTW Data

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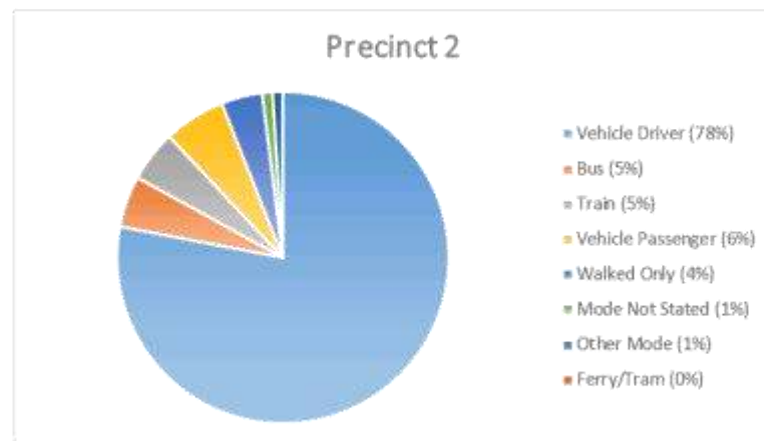
Figure 2.7: Journey to Work Mode Share – Residents of Precinct 1

2.4.2 Precinct 2

Of the people working in Precinct 2 nearly half live within the Ryde and Hunters Hill area (45%) with non-neighbouring regions (19%) providing the next most workers. Only small proportions of residents travelled from neighbouring areas such as Baulkham Hills (6%), Parramatta (4%) and Hornsby (2%). Overall the data shows that there are a similar quantity of local and non-local journeys to work with similar levels of inbound and outbound commuter trips.

One third of the residents of Precinct 2 travel locally to work in the Ryde and Hunters Hill area (33%). Additionally non-neighbouring regions (18%), Sydney Inner City (16%) and Chatswood (12%) make up the bulk of trips by workers from Precinct 2. A small number of workers from Precinct 2 also travel to neighbouring areas, such as Parramatta, North Sydney and the Eastern Suburbs.

Of the journeys to work to Precinct 2 by commuters the overwhelming majority are undertaken by private vehicles with 84% of trips made involving a commuter driving or acting as a passenger. Public transport accounts for 10% of trips whilst walking journeys make up 4% of journeys to work. The mode share for persons employed within Precinct 2 is shown in Figure 2.8.



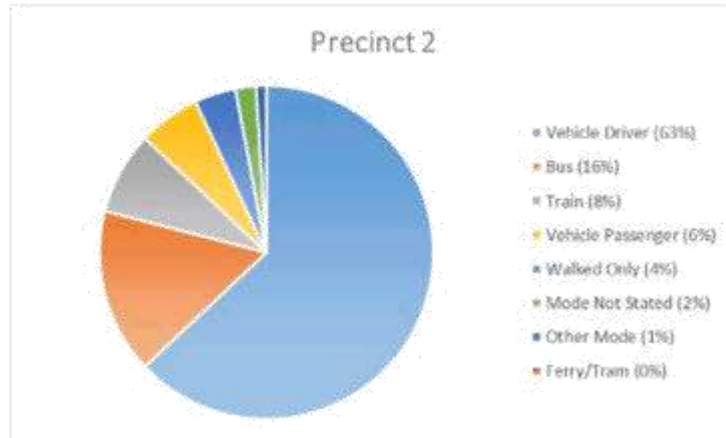
Source: ABS 2011 JTW Data

Figure 2.8: Journey to Work Mode Share – Persons Employed in Precinct 2

Of the journeys to work from Precinct 2 by commuters residing in Precinct 2 the overwhelming majority are undertaken by private vehicles with 69% of trips made involving a commuter driving or acting as a passenger. Public transport accounts for 14% of trips and walking journeys also make up 4% of journeys to work. The mode share for persons residing within Precinct 2 is shown in Figure 2.9.

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Source: ABS 2011 JTW Data

Figure 2.9: Journey to Work Mode Share – Residents of Precinct 2

2.4.3 Precinct 3

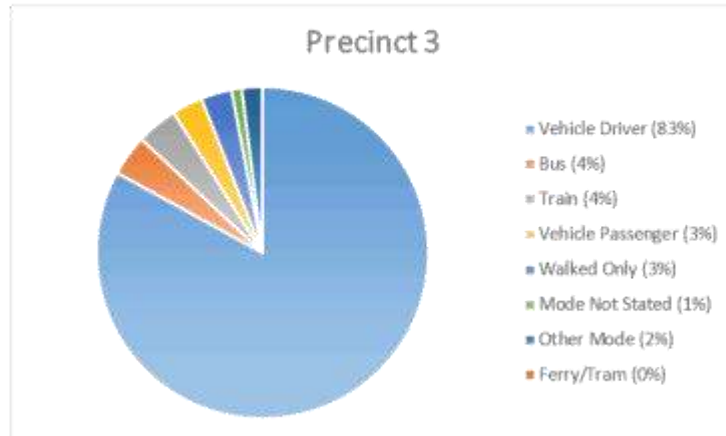
Of the people working in Precinct 3 the majority come from within the Ryde and Hunters Hill area (29%) and non-neighbouring regions (35%). Only small proportions of residents travel from neighbouring areas such as Carlingford (6%), Baulkham Hills (5%), Parramatta (4%) and Chatswood (4%). Overall the data shows that there are a similar quantity of local and non-local journeys to work with more people working in the area than living in the area (greater AM inbound traffic and greater PM outbound traffic).

Around one third of the residents of Precinct 3 travel locally to work in the Ryde and Hunters Hill area (35%). Additionally Sydney Inner City (18%), non-neighbouring regions (15%), and Chatswood (11%) make up the bulk of trips by workers from Precinct 3. A small number of workers from Precinct 3 also travel to neighbouring areas, such as Parramatta, North Sydney and Ku-ring-gai.

Of the journeys to work to Precinct 3 by commuters the overwhelming majority are undertaken by private vehicles with 86% of trips made involving a commuter driving or acting as a passenger. Public transport accounts for 8% of trips whilst walking journeys make up 3% of journeys to work. The mode share for persons employed within Precinct 3 is shown in Figure 2.10.

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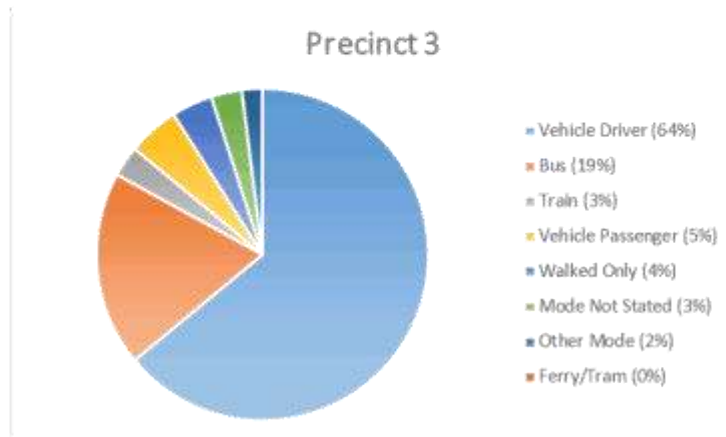
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Source: ABS 2011 JTW Data

Figure 2.10: Journey to Work Mode Share – Persons Employed in Precinct 3

Of the journeys to work from Precinct 3 by commuters residing in Precinct 3 the overwhelming majority are undertaken by private vehicles with 69% of trips made involving a commuter driving or acting as a passenger. Public transport accounts for 22% of trips and walking journeys also make up 4% of journeys to work. The mode share for persons residing within Precinct 3 is shown in Figure 2.11.



Source: ABS 2011 JTW Data

Figure 2.11: Journey to Work Mode Share – Residents of Precinct 2

Of the categories presented in the data it is expected that public transport journeys (bus and train) will provide additional walking journeys in the precincts. In each precinct the mode share of buses by residents travelling to work is very high which in turn suggests that pedestrian traffic to and from bus stops will be high, highlighting the need to prioritise that bus stops are well connected and serviced by pedestrian facilities. Additionally each precinct has a relatively high rate of walking to work journeys (5% in most cases) which provides an elevated need, along with the high public transport use, for high quality pedestrian facilities in each precinct. Cycling to work by workers of the precincts and workers residing in the precincts is not well represented with approximately 1-2% of commuters travelling by this method.

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2.5 PLANNING FOR PEOPLE WITH A DISABILITY

Careful consideration is required when assessing the condition and future implementation of pedestrian facilities to ensure that the needs and requirements of all users of any facility are considered. The accessibility of those with disabilities along with the connectivity of relevant services and facilities such as public transport, medical facilities and shopping centres, is a vital component of assessing the level of service provided and to be designed pedestrian facilities. The benefits of considered design are not limited to the disabled as all lines of pedestrian transport including walking, running and cycling are aided by thoughtfully planned pedestrian facilities. A lack of consideration in phases of the design process can result in a pedestrian network which excludes or reduces the ability of key user groups to effectively utilise the facilities.

Increasingly design codes and standards, such as the Building Codes of Australia (BCA) and Australian Standards, are stringently considering the needs of the less mobile and implementing requirements for new developments. The impending final implementation of the National Disability Insurance Scheme will allow for the disabled to increase their activities and movement in the community and therefore it is increasingly important that public and pedestrian facilities are designed and constructed accordingly. For this reason it may be important in some instances for designs of new facilities to extend from the minimum required standards to better meet the surrounding conditions and built environment to cater for disabled access and reduce the potential work and cost associated with retrofitting or removal and replacement of aspects of the pedestrian facilities.

Whilst it is not possible to provide pedestrian facilities that allow for all possible user groups to be catered for it is necessary to ensure that priority routes considered are suitable for the maximum number of people from all likely user groups within available budgets and other restrictions. The *Disability Discrimination Act 1992* (DDA) states that it is unlawful to disregard disability standards. Additionally all new infrastructure is to meet updated Australian Standards, such as AS1428, and BCA that set out specific guidelines and requirements for physical access.

The City of Ryde outlines in its *2025 Community Strategic Plan* that a high priority for the future development of the city is to "To improve connectivity between and accessibility to our suburbs, centres, open spaces and places". The Top Ryde Pedestrian Access and Mobility Plan and its consideration and implementation will play a part in ensuring the council is successful in their stated goals.

2.6 TRANSPORT FACILITIES

2.6.1 Existing Pedestrian Facilities

Pedestrian accessibility and safety for the maximum amount of user groups are the main targets of a successful PAMP. Particular consideration should be provided to users with restricted mobility, children, sensory and intellectual impairments and the elderly to ensure that facilities cater for safe and easy use and movement for all. Important factors that play a role in affecting pedestrian movement include:

- Vehicle movement and speeds
- Notification and signposting of desired pedestrian paths
- Condition and access of footpaths
- Adequate crossing provisions (at midblock, roundabouts, intersections, signals etc)
- Lighting and other safety infrastructure

In the City of Ryde LGA it has been a typical focus to increase the vehicular capacity of intersections to reduce congestion, especially in peak times, and travel time for vehicles. As a result intersections are often left with reduced or minimal pedestrian crossing opportunities. For example, some signalised intersections along Victoria Road, Devlin Street and Lane Cove Road do not provide pedestrian crossing facilities on all approaches. However, past improvements such as midblock crossing provisions, including pedestrian refuges and signalised pedestrian crossings, along with pedestrian bridges have improved accessibility for pedestrians.

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Generally pedestrian access around major pedestrian generators and attractors in the precincts such as the shopping centres include footpaths on both sides of the road and a variety of crossing provisions including signalised intersections/crossings, pedestrian refuges, zebra crossings and/or pedestrian bridges. However, the condition of the facilities do not encourage pedestrian movement. Many footpaths along high prioritised routes such as Victoria Road, Devlin Street, Parkes Street and Coxs Road contain cracking and raised lips between segments that pose trip hazards for less mobile pedestrians. Other barriers to movement are overgrown trees and plants that restrict footpath access in a number of areas, along with bus stops lacking DDA infrastructure such as hardstands and tactile ground surface indicators (TGSi) to assist less mobile bus users, and pedestrian refuges often missing safety handrails.

2.6.2 Public Transport

Trains

The City of Ryde contains a train line through the south-western corner of the area with stations at Eastwood, Denistone, West Ryde and Meadowbank, and an underground train line across the north of the area with stations at Macquarie University, Macquarie Park and North Ryde. However, neither train line has reasonable impact on the pedestrian activity of the three study precincts and is therefore not considered in the PAMP. The locality of the train lines in relation to the outlined precincts is shown in Figure 2.12.

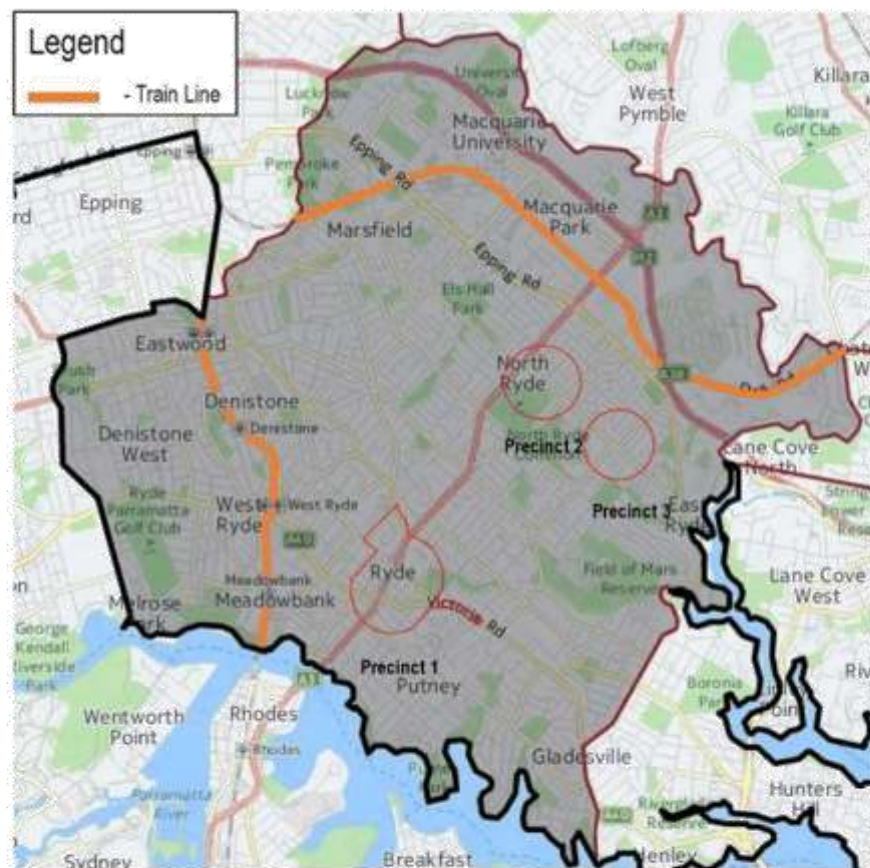


Figure 2.12: Train Lines in Operation in the City of Ryde LGA

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Buses

The bus services connecting the City of Ryde to connecting other areas of Sydney are provided by the State Transit Authority (STA) for Transport for New South Wales (TfNSW). The services and their frequencies alter for each precinct and are shown in Table 2.1-Table 2.3. Service frequencies vary by route, with some routes running exclusively in the morning, afternoon or late night, but in general most routes provide a half hourly or hourly service outside peak periods and a quarter hourly or half hourly service during peak periods. Frequencies on Sundays and Public Holidays are generally every hour. The bus services and the associated stops for each precinct are shown in Figure 2.13.

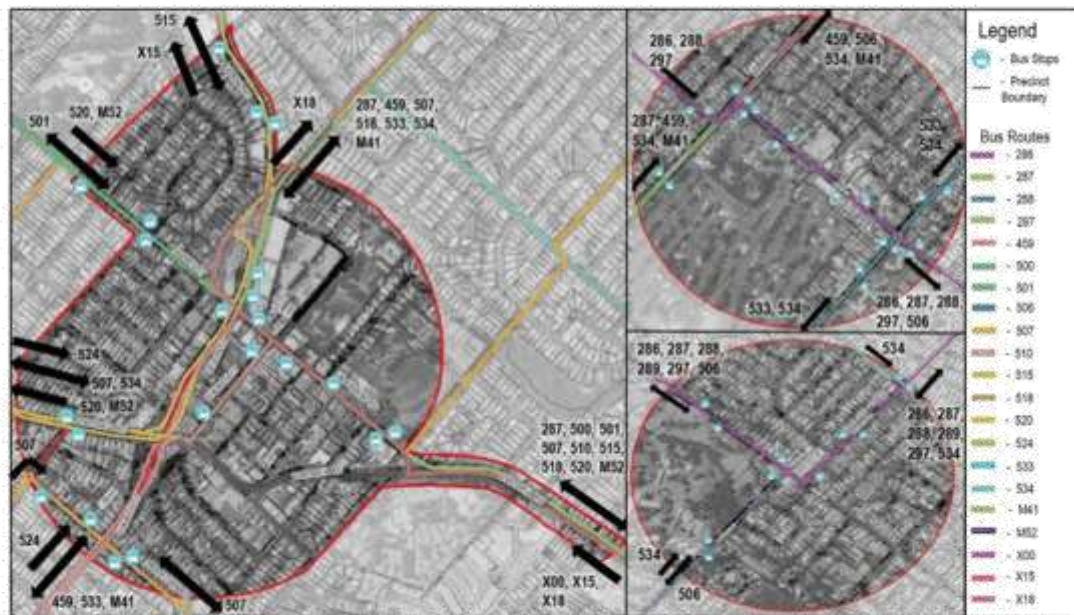


Figure 2.13: Bus Routes and Stops in the Study Precincts

Table 2.1: Bus Services and Frequency for Precinct 1

Route Number	Destination	Number of Services (2 hours peak hour)	
		AM Peak (7-9am)	PM Peak (4-6pm)
287	Ryde	0	3
	Milsons Point	4	0
459	Macquarie University	3	3
	Strathfield Station	3	4
500	Ryde	2	0
	City	0	0
501	Ryde/West Ryde	6	10
	Railway Square	11	6
507	Macquarie University	3	5
	City	3	3
510	Ryde	0	0

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Route Number	Destination	Number of Services (2 hours peak hour)	
		AM Peak (7-9am)	PM Peak (4-6pm)
	City	1	0
515	Eastwood	5	2
	City	5	4
518	Macquarie University	3	5
	City	7	4
520	Parramatta	0	0
	City	0	0
524	West Ryde	0	0
	Parramatta	0	0
533	Chatswood/North Ryde	0	4
	Olympic Park	7	0
534	West Ryde	0	4
	Chatswood	8	3
M41	Macquarie Park	12	17
	Hurstville	12	11
M52	Parramatta	12	13
	City	22	11
X00	City to Ryde	0	3
X15	City to Eastwood	0	2
X18	City to Denistone East	0	2
Total Services		126	109

Source: Sydney Buses Timetables

Table 2.2: Bus Services and Frequency for Precinct 2

Route Number	Destination	Number of Services (2 hours peak hour)	
		AM Peak (7-9am)	AM Peak (7-9am)
286	Denistone East	0	4
	Milsons Point	3	0
287	Ryde	0	3
	Milsons Point	4	0
288	Epping	4	3
	City	5	4
297	Denistone East	4	0
	City	0	7
459	Macquarie University	3	3

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Top Ryde
Pedestrian Access and Mobility Plan



Route Number	Destination	Number of Services (2 hours peak hour)	
		AM Peak (7-9am)	AM Peak (7-9am)
	Strathfield Station	3	3
506	Macquarie University	4	4
	City	4	4
533	Chatswood/North Ryde	0	4
	Olympic Park	7	0
534	West Ryde	0	4
	Chatswood	8	3
M41	Macquarie Park	12	17
	Hurstville	13	12
Total Services		74	75

Source: Sydney Buses Timetables

Table 2.3: Bus Services and Frequency for Precinct 3

Route Number	Destination	Number of Services (2 hours peak hour)	
		AM Peak (7-9am)	AM Peak (7-9am)
286	Denistone East	0	4
	Milsons Point	3	0
287	Ryde	0	3
	Milsons Point	4	0
288	Epping	4	3
	City	5	4
297	Denistone East	4	0
	City	0	7
506	Macquarie University	4	4
	City	4	4
534	West Ryde	0	4
	Chatswood	8	3
Total Services		36	36

Source: Sydney Buses Timetables

A free public bus services exists, named the Shop Ryder, with two routes. Route 1 operates between Meadowbank and West Ryde and Route 2 operates between Top Ryde and Eastwood. The Shop Ryder routes operate on Wednesday through Saturday with buses operating on a designated 10 stop schedule, but the buses are able to be caught from any STABus stop along the route. Buses operate five times on the days of operation with the first bus leaving at 8:30 am and the last leaving at 1:00 p.m., generally with an hourly interval. The Shop Ryder bus routes are shown in Figure 2.14.

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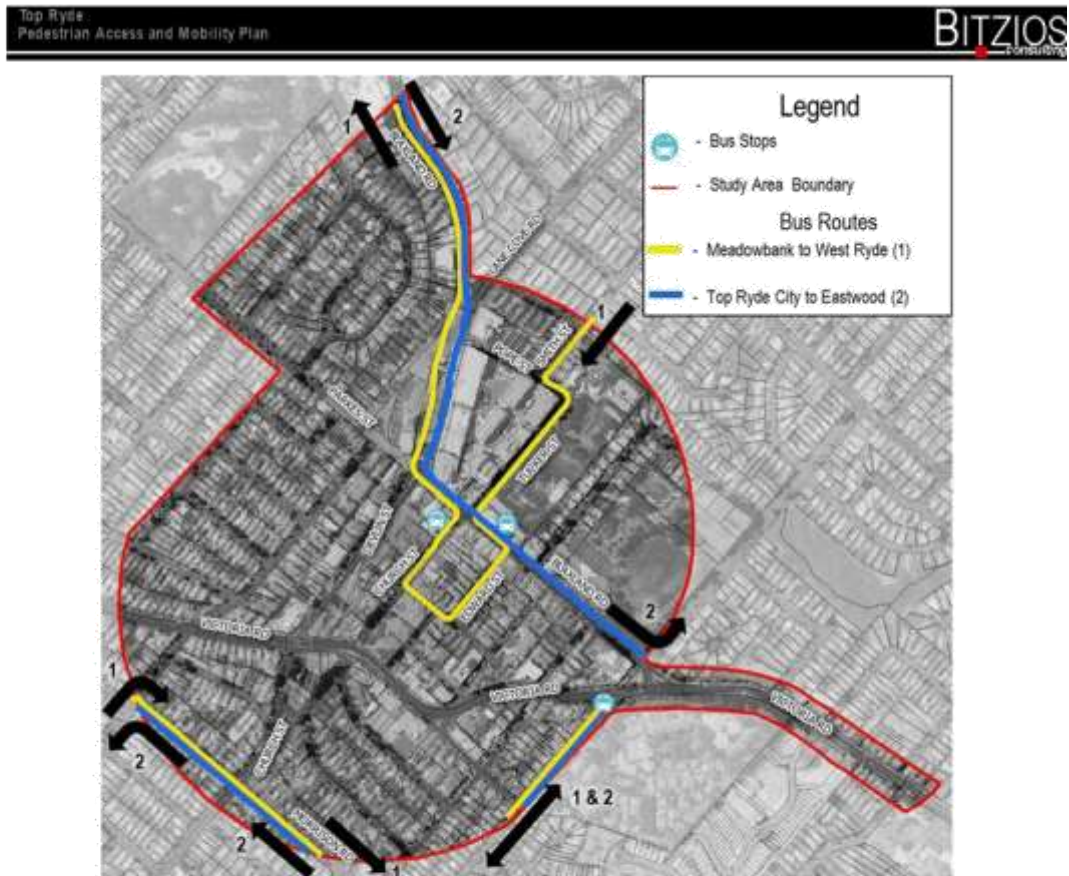


Figure 2.14: Shop Ryder Routes through Top Ryde Precinct 1

Disabled Access

Sydney Buses have developed four policies to aid the safety, accessibility and ease of use of disabled customers. They are as follows:

- Mobility Aid Specifications
- Rules for Wheelchairs
- Obligations of the Bus Operator
- Obligations of Other Passengers

The policies outline the weight and size restrictions of mobility aids that buses are safely designed to accommodate along with the general rules of practice for disabled customers and their carers. Accompanying the specifications and rules are the obligations of the bus operator and passengers that outline expected behaviours and actions to ensure that all customers are catered for in a safe, respectful and timely manner.

Disabled access buses are used on many routes throughout each precinct and information is provided online, in printed timetables and at bus stops as to whether a service is suitable for disabled access. Online guides and tips are also there for customers to assist in successfully planning a safe journey on the bus.

Overall, bus stops in and around the main shopping precinct of Top Ryde and along Cox's Road are equipped with hardstands, adequate timetable information and seats with shelters included in some locations. Tactile Ground Surface Indicators (TGSIs) to assist the visually impaired and other users of bus services are lacking for the overwhelming majority of bus stops in all locations though. Other issues that arose when undertaking the site audits were the lack of hardstands at bus stops, in particular along Wicks Road which is classed as a Regional Route. The lack of a hardstand reduces the amount and groups of people that can access bus

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service from that stop whilst increasing the dangers to users who opt to still use the facilities provided. All bus stops in the Top Ryde and North Ryde precincts should be equipped with hardstands to ensure all users are able to access bus services from their most convenient bus stop.

2.6.3 Road Hierarchy

The City of Ryde Local Government Area primarily consists of an interconnected series of local roads, in line with the majority of the land use being classed as low density residential development, with two major metropolitan arterial routes responsible for providing vital connection to various regions of Greater Sydney.

The A3 Main Road is a state owned road that connects Mona Vale in the north and Blakehurst in the south, providing the most direct route between the northern beaches and the St George and Sutherland regions of Sydney. The route runs in a north-south orientation and is a two-way road with sections of two lanes, four lanes and six lanes along its length. The top speed limit of the route is 90km/h along Mona Vale Road in the north, but generally the speed limit is either 60 km/h or 70 km/h. The A3 runs through Precinct 1 and Precinct 2 incorporating Church Street, Devlin Street and Lane Cove Road, and forms major intersections in Precinct 1 with Victoria Road and Blaxland Road. The traffic flows along the A3 with relevance to the study areas are shown in Table 2.4 and are captured to the south of Precinct 1 at Concord Road (between Averill Street and Denham Street) and to the south of Precinct 2 at Lane Cove Road (300m south of Bridge Road).

Table 2.4: Average Daily Traffic Volumes along State Road A3

Location	Station ID	Direction	All Days	Weekdays	Weekends
Concord Road	29005	Northbound	47500 (362) ¹	50000 (202)	43400 (103)
		Southbound	48100 (362)	50900 (200)	44000 (104)
Lane Cove Road	51234	Northbound	28500 (349)	30500 (201)	25000 (99)
		Southbound	28100 (351)	29700 (201)	25500 (100)

Source: RMS Annual Average Daily Traffic (AADT) Data 2012

¹ – Number presented in brackets represents the number of days traffic volumes were counted to obtain the average

The traffic volume data along the A3 indicate high traffic volumes, especially heading northbound into Precinct 1 in the direction of the intersections between Church Street and Victoria Road, and Devlin Street and Blaxland Road. As a result the A3 is likely to be highly sensitive to any alterations to the movement, flow and vehicle capacity and therefore this will be taken into consideration as part of the PAMP.

The A40 Main Road is a state owned road that connects Rozelle in the east with Seven Hills in the north-west, providing a heavily used commuter route for vehicles travelling between Parramatta and Sydney. The route runs in an east-west orientation and is one of Sydney's longest sections of road. It is a two way road with sections of four and six lanes with dedicated bus lanes incorporated in sections to cater for the high volume of bus routes travelling on the A40. The speed limit is generally 60km/h or 70 km/h. The A40 runs through Precinct 1 along Victoria Road forming a major intersection with Church Street and Devlin Street. The traffic flows along Victoria Road with relevance to the study areas are shown in Table 2.5 and are captured in Precinct 1 on Victoria Road (between Shephard Street and Belmore Street).

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Table 2.5: Average Daily Traffic Volumes along State Road A40

Location	Station ID	Direction	All Days	Weekdays	Weekends
Victoria Road	29005	Westbound	25500 (264) ¹	27500 (142)	22500 (76)
		Eastbound	29200 (315)	31900 (169)	25000 (91)

Source: RMS Annual Average Daily Traffic (AADT) Data 2012

¹ - Number presented in brackets represents the number of day's traffic volumes were counted to obtain the average

The traffic volume data along Victoria Road indicate relatively high traffic volumes. As a result the A40 is likely to be highly sensitive to any alterations to the movement, flow and vehicle capacity and therefore this will be taken into consideration as part of the PAMP.

Wicks Road, which runs through Precinct 2, is classed as being a regional route by RMS although it is still a council owned road. A summary of the classification of all roads in the City of Ryde is shown in Table 2.6.

Table 2.6: Road Classifications

Classification	Identified Roads within Study Precincts		
	Precinct 1	Precinct 2	Precinct 3
State Highway	-	-	-
State Road	Church Street Devlin Street Blaxland Road Lane Cove Road Victoria Road	Lane Cove Road	-
Regional Road	-	Wicks Road	-
Local Road	All Other Roads	All Other Roads	All Other Roads

Source: RMS Schedule of Classified Roads and Unclassified Roads

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2.6.4 Cycling Routes

The City of Ryde currently has in place a series of major bicycle routes along with supplementary off road cycling paths and children’s cycling tracks to cater for a wide variety of bicycle user groups. Each of the three precincts included in this study contains bicycle infrastructure of different quality, purpose and nature.

Precinct 1

Precinct 1 contains one major cycling route which provides a link for cyclists between major centres in the City of Ryde LGA and beyond. The infrastructure on such routes varies at points depending upon the nature of the adjoining road and surrounding environment. The existing major route in Precinct 1 is:

- West East Link – Ermington to Gladesville

This route runs along Morrison Road, providing access across the busy Church Street and an east/west link that does not require any travel through the busy Top Ryde area. The trip along Morrison Road is undertaken along an informal on-road bicycle lane.

Also contained within Precinct 1 is a children’s bicycle track through Ryde Park that is designed to allow a safe and enjoyable environment for children and families to develop their bicycle skills and other bicycle routes not classed as major routes. The layout of bicycle facilities is shown in Figure 2.15.

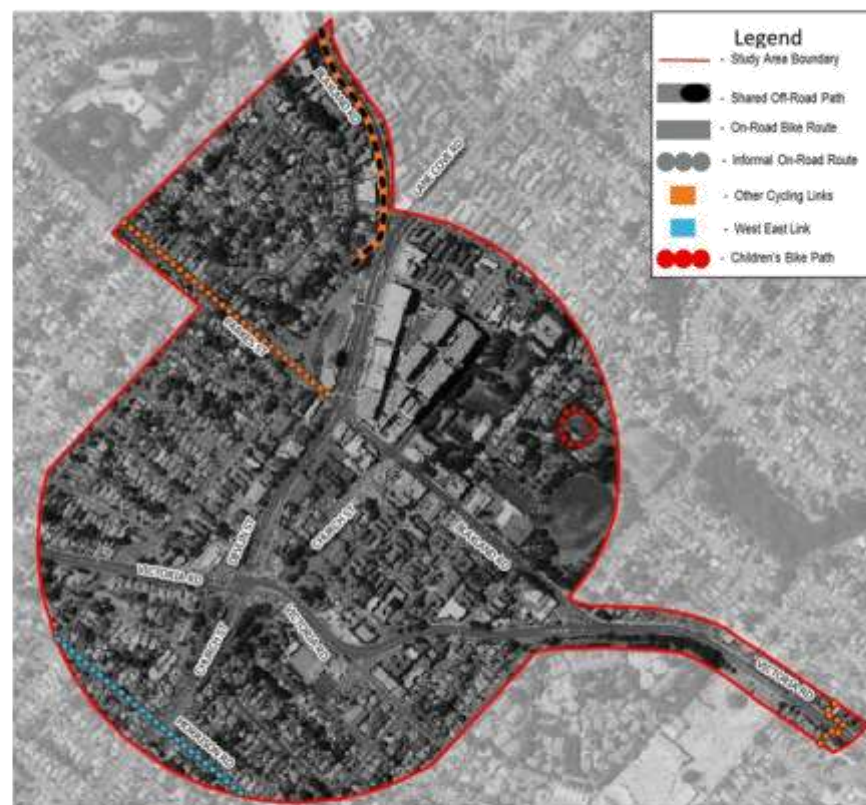


Figure 2.15: Precinct 1 Existing Bicycle Facilities

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Precinct 2

Precinct 2 features a major route along commonly used roads with a connected link along local roads. The major route is a connector between the east and north western region of the City of Ryde whilst the link acts as a safe route with minimal exposure for cyclists to vehicles in between local centres in North Ryde. The existing infrastructure is as follows:

- East - West Northern Link – North Ryde Epping and Hills

This route utilises the commonly used roads in North Ryde, running along Coxs Road, Lane Cove Road and Kent Road. For the majority of Coxs Road the route is an informal on-road cycling lane. However, for the 110m shop frontage at the Coxs Road shops there is a dedicated on-road cycling lane which is painted green. This provides extra protection for cyclists and awareness of potential cyclists to motorists. Signage and line markings exist in the lead up to the cycling lane and on parking spots that immediately join the cycling lane. The route continues as informal on-road cycling on Kent Road and Lane Cove Road. Bicycle parking is also available at Coxs Road Shopping Centre.

- Local Link – Coxs Road Shopping Centre to Avon Road Shopping Centre

Connected to the major route that runs along Coxs Road is a local link connecting Coxs Road Shopping Centre and Avon Road Shopping Centre in North Ryde. The link runs between Coxs Road and Kathleen Street along a shared alleyway before continuing along Kathleen Street to the end of the link as an on-road cycling lane.

Precinct 2 also has other bicycle routes that are not classed as major routes. The layout of bicycle facilities is shown in Figure 2.16.

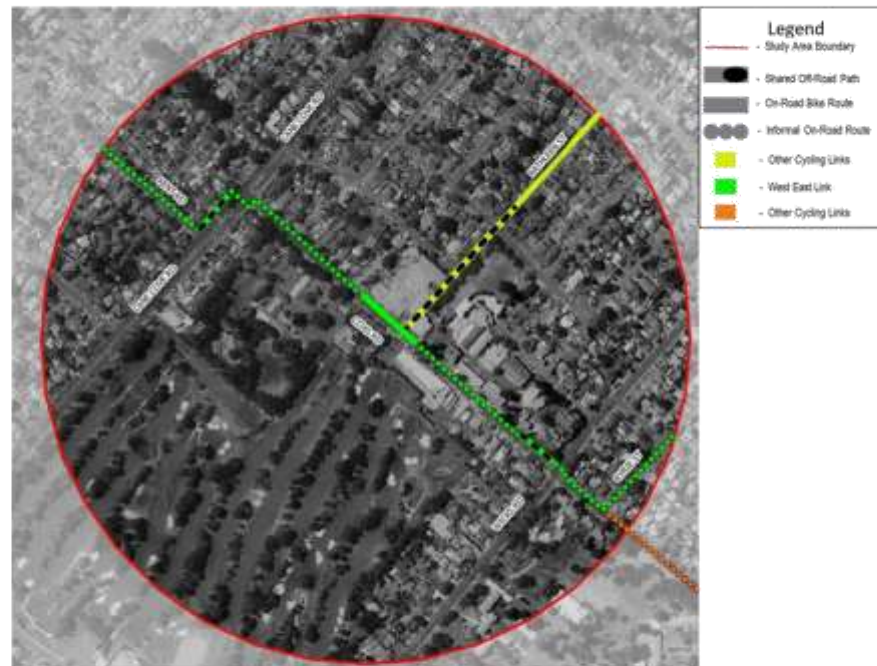


Figure 2.16: Precinct 2 Existing Bicycle Facilities

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Top Ryde
Pedestrian Access and Mobility Plan



Precinct 3

Precinct 3 does not contain any major cycling routes but does have informal on-road cycling lanes exist along Coxs Road, Blenheim Road and Cressy Road. Bicycle parking is available at Blenheim Road Shopping Centre. The layout of bicycle facilities is shown in Figure 2.17.

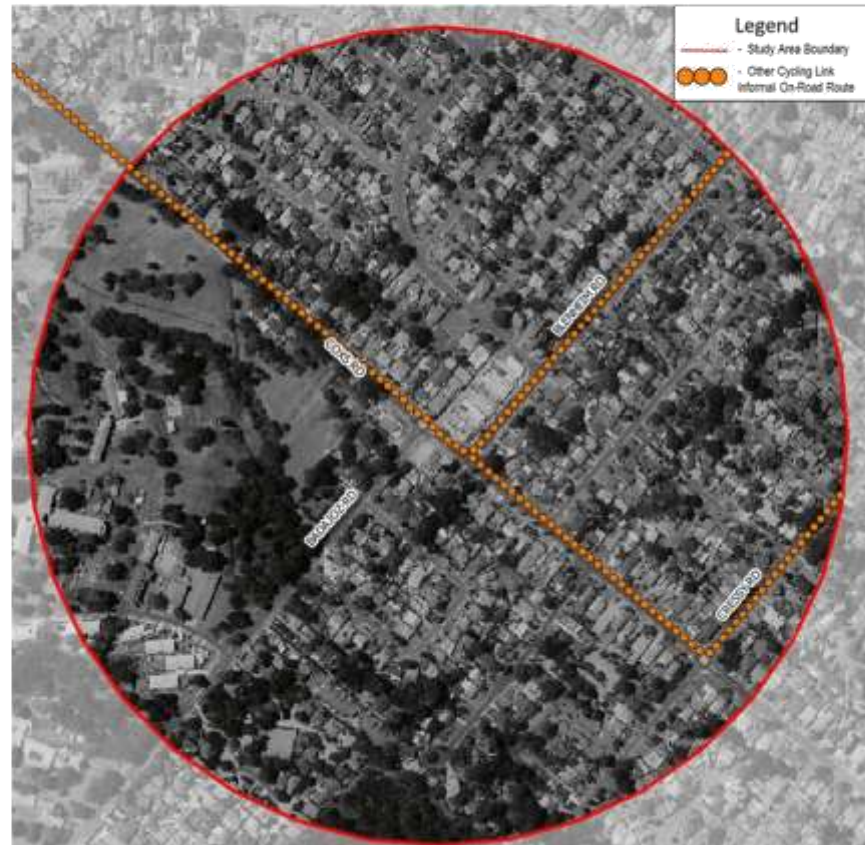


Figure 2.17: Precinct 3 Existing Bicycle Facilities

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3. RESEARCH REVIEW AND DATA COLLECTION

3.1 LITERATURE REVIEW

3.1.1 Australian Government Department of Infrastructure and Regional Development; Pedestrians and Road Safety

The analysis provides a statistical overview of the crashes involving pedestrians over time in Australia to establish and monitor trends to assist in future planning to reduce incidents. The key statistics and trends identified are as follows:

- From 1995 to 2014 there has been 62% reduction in pedestrian fatalities across Australia
- NSW has highest number of pedestrian fatalities and second highest per capita pedestrian fatality rate (per 100,000 people) between 2005-2014
- Pedestrians over 75 are heavily over represented in statistics for pedestrian injuries and fatalities
- Male pedestrians are twice as likely to be fatally injured in road crashes for all ages except 65+
- Cities have higher numbers of crashes involving pedestrians but lower crash rates per capita
- 60% of fatalities occur at 50 or 60 km/h posted speed zones, with the lowest rate of fatality incurred where posted speed zones are between 0 and 40 km/h
- The peak times for crashes involving pedestrians are 6pm to 9pm on weekdays and 12am to 3am on weekends
- From 2009 to 2013 pedestrians have been 2.5 times more likely to be involved in a fatal crash at non intersection locations when compared to intersection crashes.
- Alcohol, drug and mobile device use of pedestrians has not been included in the data collection

PAMP Implication: The key statistics outlined above provide clear areas that must be addressed by any PAMP to ensure that people, locations and times of day that experience heightened levels of crashes are addressed, in order to reduce the likelihood of further incidents.

3.1.2 New South Wales Government; Development and Active Living – Designing Projects for Active Living (2010)

This document outlines the role that new developments play in supporting and encouraging modes of transport that involve physical activity. By integrating the principles of active living into a proposed development, pedestrian movement is encouraged which benefits the development and surrounding area. The five principles of active living as set out by the New South Wales Government are:

- **Walkability and Connectivity:** providing easy, attractive and accessible routes for pedestrians to take between pedestrian generators.
- **Active Travel Alternatives:** viable transport options to and from the development aside from vehicle use should be promoted and integrated into any design.
- **Legibility:** the ability of the surrounding environment to inform pedestrians of their location and possible destinations utilising existing facilities.
- **Quality Public Domain:** providing an environment that is attractive and has a high level of service and priority for pedestrians.
- **Social Interaction and Inclusion:** promote and provide facilities that supply opportunities for a diverse range of people, including all ages, ethnicities and activity levels, to engage in the environment physically.

PAMP Implication: The PAMP outcomes will remain consistent with the principles set out by the New South Wales Government in attempting to reduce the reliance on vehicles in town centres by increasing the attractiveness of travelling by means of physical activity. Connectivity, inclusion, alternatives, quality and legibility are all key components of the desired outcomes.

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3.1.3 Transport for NSW Disability Action Plan 2012-2017

The accessibility of transport facilities is an increasing priority to ensure the services are able to be utilised by as many people as possible. As a result, the facilities provided for pedestrians on their journey to and from transport facilities require attention to allow for access by all user groups. Transport for NSW has dedicated programs that provide funding for the installation of pedestrian facilities that are likely to be heavily used by pedestrians and cyclists and will improve overall accessibility and safety of journeys to transport facilities.

PAMP Implication: The PAMP is able to evaluate certain recommendations and assess whether there is reason to apply to Transport for NSW to fund some of the work identified in this PAMP.

3.1.4 City of Ryde Development Control Plan (2014)

The *City of Ryde Development Control Plan (DCP) 2014* provides the planning controls for developments in the City of Ryde Council Area. The aim of the plan is to ensure that development is consistent and aligns with the natural and cultural heritage values of the City of Ryde while providing for members of the community. The DCP covers all three study areas outlined.

Several sections of the Plan are relevant to this study, including those concerning:

- Ryde Town Centre Part 4.4: Ch 3.1 Pedestrian Access + Through Site Links – with reference to the safe, direct, accessible and efficient pedestrian links in the Ryde Town Centre;
- Blaxland Road (283-289) Ryde Part 6.4: Ch 2.4 Streetscape, Ch 2.7 Access & Ch 2.10 Tree Preservation – with reference to vegetation presentation, streetscape consistency, landscape treatments and access to the development;
- Construction Activities Part 8.1: Ch 3 Existing Footpath Crossings & Ch 4.1 Safety of Pedestrians and Traffic – with reference to the protection, restoration and safety of footpath facilities;
- Driveways Part 8.3: Ch 3 Damages in the Road and Footway – with reference to the use of existing and disused footways for driveway construction; and
- Public Civil Works Part 8.5: Ch 2.2 Construction Standard for Footways, Ch 2.3 Design of Footpath Paving & Ch 2.4 Design of Kerb and Gutter – with reference to the design and construction of footpaths, kerbs and kerb ramps.

PAMP Implication: the objectives of the DCP are able to be taken into consideration by the PAMP when making recommendations to ensure all outcomes are feasible in line with Council's future plans. Of particular note is the aim to improve and identify the direct, safe and accessible routes for pedestrians to, from and around the Ryde Town Centre. Other considerations of note include the desired footpath, kerb and gutter designs and the consistency of streetscapes.

3.1.5 City of Ryde Local Environmental Plan (2014)

The *City of Ryde Local Environmental Plan (LEP) 2014* provides a framework for the development of land with the City of Ryde. The LEP aims to support ecologically sustainable development, that is, development which improves quality of life while maintaining vital ecological processes. The objectives of the plan are to ensure the social needs of residents are met and to promote safe and sustainable access opportunities.

The City of Ryde is primarily a low density residential area with pockets of business parks, light industrial, commercial and recreational areas. The LEP covers all three precincts outlined.

PAMP Implication: It is important that the PAMP provides solutions and recommendations that are for the betterment of pedestrians in a social, physical and sustainable context in the precincts outlined in the City of Ryde. The existing environment and land use of the precincts form an important component when assessing and delivering recommendations.

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3.1.6 City of Ryde Integrated Transport and Land Use Strategy (2007)

The City of Ryde Integrated Transport and Land Use Strategy 2007 (ITLUS) incorporates, among other documents, Ryde Town Centre Public Domain Plan, City of Ryde DCP (2006) and the Feasibility Study for Access Changes in Ryde Town Centre – Traffic and Transport Review (2007) to provide increased safety, improved facilities, management of through traffic and economic prosperity. The ITLUS accompanies the City Wide Integrated Transport and Land Use Strategy but is relevant to the three outlined study areas covered in this report.

Recommendations from the report with relevance to pedestrian and cyclist welfare include:

- Improved safety at pedestrian crossings;
- Upgraded footpath links;
- Additional pedestrian crossings;
- Improved lighting of pedestrian access ways;
- Separation of vehicle and pedestrian signalised green times; and
- Improved and upgraded safety features such as barriers and guard rails.

PAMP Implication: The ITLUS provides key focus areas relevant to the precincts that the PAMP must address. By understanding the existing facilities that in need of improvement the PAMP is able to provide a focused and more thorough analysis of measures to improve each item.

3.1.7 Ryde Town Centre Public Domain Plan 2006

The *Ryde Town Centre Public Domain Plan* (2006) aims to provide an attractive and safe place for people to live, work and visit. A diverse array of spaces that allow for commercial opportunities as well as various public spaces will seek to reinforce Ryde Town Centre as a civic and commercial hub of the City of Ryde. Pedestrian provisions and access ways play an important role in the future planning of Ryde Town Centre. These include:

- Equitable access for pedestrians and vehicles;
- Selection of attractive, consistent, reliable and safe paving materials for footpaths;
- Promotion of pedestrian links and open areas through increased presence of strategic landscaping;
- Improve pedestrian access to Ryde Town Centre from Develin Street including widening of footpaths and safe access to shopping centre;
- Including pedestrian links between key sites in Ryde Town Centre to promote pedestrians to access a variety of sites safely and with ease of access;
- Changes to traffic movement to increase the safety and ease of access for pedestrians along with improved bicycle facilities; and
- Improvement of pedestrian amenities in general to ensure safety is upheld.

Some provisions recommended in the *Ryde Town Centre Public Domain Plan* (2006) have already been implemented, such as pedestrian bridges allowing safe pedestrian access from the western side of Develin Street to Top Ryde Shopping Centre.

PAMP Implication: When assessing the Town Centre and necessary improvements the PAMP has specific outcomes that the City of Ryde aim to implement into the future. By considering the vision of the CoR the PAMP will seamlessly fit with other developments and future developments.

3.1.8 City of Ryde Bike Plan 2014

The *City of Ryde Bike Plan* (2014) proposes to reduce the reliance of car use for short trips (trips of less than approximately 5km) by improving bicycle facilities and promoting bicycle use in the Ryde area with the assistance of targeted education programs and events. The plan aims to promote and provide access for bicycle use for a variety of uses including riding to work and school, for a variety of bicycle users. Outlined in the plan is the need to improve the environment and safety for cyclists, to increase the participation of females

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in cycling and to promote the benefits of cycling in a bid to increase bicycle use and reduce car use. The timeframe for establishing a new and improved network is 5 years, with liaison between key local cycling groups and Council parties key to securing the best plan for the future.

Routes have been separated in regional routes (RR), local routes (LR) and local links (LL) to distinguish between the focus on connecting Ryde with its surrounds and providing quality connections within the existing precincts in Ryde. The following cycling routes within the prescribed study zones are planned to undergo upgrades as part of the plan:

- RR04 Chatswood to Burwood – Upgrades are proposed to Badajoz Road, Cox's Road and Blenheim Road;
- RR09 – Upgrades are proposed to Cox's Road and Cressy Street;
- LR06 – Upgrades are proposed to Argyle Avenue, Blaxland Road and Church Street;
- LR12 – Upgrades are proposed to Blaxland Road;
- LR14 – Upgrades are proposed to Parkes Street;
- LR15 – Upgrades are proposed to Morrison Road;
- LL13 Cox's Road Shops to Blenheim Road Shops – Upgrades are proposed to Kathleen Reserve Laneway, Kathleen Street and Cutler Parade; and
- LL16 Top Ryde Link – Upgrades are proposed to Tucker Street and Smith Street.

In addition to the upgrades to routes, increased provisions are to be introduced into selected areas to increase the priority, availability, quality and safety of bicycle parking. The following areas within the prescribed study zones will receive additional bicycle parking facilities to promote bicycle use to train stations and bus stops as part of the plan:

- Top Ryde Shopping Centre bus stops (Devin Street and Blaxland Road). This is a high importance project, on par with upgrades to Eastwood, Macquarie Park and Macquarie University train stations.

The following areas within the prescribed study zones will receive public domain priority areas for bicycle parking to promote bicycle use as part of the plan:

- Top Ryde Shopping Centre;
- Cox's Road Shopping Centre; and
- Blenheim Road Shopping Centre.

PAMP Implication: When assessing further improvements to cycling access in the City of Ryde the PAMP has a reference to cycling facilities in place and what is planned for the future. This reduces the risk of conducting unnecessary and contradictory work in relation to bicycle facilities.

3.1.9 Parsons Brinckerhoff Feasibility Study for Access Changes in Ryde Town Centre – Traffic and Transport Review (2007)

The basis of the report was to assess the options surrounding the pedestrian phasing at Devin Street/Blaxland Road signalised intersection. However, as this project has been resolved and implemented with the installation of pedestrian bridges across Devin Street there is little relevance in the bulk of the document. What was established and reinforced though is the general peak pedestrian times of the day. They are as follows:

- Morning Peak: 8:00 am to 9:00 am
- Midday: 12:00 pm to 1:00 pm
- Afternoon Peak: 3:00 pm to 4:00 pm

These peaks were formalised in the *Transport and Master Plan Study* undertaken by PPK (now Parsons Brinckerhoff) in 1998 and were found not to have changed in 2006 when further investigation was taken.

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PAMP Implication: The PAMP is able to assess pedestrian flows at peak and non-peak times to understand the existing volumes and the issues these present without having to further count and evaluate pedestrian activity. This reduces the time required on site and analysing data, which can then be focussed on other tasks in the PAMP.

3.2 DESIGN STANDARDS

The design standards adopted include a combination of Australian Standards, Austroads Guides and local RMS technical directions and model drawings (see Appendix A for details). Some of the reference documents used include:

Footpaths and Kerb Ramps:

- Australian Standard AS 1428.4.1 – 2009: Design for Access and Mobility;
- Austroads Guide to Road Design Part 6A, Pedestrian and Cycle Paths; and
- NSW Bicycle Guidelines (RTA2005).

Crossings:

- RMS model drawings MDR173.B01.A1;
- Austroads Guide to Road Design Part 4, Intersections and Crossings;
- Australian Standard AS 1428.1 – 2009: Design for Access and Mobility;
- Australian Standard AS 1742.10: Pedestrian Control and Protection;
- RMS Technical Direction TDT 2002/12b (Stopping and Parking Restrictions at Intersections and Crossings);
- RMS Technical Direction TDT 2011/01a (Pedestrian Refuges); and
- Australian Standard AS 1158.4.

Bus Stops:

- Disability Standards for Accessible Public Transport 2002.

A full list of references is included in Appendix A

3.3 FUTURE DEVELOPMENT APPLICATION APPROVALS

The development applications approved for the near future are an essential inclusion in the PAMP to effectively evaluate the entire pedestrian network to be taken into consideration when developing recommended improvements to pedestrian facilities. Each development application requires individual and collective consideration applied to the likely pedestrian attraction, generation and journeys to capture the potential pedestrian activity concentration. Where new and/or elevated pedestrian activity concentrations occur as a result of new developments improved and/or increased levels of pedestrian facilities may be required. The future development applications with potential impact on the precincts outlined are as follows:

1. 86-94 Blaxland Road (LDA2012/0259): Mixed Use Development containing 24 apartments and ground floor commercial space.

With increased rates of residence and attraction and generation of pedestrians due to the new commercial space, this development is likely to increase the pedestrian activity in the surrounding area. The signalised intersection with pedestrian crossing provisions on each approach between Blaxland Road and Church Street / Tucker Street is likely to see increased pedestrian activity as a result of the development as this is the main access point from the already busy areas found to the north-west of the development site.

2. 7-11 Smith Street (LDA2014/378): Residential Flat Building containing 35 apartments.
3. 8-10 Smith Street (LDA2013/448): Residential Flat Building containing 16 apartments.

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With increased rates of residence this development is likely to increase the pedestrian activity in the surrounding area. The signalised intersection with pedestrian crossing provisions on the western approach along Pope Street and the northern approach along Smith Street is likely to see increased pedestrian activity as a result of the development as this is the only route to Top Ryde Shopping Centre and connecting public transport services.

4. 35-37 Devlin Street (LDA2014/362): Mixed Use Development containing 24 apartments and ground floor commercial suites.

With increased rates of residence and attraction and generation of pedestrians due to the new commercial space this development is likely to increase the pedestrian activity in the surrounding area. The signalised intersection with pedestrian crossing provisions on the Western approach along Victoria Road and the northern and southern approach along Devlin Street is likely to see increased pedestrian activity as a result of the development. Other areas that may see increased pedestrian activity include the pedestrian crossings on each slip lane between Victoria Road and Devlin Street, the pedestrian crossings and island across Church Street and the footpaths along both sides of Devlin Street.

5. 684-686 Victoria Road (LDA2013/179): Residential Flat Building containing 18 apartments.

With increased rates of residence this development is likely to increase the pedestrian activity in the surrounding area. The footpath on the southern side of Victoria Road may experience more pedestrian traffic travelling east to the signalised intersection to cross Victoria Road and Blaxland Road towards Top Ryde Shopping Centre and public transport facilities.

6. 46 Gladstone Avenue (LDA2013/173): Residential Flat Building containing 12 apartments.

With increased rates of residence this development is likely to increase the pedestrian activity in the surrounding area. The alleyway access between Gladstone Avenue and Victoria Road is likely to experience increased pedestrian activity. Additionally the footpath on the southern side of Victoria Road may experience more pedestrian traffic travelling east to the signalised intersection to cross Victoria Road and Blaxland Road towards Top Ryde Shopping Centre and public transport facilities.

7. 734 Victoria Road (LDA2014/449): Mixed Use Development containing 26 apartments and 2 commercial suites.

With increased rates of residence and commercial appeal this development is likely to see increased pedestrian activity in the surrounding area. The mid-block signalised crossing to the east across Victoria Street is likely to experience more pedestrian traffic as will footpaths along Church Street as residents and workers move towards the Top Ryde Shopping Centre and Public Transport facilities.

8. 55 Blaxland Road (LDA2014/412): Boarding House containing 91 rooms.

With increased rates of residence and commercial appeal this development is highly likely to see increased pedestrian activity in the surrounding area as boarding houses are considered low cost housing which generally produces more pedestrian trips per occupant. The mid-block signalised crossing to the north across Tucker Street is likely to experience more pedestrian traffic as will be signalised intersection with pedestrian crossing provisions on each approach between Blaxland Road and Church Street / Tucker Street as residents and workers move towards the Top Ryde Shopping Centre and Public Transport facilities.

9. 52 Blaxland Road (LDA2013/113): Boarding House containing 20 rooms.

With increased rates of residence and commercial appeal this development is highly likely to see increased pedestrian activity in the surrounding area as boarding houses are considered low cost housing which generally produces more pedestrian trips per occupant. The signalised intersection with pedestrian crossing provisions on each approach between Blaxland Road and Church Street / Tucker Street as residents and workers move towards the Top Ryde Shopping Centre and Public Transport facilities.

Overall the key intersections that need to be considered for increased pedestrian movements are the signalised intersections at Pope Street and Smith Street, and Blaxland Road and Tucker Street / Church

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Street. These intersections have the most significant quantity of developments, increased levels of occupancy, developments likely to generate pedestrian activity and lie along access routes to Top Ryde Shopping Centre and public transport hubs. The location of the future developments and intersections which are likely to experience increased pedestrian traffic flows are shown in Figure 3.1.

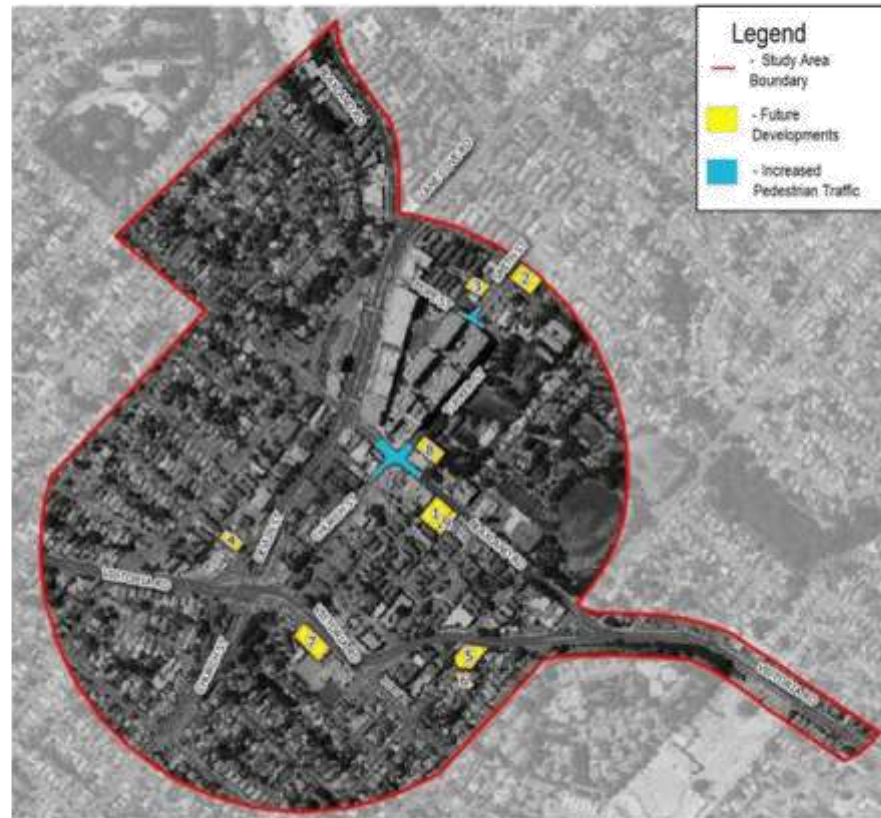


Figure 3.1: Future Development Application Approved Sites

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3.4 PROPOSED AND CURRENT WORKS

3.4.1 City of Ryde Four Year Delivery Plan 2015-2019

The *City of Ryde Four Year Delivery Plan 2015-2019* provides a comprehensive overview of all planned worked and the budgeting strategies for upgrades to a wide variety of assets in the LGA. Included in the plan are a number of works, shown in Table 3.1, that have direct relation to the three precincts included in the PAMP which are as follows:

Table 3.1: Planned Works for City of Ryde 2015-2019

	Period	Base Budget	Special Rate Variation Budget
Road Surface Renewal	2015/16		Church Street (Wandoo Ave - Willandra St)
	2016/17	Church Street (Wandoo Ave - Willandra St) Belmore Street (Victoria Rd - Willandra St)	Cutler Parade (Edmondson St - Chauvel St) Belmore Street (Victoria Rd - Willandra St)
	2017/18	Cutler Parade (Edmondson St - Chauvel St)	Kathleen Street (#11 - Beatrice St) Marilyn Street (Amelia St - Folkard St) Dunbar Street (Samuel St - Samuel St)
	2018/19	Cooney Street (Cul De Sac (S) - Folkard St) Kathleen Street (#11 - Beatrice St) Marilyn Street (Amelia St - Folkard St) Willandra Street (#14 - Cul De Sac (N))	Wicks Road (Ent2 Maq Hos - Farrington Pde) Kent Road (Lane Cove Rd - Pindari St)
Road Kerb Renewal	2015/16		
	2016/17	Kent Road (Pindari Street - Gibb Street)	Kent Road (Pindari Street - Gibb Street)
	2017/18	Badajoz Road (Cox's Rd - Twin Rd)	Badajoz Road (Cox's Rd - Twin Rd)
	2018/19	Cox's Road (Wicks Rd - Lane Cove Rd) Belmore Street (Parkes St - Primrose Ave) Princes Street (Turner Ave - Blaxland Rd)	Cox's Road (Wicks Rd - Lane Cove Rd) Belmore Street (Allen Ave - Primrose Ave) Princes Street (Turner Ave - Blaxland Rd)
Footpath Construction - Expansion	2015/16	Samuel Street (#39 Samuel St - opposite)	Samuel Street (#39 Samuel St - opposite)
	2016/17	Jopling Street (Coxs Rd to Blenheim Rd)	Jopling Street (Coxs Rd to Blenheim Rd)
	2017/18	Tobruk Street (Cutler Pde - Edmondson St)	Tobruk Street (Cutler Pde - Edmondson St)
	2018/19	Amelia Street (Marilyn St - Lorna Ave)	Amelia Street (Marilyn St - Lorna Ave)

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Other important works that are outlined in the document include:

- 741 Victoria Road: this site will be redeveloped and will comprise residential, commercial and retail mixed use spaces. This is likely to have an increased pedestrian generation and attraction rate on completion. It is also likely that new pedestrian facilities will be installed surrounding the property as a result of the development.
- 33-41 Blaxland Road: City of Ryde Council is in the process of exploring its options to convert the existing empty spaces to provide additional retail, commercial and/or residential space. This is likely to have an increased pedestrian generation and attraction rate on completion. It is also likely that new pedestrian facilities will be installed surrounding the property as a result of the development.
- Footpath Construction Renewal (no relevant locations)
- Cycle ways Construction Expansion
- Shop Ryder Community Bus Service
- Road Safety Plan
- New Bus Stop Shelters and Seats
- Bus Stop DDA Compliance
- Traffic Calming Devices
- Traffic Facilities Renewal
- Shared Path Signage
- Coxs Road Neighbourhood Centre Renewal

3.4.2 Cycling Routes

The City of Ryde has developed a masterplan that will oversee the upgrade of existing infrastructure and installation of new infrastructure with the intention of increasing bicycle usage over the next 10 years. The cycling routes are separated into three different categories to provide facilities to for cyclists of all levels of ability and for varied purposes of cycling. The bicycle routes and their objectives are set out as below:

- **Regional routes:** identified as high priority routes that aim to provide high quality and unhindered travel between major centres located in the City of Ryde. The maintenance standard of such routes is to be in line with regional road standards to allow for operational speeds of 30 km/h or greater. The route is separated between dual on road and off road travel paths with prioritised linkage to major transport nodes. The regional cycling routes are designed for allowing for bicycle movement as the first priority and accessibility as a secondary priority.
- **Local Routes and Links:** identified as medium priority routes that aim to provide a quality linkage between residential streets and regional bicycle routes. The pavement maintenance standard is to be in line with local road standards to allow for operational speeds of between 20 and 30 km/h. Each local route or link is designed with equal priority to bicycle movement and accessibility.
- **Bicycle-friendly Streets and Neighbourhoods:** identified as low priority routes that aim to provide local residences short and easy local access in low stress environments. The pavement maintenance is dependent upon the traffic volumes experienced by the street and the location of the street with relation to the probability of use by bicycles. The design operational speed of trips along local streets is to be below 20 km/h with particular attention paid to access rather than movement.

Precinct 1

Precinct 1 contains a variety of cycling options for cyclists whilst eliminating exposure of routes to Victoria Road and minimising the exposure to Church Street/Devlin Street/Blaxland Road. Existing bicycle infrastructure and routes are as follows:

- **Regional Routes (RR):** the only regional route to intercept Precinct 1 is RR04. The route runs along Charles Street before crossing Victoria Road at a signalised crossing on the Eastern approach and continuing along Providence Street via an access alley from Victoria Road. This route acts as a link between Chatswood and Burwood.
- **Local Routes (LR):** Precinct 1 is intercepted by three Local Routes.
 1. LR06 - Macquarie Park to Putney. The route runs from Ryde Park in a series of paths and alleys before intercepting Argyle Avenue which provides informal on road facilities. The

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route continues as informal on road cycling along Blaxland Road before moving south along Church Street and utilising the signalised intersection to cross Victoria Road. From there the route makes use of a path through a park to connect to local street Wandoo Avenue and continues along Gladstone Street and Morrison Road.

2. LR12 – Eastwood to Top Ryde: The intercepted area of LR12 and Precinct 1 occurs entirely along the western side of Blaxland Road. The route is accessed via a shared path between cyclists and pedestrians with centre and lane markings provided to ensure users interact safely.
 3. LR14 – West Ryde to Top Ryde: Informal on road cycling along Parkes Street which merges with LR12 at the intersection with Devlin Street provides the access for LR14.
- Local Links (LL): LL16 (Top Ryde Link) runs along Tucker Street before continuing along Pope Street and then Smith Street. This acts as a link between LR12 where Church Street becomes Tucker Street and RR09 where Smith Street intercepts with Buffalo Road. A footpath separated from the road by a pedestrian fence exists on the eastern side of Tucker Street before continuing along the outlined route, ensuring cyclists are not required to ride on the road.

Precinct 2

Precinct 2 features direct bicycle facilities which predominantly follow the main roads and public transport routes to provide access to Coxs Road shops. Existing bicycle infrastructure and routes are as follows:

- Regional Route (RR): A route connecting Epping and Lane Cove (RR08) passes through Precinct 2, utilising Kent Road and Coxs Road. Lane Cove Road is used briefly to access the signalised crossing provisions at the intersection between Lane Cove Road and Coxs Road. The route is an informal on road cycling route except for a 110 metre dedicated on road cycling lane along the Northern side of Coxs Road in front of the Coxs Road shops.
- Local Route (LR): LR06 uses Wicks Road and Truscott Avenue as access between Marsfield and East Ryde. This route is suggested as off road path adjacent to the road along Wicks Road and informal on road cycling along Truscott Street.
- Local Links (LL): the following local links exist within Precinct 2:
 1. LL11 – Shrimptons Creek to Coxs Road: This link connects RR08 with LR10 (Parramatta Valley Cycleway) before continuing to connect with RR03 (Mona Vale to West Ryde). The link continues from RR08 along the footpaths provided on the western side of Lane Cove Road before becoming informal on road cycling along the length of Truscott Road.
 2. LL13 – Coxs Road Shops to Blenheim Road Shops Link: The outlined route provides a quieter and safer alternative linking Coxs Road shops with the Blenheim Road Shopping Centre. It connects RR08 firstly with LL12 by accessing the alley way from Coxs Road.
 3. Road to Kathleen Street before continuing along Beatrice Street. The link continues where it intercepts LL06 along Ryrie Street before reaching RR04 and Blenheim Road Shopping Centre via Edmondson Street and Cuffer Parade. The link is informal on road cycling, apart from the initial access to Kathleen Street by an alley way from Coxs Road.

Precinct 3

Precinct 3 bicycle paths are as follows:

- Regional Routes (RR):
 1. RR04 – Chatswood to Burwood: The route runs along Badajoz Road before utilising an existing pedestrian refuge to cross Coxs Road and then continue along Blenheim Road.
 2. RR08 – Epping to Lane Cove: The route continues through Precinct 3 along only Coxs Road.

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- Local Link (LL): The link in Precinct 3 is LL13, connecting Blenheim Road Shopping Centre with Coxs Road shops and providing a safer access than along Coxs Road. The link's layout and characteristics are described in the Precinct 2 bicycle cycling route description.

The classification and schedule of work to be undertaken is shown in Table 3.2 and Table 3.3.

Table 3.2: Classification of Relevant Upgrade Works

Ref	Location	Description	Design Details
S01	On-road	Separated two-way on-road cycleway	Separated two-way cycleway along one side of roadway. Special bent out treatments at intersections
S03A	On-road	Shared path	Two-way shared path 3.0m wide
S03B	Off-road	One-way pair of off-road bicycle paths	One-way pair bicycle paths on footpath with bent-in intersection treatments
S04	On-road	Bicycle lanes	9.0m road - 2 x 1.5m bicycle lanes, 2x 3.0m traffic lanes
S07	On-road	Mixed Traffic	Wide or narrow profile

Source: CoR Bike Plan 2014

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Table 3.3: Schedule of Relevant Upgrade Works

Route Segment	Location	Treatment Details and Recommendations
RR	REGIONAL ROUTES	
RR04	Chatswood to Burwood (\$1,688,322)	Via Blenheim Road, Coxs Road, Providence Street, Charles Street
3	Blenheim Road and Badajoz Road, from Pittwater Road to Twin Road	Standard Treatment S04
8	Providence Road	Standard Treatment S07. Includes ramp at southern end
9	Charles Street (Victoria Road to Kenneth Road)	Standard Treatment S03B with bent in intersection treatments. Add pedestrian crossing on western leg of Victoria Road.
RR08	Epping to Lane Cove (\$924,580)	Via Kent Road, Coxs Road
6	Kent Road	Standard Treatment S04
7	Lane Cove Road	Standard Treatment S03A. Includes signal adjustments at Coxs Road
8	Coxs Road - Wicks Road to Kathleen Street Pathway Link	Standard Treatment S01. Special bent-in treatments at intersections
9	Coxs remainder	Standard Treatment S03A
LR	LOCAL ROUTES	
LR06	Macquarie Park to Putney (\$558,052)	Via Wicks Road, Ryde Park, Argyle Avenue, Blaxland Road, Church Street, Wandoo Avenue, Gladstone Avenue, Morrison Road
3	Wicks Road	Standard Treatment S03A
4	Blaxland Road, Church Street, Wandoo Avenue	Standard Treatment S07. Includes allowance for minor civil and traffic works. Includes new section of shared path along Blaxland Road
5	Morrison Road	Standard Treatment S03B with bent in intersection treatments.
6	Victoria Crossing	Signal phasing adjustments, new crossing, bike lamps
LR12	Eastwood to Top Ryde (\$427,220)	Via Blaxland Road
4	Blaxland Road to Parkes Street	Standard Treatment S03B with bent in intersection treatments.
LR14	West Ryde to Top Ryde (\$11,421)	Via Parkes Street

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Route Segment	Location	Treatment Details and Recommendations
1	Parkes Street	Standard Treatment S07. Includes shared path signage for Blaxland Road and bike lamps at signals at Blaxland Road / Park Street.
LOCAL LINKS		
LL11	Shrimpton's Creek to Cows Road Link	Via Lane Cove Road, Trevitt Road
1	Trevitt Road and Lone Cove Road path	Standard Treatment S07.
LL13	Coxs Road Shops to Blenheim Road shops Link	Via Kathleen Reserve, Kathleen Street, Wicks Road, Edmondson Street, Cutler Parade
1	Pathway from shops to Kathleen Reserve, Kathleen Street, Wicks Road, Edmondson Street, Cutler Parade	Standard Treatment S07.
LL16	Top Ryde Link	Via Tucker Street, Smith Street
1	Tucker Street and Smith Street	Standard Treatment S07

Source: CoR Bike Plan 2014

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4. DATA COLLECTION AND REVIEW

4.1 PEDESTRIAN TRIP GENERATORS AND ATTRACTORS

The focal point of pedestrian activity in Precinct 1 is the Top Ryde Shopping Centre. Additional pedestrian attractors and generators exist within close proximity to the Top Ryde Shopping Centre in the form of Ryde Public School, Ryde Park, churches and early learning centres. Apart from the residential areas, the main land use is the commercial and retail sector including and surrounding Top Ryde Shopping Centre classed as mixed use. The majority of the remaining area in Precinct 1 is low density residential with small pockets of high density residential area as well. The identified pedestrian generators for Precinct 1 are shown in Figure 4.1.

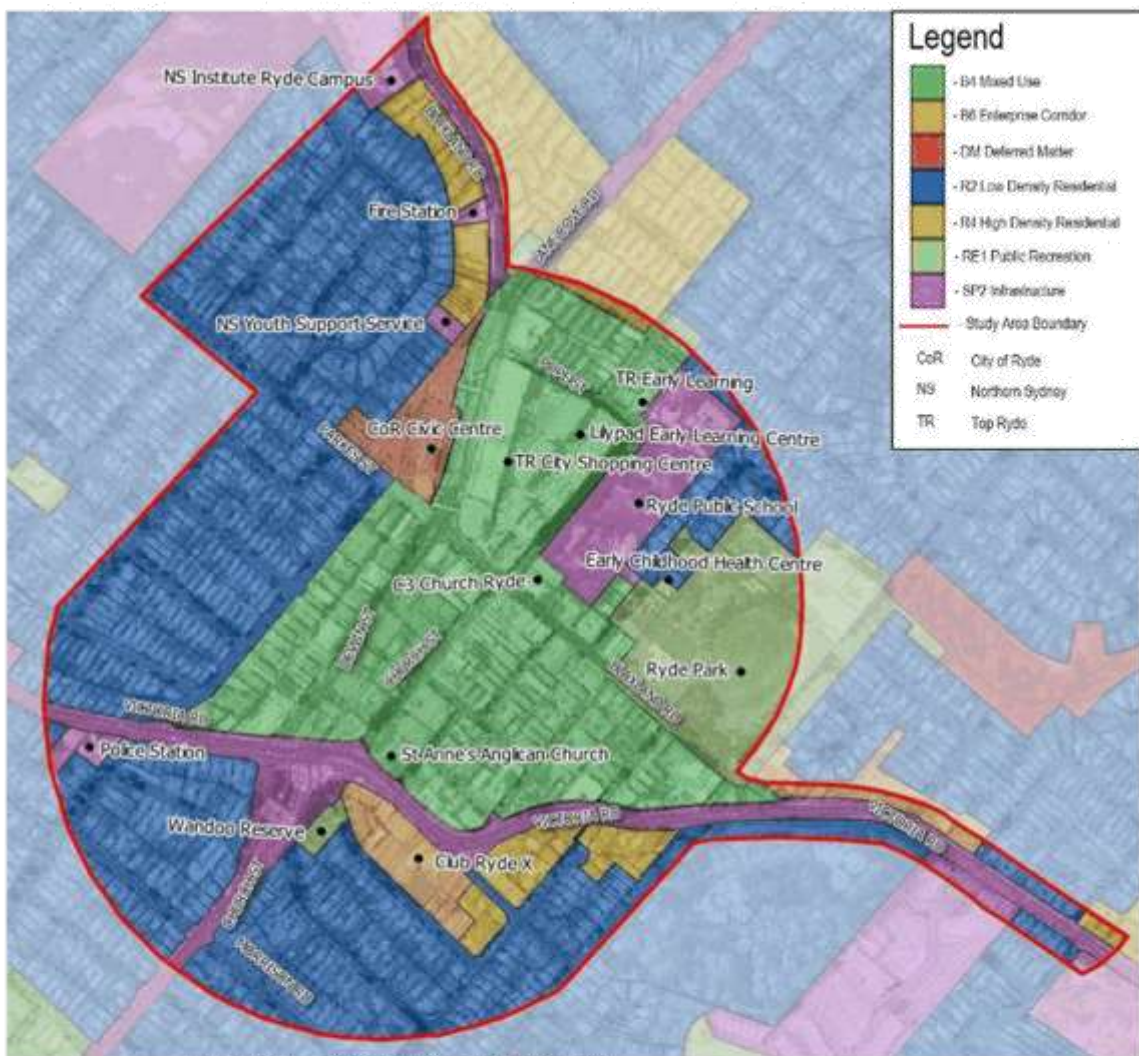


Figure 4.1: Pedestrian Generators Precinct 1

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The greatest generator of pedestrian movement in Precinct 2 is the Coxs Road Shopping Centre. Located within a close proximity of the shopping centre is North Ryde Public School and Holy Spirit Catholic Primary School North Ryde which both generate significant pedestrian activity around starting and finishing times. Additional pedestrian attractors and generators in Precinct 2 include the North Ryde Library, Community Centre, churches and early learning centres. The majority of the remaining area in Precinct 2 is low density residential. The identified pedestrian generators for Precinct 2 are shown in Figure 4.2.

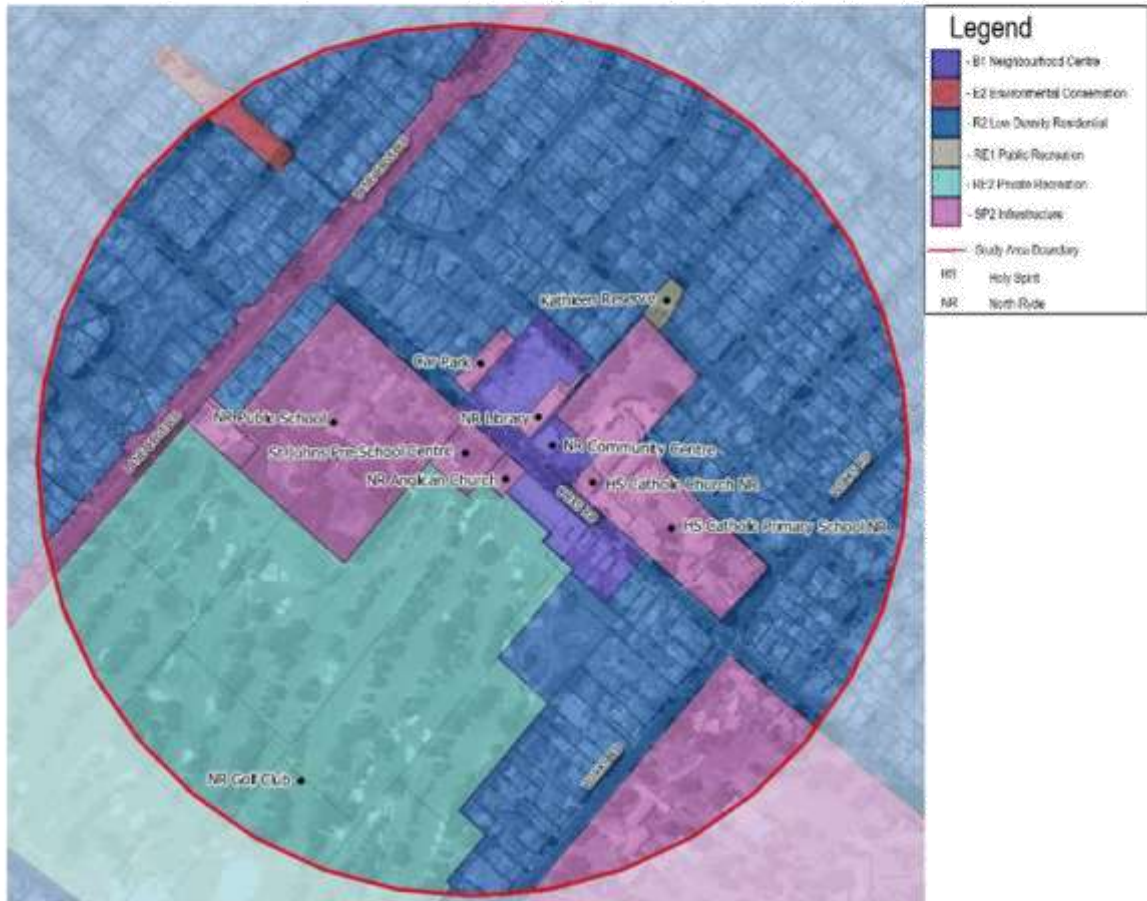


Figure 4.2: Pedestrian Generators Precinct 2

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Pedestrian activity in Precinct 3 is low when compared with Precinct 1 and Precinct 2. The Blenheim Road Shopping Centre acts as the main pedestrian attractor and generator but there is very little in the way of other infrastructure that generates pedestrian movement surrounding the shops. Two churches and one early learning centre exist within Precinct 3 but overall the vast majority of the land use is low density residential. The identified pedestrian generators for Precinct 2 are shown in Figure 4.3. Figure 4.2

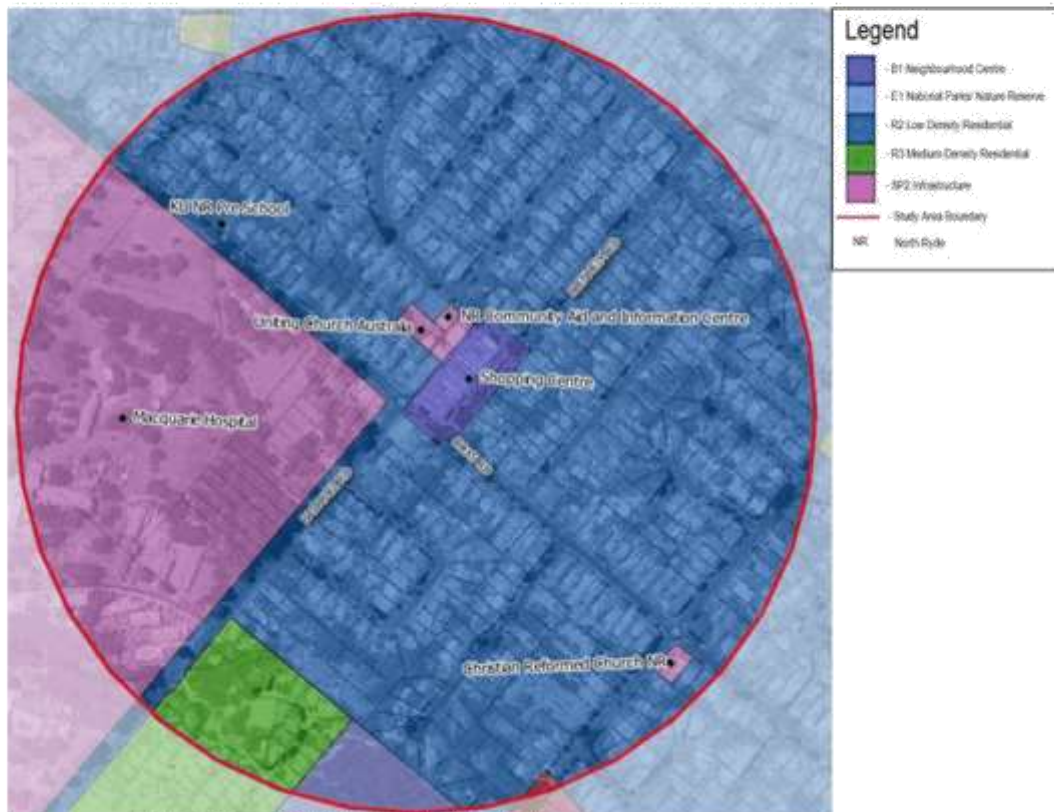


Figure 4.3: Pedestrian Generators Precinct 3

4.2 PEDESTRIAN RELATED CRASH AND INJURY DATA

The crashes involving pedestrians, cyclists and motorcyclists were analysed for the three designated precincts in the City of Ryde LGA for the years 2009-2013. Due to new reporting policies implemented in 2014 and after analysis of these results it was determined the data was minimal and negligible in comparison to the previous reporting procedures and thus 2014 was excluded from the analysis to maintain consistency in data presentation. It should be noted that crashes involving pedestrians are generally under reported and actual incidence rates may be higher than represented in official statistics. The number of crashes and the severity is shown in Figure 4.4.

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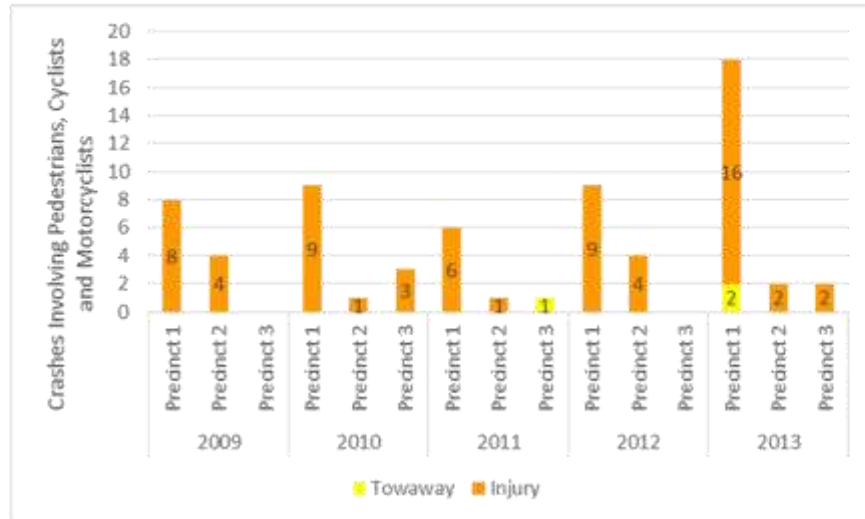


Figure 4.4: Number of Crashes Involving Pedestrians, Cyclists and Motorcyclists in each Precinct from 2009-2013

The key outcomes from the crash data analysis of each Precinct for crashes involving pedestrians, cyclists and motorcyclists include:

- A total of 68 crashes were reported between 2009 and 2013 in the Precincts designated for study. Of these crashes 30 involved motorcycles, 7 involved pedal cycles and 33 involved pedestrians (some accidents involved motorcycles and/or pedestrians and/or pedal cyclists).
- Of the 68 crashes observed 66 resulted in injuries (97%).
- Crashes involving pedestrians totalled 33 which is 49% of the total for the categorised crashes analysed.
- The crashes were generally spread along the main traffic corridors of Victoria Road, Blaxland Road, Coxs Road and Lane Cove Road/Devin Street/Church Street.
- Of the reported pedestrian category crashes 41 (60%) were located at an intersection.
- The spread of crashes throughout the day is relatively as expected with fewer crashes between 7 p.m and 7 a.m and more crashes between 10 a.m and 7 p.m. The AM Peak period (7 a.m to 10 a.m) had half of the crashes as observed in the PM Peak (3:00 p.m to 7 p.m), however.

Of the 33 crashes involving pedestrians all incidents resulted in a reported injury. The breakdown of each of these crashes is presented in Table 4.1.

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Top Ryde
Pedestrian Access and Mobility Plan



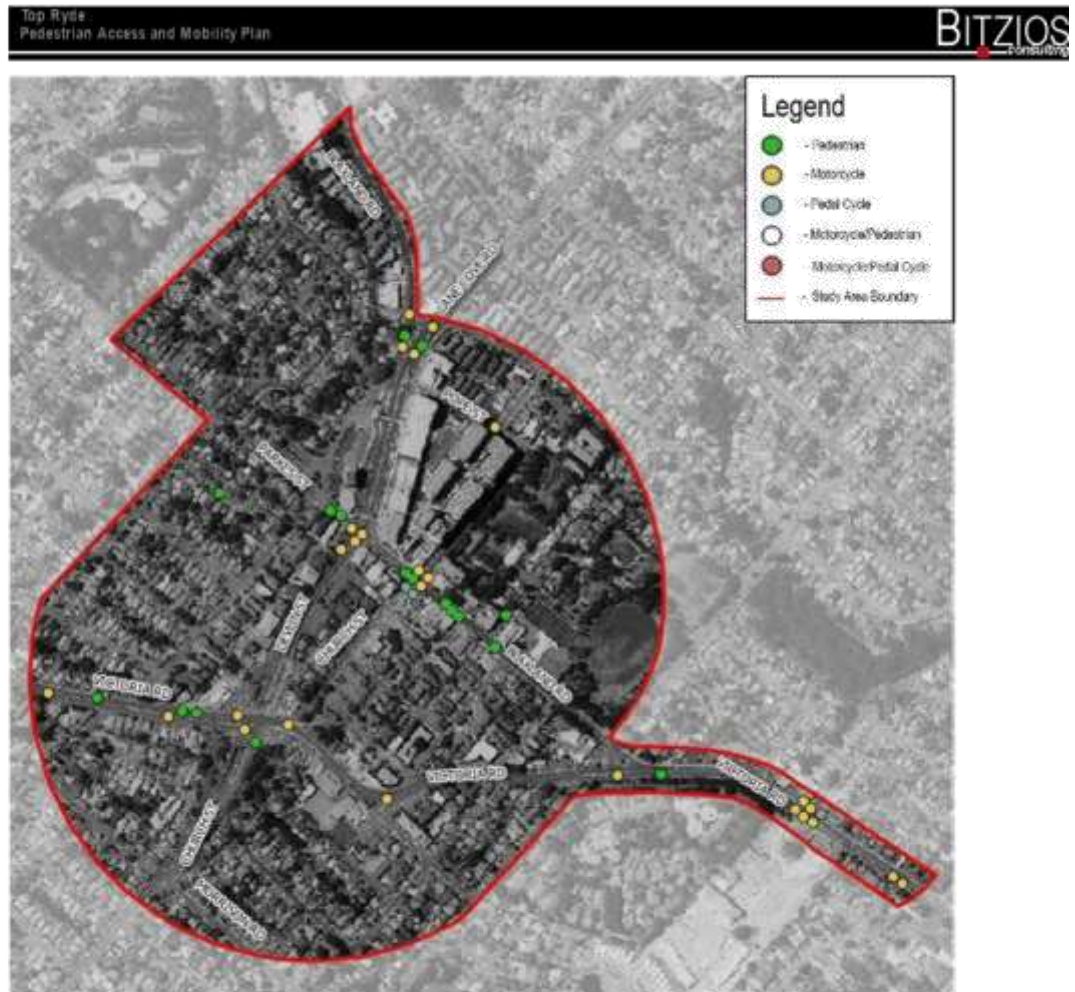
Table 4.1: Summary of Pedestrian Crashes in Each Precinct in 2009-2013

Precinct	Location	Cross Street or Nearby Feature	Pedestrian Crash Type (Road User Movement)	Time and Date of Crash
1	VICTORIA RD	70m East of BLAXLAND RD	5: Facing Traffic	22:00 on 15/09/2010
1	EDWARD ST	1m South of BLAXLAND RD	1: Emerging	21:55 on 20/03/2012
1	BLAXLAND RD	190m East of DEVLIN ST	4: Walking with Traffic	20:40 on 09/06/2011
1	BLAXLAND RD	On the Spot of BELMORE LANE	3: On Carriageway	17:18 on 26/11/2009
1	BLAXLAND RD	20m West of EDWARD ST	2: Far Side	16:35 on 06/03/2012
1	NICOLL AVE	On the Spot of NUMBER 8 HN	Near Side	16:10 on 13/10/2013
1	BLAXLAND RD	On the Spot of CHURCH ST	1: Emerging	15:50 on 18/11/2009
1	ARGYLE AVE	50m North of BLAXLAND RD	3: On Carriageway	15:30 on 18/04/2009
1	SMITH ST	1m North of POPE ST	3: On Carriageway	15:00 on 19/12/2012
1	VICTORIA RD	30m West of BELMORE ST	703: Unknown	14:35 on 18/09/2013
1	BLAXLAND RD	50m North of LANE COVE RD	1: Emerging	13:00 on 11/04/2009
1	VICTORIA RD	100m West of DEVLIN ST	7: Driveway	12:50 on 13/08/2013
1	BLAXLAND RD	75m East of CHURCH ST	Emerging	12:45 on 01/02/2010
1	DEVLIN ST	80m South of VICTORIA RD	1: Emerging	12:40 on 16/07/2009
1	BLAXLAND RD	30m West of DEVLIN ST	1: Emerging	11:30 on 10/03/2009
1	VICTORIA RD	110m West of DEVLIN ST	7: Driveway	11:30 on 18/09/2012
1	BLAXLAND RD	On the Spot of TUCKER ST	Emerging	11:30 on 13/06/2012
1	PARKES ST	On the Spot of BELMORE LANE	1: Emerging	10:55 on 27/09/2011
1	LANE COVE RD	15m North of BLAXLAND RD	1: Emerging	10:00 on 22/10/2010
2	LANE COVE RD	1m South of COXS RD	3: On Carriageway	19:15 on 15/02/2010
2	LANE COVE RD	On the Spot of TREVITT ST	1: Emerging	19:00 on 23/07/2013
2	LANE COVE RD	30m South of FORD ST	603: Unknown	18:15 on 28/04/2012
2	WICKS RD	On the Spot of COXS RD	1: Emerging	17:47 on 21/07/2011
2	LANE COVE RD	15m North of COXS RD	8: Unknown	15:45 on 12/05/2009
2	WICKS RD	On the Spot of COONEY ST	1: Emerging	15:35 on 14/11/2012
2	WICKS RD	2m South of COXS RD	3: On Carriageway	14:00 on 20/09/2009
2	WICKS RD	On the Spot of COXS RD	1: Emerging	11:10 on 01/07/2013
2	LANE COVE RD	2m South of COXS RD	1: Emerging	09:06 on 01/09/2009
2	LANE COVE RD	2m North of COXS RD	1: Emerging	07:00 on 01/04/2009
2	WICKS RD	1m North of COXS RD	1: Emerging	05:55 on 24/07/2012
3	BADAJAZ RD	Unknown	1: Emerging	18:00 on 14/05/2013
3	BLENHEIM RD	20m North of COXS RD	1: Emerging	08:45 on 03/03/2010
3	BADAJAZ RD	On the Spot of COXS RD	3: On Carriageway	06:45 on 12/06/2013

The location of the crashes in each Precinct by user group involved are shown in Figure 4.5-Figure 4.7.

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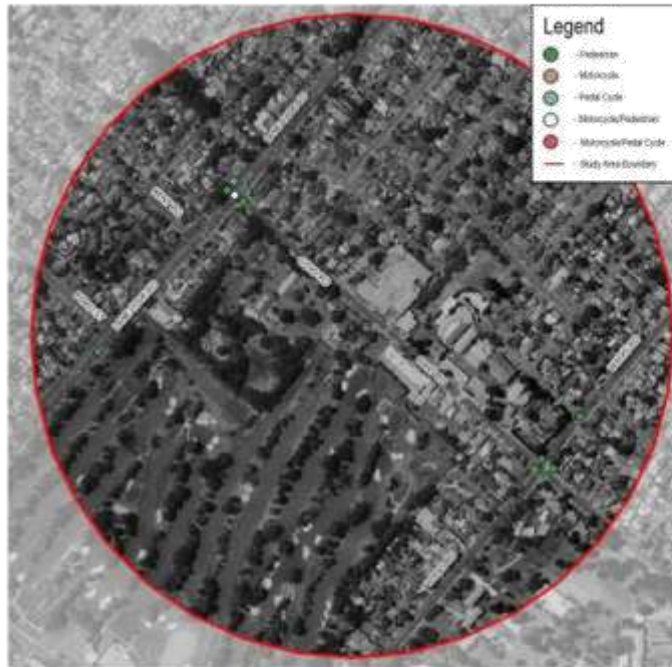


Figure 4.6: Crash Locations in Precinct 2

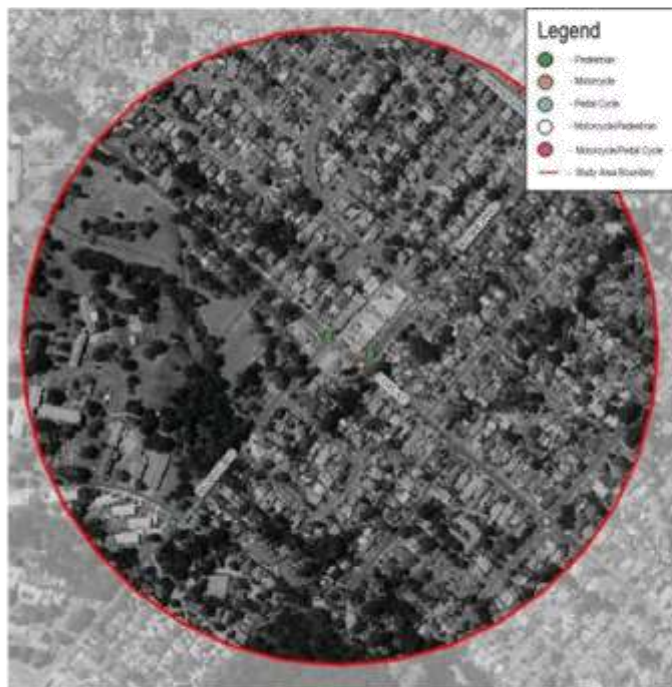


Figure 4.7: Crash Locations in Precinct 3

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5. PAMP ROUTES

5.1 PRIORITY ROUTE SELECTION

The PAMP routes were initially selected based on the following criteria:

- Proximity to pedestrian trip attractors and generators (such as major bus interchange and shopping centres);
- Location of pedestrian crashes;
- Concerns from community feedback; and
- Relation to road hierarchy; routes that were closer to major roads, such as the Victoria Road, Blaxland Road and Lane Cove Road, were selected as priority routes over local streets.

5.2 ROUTE PRIORITY

The PAMP routes were prioritised, either as high, medium or low based on the same criteria used for selecting the routes. Higher priority was given to routes within major town centres and key pedestrian links to bus stops, schools and aged care facilities. The route prioritisation system is shown in Table 5.1 **Error! Reference source not found.**

Table 5.1: PAMP Route Priority System

Criteria	Major Town Centre	Minor Town Centre	Local Residential Area
Primary link to pedestrian attractors/generators	High	High	Medium
Secondary link to pedestrian attractors/generators	High	Medium	Low
Location of pedestrian crashes	High	Medium	Low
Concerns from community feedback	High	High	Medium
Relation to road hierarchy	High	Medium	Low

By implementing the route prioritisation system a number of routes were identified in the Top Ryde and North Ryde Precincts. In addition to identifying pedestrian routes that were of high importance a number of missing links that would benefit pedestrian movements were also recognised. The priority routes and missing links are presented in Figure 5.1 and Figure 5.2.

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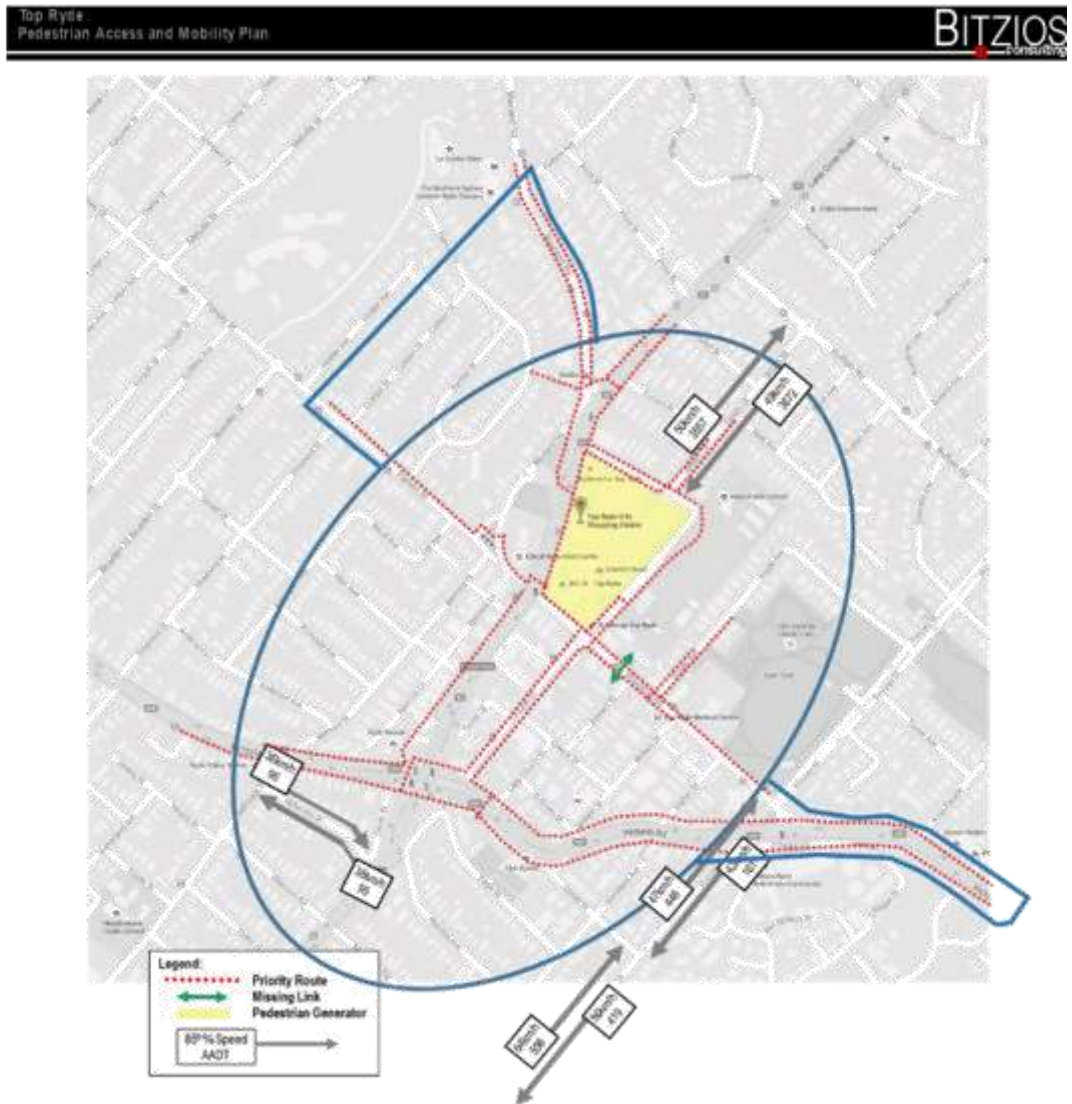


Figure 5.1: Precinct 1 Priority Routes

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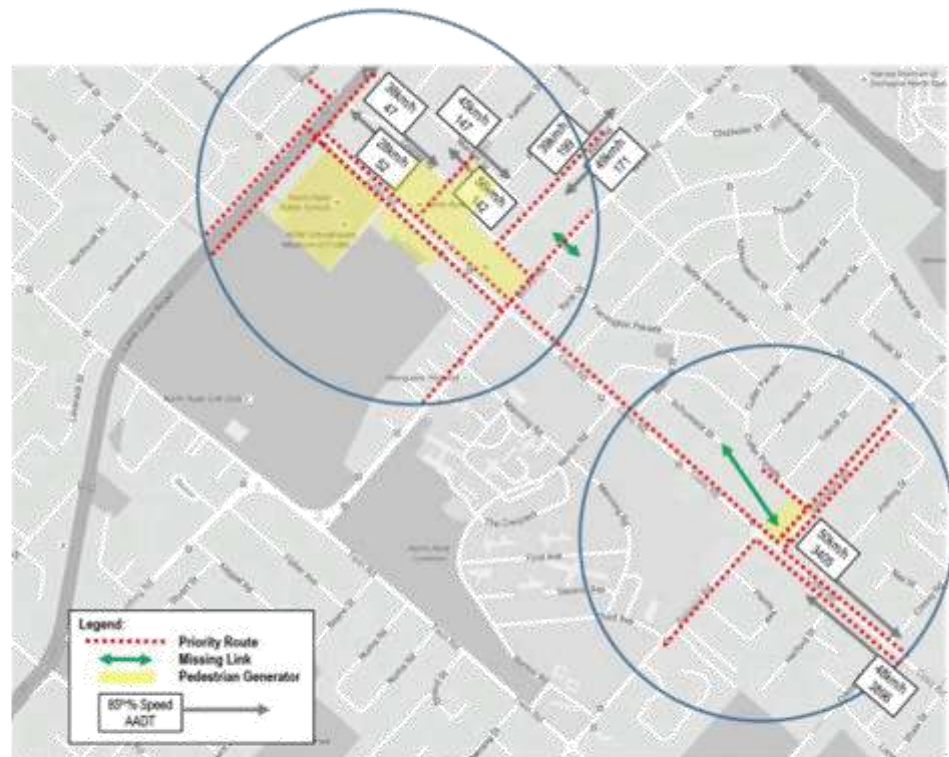


Figure 5.2: Precinct 2 & 3 Priority Routes

5.3 INITIAL SITE VISIT AND OBSERVATIONS

Site audits were conducted in and around the shopping centres located at Top Ryde and North Ryde along Coxs Road and Blenheim Road by Bitzios Consulting Staff in the company of Hazel Myers of the Ryde Access Committee to evaluate the existing conditions of pedestrian facilities and propose upgrades to improve the level of accessibility and connectivity. The audit checklist was created with relevant Australian Standards guidelines, such as AS1428.1, AS1428.2, AS1428.1 and Austroads Standards.

Precinct 1

An audit was conducted of the priority routes surrounding the Top Ryde Shopping Centre in Precinct 1 on Monday 18th January 2016 between the hours of 9:00 am and 1:00 pm. The findings of the audit revealed that there are a number of connectivity and accessibility issues particularly along Victoria Road. Many kerb ramps along Victoria Road are not well aligned, causing a greater and therefore more dangerous path of travel for pedestrians looking to cross side streets. Sections of footpath along Victoria Road and Devlin Street in particular are uneven, degraded and/or blocked, which increases the likelihood of pedestrians sustaining injuries. Other notable observations were pedestrian path worn into the grass between Blaxland Road and Parkes Street and the reduced size and lack of flashing warning lights for the school zone located along Pope Street.

Precinct 2 & 3

An audit was conducted of the priority routes identified in North Ryde in Precinct 2 and 3 on Thursday 21st January 2016 between the hours of 9:00 am and 1:00 pm. The findings of the audit revealed that there are connectivity and accessibility issues particularly along Lane Cove Road between Twin Road and Coxs Road. The majority of this stretch has no footpath to connect the signals at Twin Road and the footpath that extends

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from Coxs Road to Kent Road to two bus stops. Along the length of this section there is a heavily worn pedestrian path through the grass, indicating this path is used frequently by pedestrians. At some locations throughout the North Ryde Precincts the quality of the footpath subsided as did the kerb ramps and their alignment. Of further note was the poor condition of the line marking and lack of associated signage for prescribed bicycle routes around the signals where Lane Cove Road meets Kent Road and Coxs Road, and the lack of safety handrails installed at pedestrian refuges. Many bus stops in the area also were lacking in key DDA compliant infrastructure.

Priority Criteria

Once the photographs of the observed issues during the site audit were taken, sorted and analysed criteria were generated, with reference to the RMS document *How to Prepare a Pedestrian Access and Mobility Plan*, to categorise the issues into levels of severity and importance. By evaluating each photograph against set criteria across a range of categories, a consistent and balanced approach to identifying the issues that require more immediate attention is developed. The criteria and score ranking system are shown in Table 5.2 and Table 5.3.

Table 5.2: Criteria for Creating Priority Scores for Site Audit Photographs

ID	Scoring Criteria	Score
C1	new primary link	10
	new secondary link	8
	existing links	3
C2	>3 reported per year	15
	3 reported per year	10
	2 reported per year	8
	1 reported per year	5
	0 reported	0
C3	5 or more responses	5
	less than 5 responses	1
C4	state road	10
	collector road	8
	local street	3
C5	school / aged care	10
	commercial / retail	8
	residential	5
C6	essential	8
	desirable	3
	little impact	1
C7	strong desire line	5
	medium usage	3
	very little use	1

Table 5.3: Works Priority Scores Based on Criteria for Site Audit Photographs

Score	Works Priority
>34	High
25-34	Medium
<25	Low

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5.3.1 General Audit Findings

The audits of Top Ryde and North Ryde showed that the pedestrian facilities in general are functional with a large quantity of minor deficiencies which can hinder the movement of less mobile pedestrians. In total over 450 locations were identified to have some level of impairment to pedestrian movement with approximately 7% of the deficiencies classed as high priority to repair or alter. The condition of pedestrian facilities within close proximity to major pedestrian generators and attractors, such as shopping centres and schools were generally of the highest standard whilst facilities along connecting routes to these centres are of reduced quality. The roads that possess the highest rate of deficiencies in the existing infrastructure are Coxs Road, Devlin Street, Lane Cove Road, and Victoria Road.

The most common issues identified throughout the auditing process were footpaths containing cracks that hinder pedestrian movement and kerb ramps that are non-compliant or lack connectivity.

5.3.2 Footpath Audit Findings

Deficiencies identified in footpaths audited in Top Ryde and North Ryde were the most common problem along all routes. Of these issues cracks in footpath sections and raised joins in the footpath were the most prevalent with small incidence rates of narrowed footpaths and missing links. Examples of identified deficiencies include:

- Incomplete footpaths;



- Missing footpaths where there are paths worn in the grass due to regular pedestrian movements;



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PSN164	Blaxland Road (Parkes Street North)	Well Worn Pedestrian Path in Grass
		

- Cracked, uneven and raised footpaths presenting trip hazards arising from issues such as:
 - Service location covers
 - Deteriorated footpath segments
 - Tree roots and soil movement
 - Patch work from previous repair work

AAW230	Argyle Avenue West	Trip Hazard - Uneven Footpath
		

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BLW041	Blenheim Road West across Blenheim Road	Trip Hazard - Uneven Footpath
		

- Narrow footpath widths due to vegetation

VRS120	Victoria Road South	Footpath Restricted by Overgrown Vegetation
		

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Top Ryde
Pedestrian Access and Mobility Plan

BITZIOS
Consulting

VRS120	Victoria Road South	Footpath Restricted by Overgrown Vegetation
		

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The locations of footpath related issues are presented in Figure 5.3 and Figure 5.4.



Figure 5.3: Location of Footpath Issues Precinct 1



Figure 5.4: Location of Footpath Issues Precinct 2 & 3

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5.3.3 Kerb Ramp Audit Findings

Many footpaths observed in the auditing process in Top Ryde and North Ryde contained kerb ramps that although functional for most pedestrian user types, restrict the access for less mobile pedestrians. Kerb ramps provide a vital link between footpaths that assists pedestrians to move out of conflict zones on roadways effectively and easily. However, issues identified such as vegetation growth, alignment issues, missing kerb ramps and obstacles, in many places prevent effective use of kerb ramps. Examples of identified deficiencies include:

- Steep kerb ramp

PSS167	Parkes Street South / Belmore Lane West	Trip Hazard - Steep Ramp Section with no Hand Rails
		

- Raised kerb lip

VRN036	Victoria Road North / Little Church Street East	Trip Hazard - Elevated Kerb Lip
		

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▪ **Missing kerb ramp**

VRN051	Victoria Road North / Hatton Street East	Trip Hazard - No Kerb Ramp Installed at Intersection
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▪ **Poor kerb ramp alignment**

CXN129	Coxs Road North / Ryrie Street West	Kerb Ramp Alignment
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- Deteriorated kerb ramp

VRS117	Victoria Road South / Devlin Street	Trip Hazard - Kerb Lip Deterioration
		

5.3.4 Bus Stop Audit Findings

Bus stop facilities within each Precinct are largely inconsistent, with a large number of non-conformities to the DDA guidelines for bus stops. Facilities in and around the major centres, such as at the shopping centres, are of the highest quality and contain a seat, plinth, hardstand and in some cases shelters. Away from the major centres of each Precinct, bus stop facilities would often consist of a single sign with no seat or paved access to the kerb to board or alight the bus. Tactile Ground Surface Indicators (TGSi) to aid the visually impaired are applied to extremely few bus stops with some instances along Lane Cove Road and Coxs Road where recent upgrades have been performed. Examples of identified deficiencies include:

- No Hard Stand

WRW236	Wicks Road West	DDA Non-Compliant - No Hard Stand
		

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- No TGSi



- No Seat



- Unsafe Hardstand



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5.3.5 Lighting Audit Findings

The audits of Top Ryde and North Ryde were conducted during daylight hours. As a result the effectiveness and working order of the lighting of pedestrian facilities cannot be commented on. However, the lighting facilities in place in the Precincts appeared to be sufficient with regular and evenly spaced lighting of the walkways in Ryde Park a noticeable standout for assistance to pedestrians walking through the park in the later hours. The pedestrian paths between Coxs Road to Kathleen Street and Lane Cove Road to Pindari Street, along with the access to Ryde Park from east-west oriented leg of Argyle Avenue, do not contain lighting provisions which may act as a deterrent to pedestrians from the twilight period until sunrise. Examples of identified deficiencies include:

RYP217	Ryde Park	No Lighting Along Path
		

5.3.6 Signage / Line Marking Audit Findings

A limited range of signage issues were identified during the site audit phase of which the vast majority relate to pedestrian crossings and shared paths. Most pedestrian crossings in Top Ryde and North Ryde are not accompanied by the updated pedestrian crossing signage with very few displaying the new fluorescent signs. The footpath along Coxs Road in North Ryde that allows bicycle movements is poorly marked with almost non-existent line markings and supporting signage whereas the shared path along Blaxland Road towards Top Ryde does not have signage to indicate the start and end of the shared path and to warn cyclists of pedestrians entering from the access path to Samuel Street. The highest priority issue identified is located along Pope Street just to the east of the Smith Street / Pope Street intersection where a small school zone sign is located without flashing warning lights. This sign is not able to be effectively viewed and is in a busy area. Examples of identified deficiencies include:

PSN002	Pope Street North	School Zone Sign is Small and Lacks Flashing Warning Lights
		

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5.3.7 Crossing Audit Findings

A number of deficiencies were identified when assessing the facilities provided for pedestrians to cross roads and intersections in Top Ryde and North Ryde. Missing and poor quality crossing infrastructure compromises the safety of pedestrians, especially the less mobile. Examples of identified deficiencies include:

- Uneven pavement

BRS218	Blaxland Road South across William Street	Trip Hazard - Uneven Road Pavement
		

- No crossing provisions

CX5160	Coxs Road South across Cressy Road	No Pedestrian Crossing Provisions at Roundabout
		

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- No safety handrails

CYE165	Cressy Road East across Coxs Road	No Safety Hand Rails Installed
		

5.3.8 Safety Infrastructure Audit Findings

The City of Ryde has implemented a range of pedestrian fencing in locations around the Top Ryde Shopping Centre to enhance the safety of pedestrians. Damage to some sections of this fencing was observed which reduces the effectiveness of the fencing as a safety barrier. Along with damaged fencing and barriers the signalised intersection between Victoria Road and Church Street / Devlin Street was found to be missing push buttons associated with the pedestrian crossing phases. Examples of identified deficiencies include:

TSE003	Tucker Street East	Section Missing in Pedestrian Fencing
		

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DSE157	Devlin Street East	Damaged Section of Pedestrian Fencing
		

VRN031	Victoria Road North across Devlin Street	No Push Button or Sound for Signalised Pedestrian Crossing
		

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The location of all observed issues outside of footpath related issues are presented in Figure 5.5 and Figure 5.6.

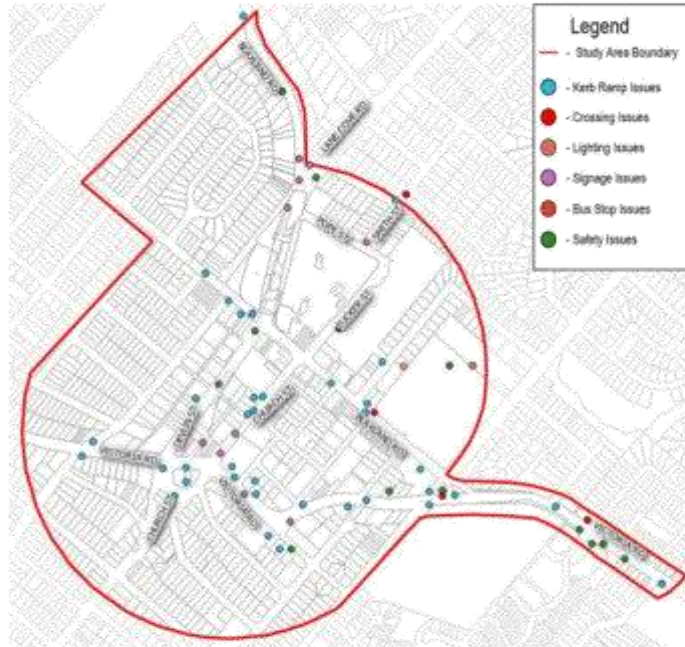


Figure 5.5: Site Audit Issue Locations Precinct 1

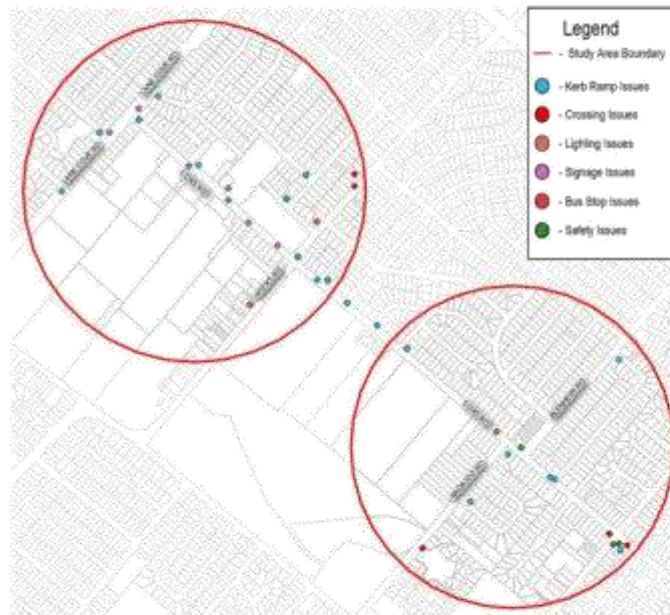


Figure 5.6: Site Audit Issue Locations Precinct 2 & 3

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6. COMMUNITY CONSULTATION

6.1 OVERVIEW

Community consultation is a vital component of establishing a well-informed PAMP for Top Ryde and North Ryde. Encouraging community members to raise issues they encounter each day and listening to the local residents, students, community groups and working population of Top Ryde and North Ryde ensures that the best outcomes are achieved from a technical, operational and communal standpoint. To maximise the exposure to the community to express their concerns and suggestions relating to pedestrian access and mobility and provide comments on the draft PAMP, a range of opportunities were established targeting community involvement. Community consultation opportunities included:

- Inclusion of Access Committee in site audit process;
- Identifying and contacting key pedestrian attractors and generators and contacting by telephone and email to provide feedback specific to their purpose.
- Establishing an online "survey monkey" survey. The local newspaper and the City of Ryde website provided notification of the survey to the community, and small businesses in North Ryde received flyers to encourage participation;
- Two (2) rounds of community workshops were undertaken. One workshop was conducted in Top Ryde and the other in North Ryde; and
- Public exhibition of the Draft PAMP encouraging comments from the community

6.2 IDENTIFICATION OF KEY STAKEHOLDERS

In the initial stages of the PAMP development an effort was made to identify and invite comment from a range of community groups, organisations and businesses in each of the three precincts on the experiences of their staff and customers in relation to the level of accessibility and facilities for pedestrians. A wide variety of stakeholders were contacted to incorporate a diverse and comprehensive cross section of groups and organisations that make up a significant portion of pedestrians. An email address was created specifically for correspondence from the stakeholders with the City of Ryde (RydePAMP@ryde.nsw.gov.au), along with the option of calling Bitzios Consulting staff directly. The key stakeholders identified and contacted by Bitzios Consulting are shown in Table 6.1:

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Table 6.1: Key Stakeholders Contacted for Comment on Pedestrian Facilities

Stakeholder	Date	Method	Comments/Feedback
Ryde Public School	7/12/2015	email	<p>Approximately 520 enrolments Mode of travel for student - 50% by car/bus, 50% by foot Some students utilise the public buses on Blaxland Road Approximately 100 attend before and after school care Staff parking on site approximately 40, most staff drive, access via Pope St and Tucker St gates Support unit bus, drop off & pick up on site One small class for special needs, mode of travel small amount by foot Would require ambulance access via Pope St gate, and hence support unit buses are diverted to the kiss & ride at times of emergency B double sighted using Pope & Tucker St and struggled to negotiate the corner Smith St pedestrian signals are too short, school children struggle to complete crossing the road by the end of the flashing period. Two school children were hit (hit and run), did not suffer serious injury due to drivers filtering pedestrian green and flashing red man An informal path through the school between Argyle Avenue and Tucker St is used by public to gain access to the shopping centre. The path is not in good condition with uneven surface. Drivers exiting the new development next to Tucker St gate would have difficulty in seeing the pedestrians on the footpath</p>
North Ryde Public School	9/12/2015	email & phone	No Response
Holy Spirit Primary School	14/12/2015	email	No Response
Bike North	18/12/2015	email	No Response
Top Ryde Shopping Village Owners	18/12/2015	email	Email distributed to businesses within the Shopping District
Ryde Business Forum	18/12/2015	email	No Response
Guide Dog Association	18/12/2015	email	No Response
Top Ryde Early Learning Centre	11/12/2015	email	No Response
Early Childhood Health Centre	5/01/2016	email	No Response
Lilypad Early Learning Centre	5/01/2016	email	No Response
KU North Ryde Preschool	5/01/2016	email	No Response

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6.3 ACCESS COMMITTEE PARTICIPATION IN SITE AUDITS

The Ryde Access Committee members were invited to participate in the site audit process. Their involvement in identifying issues along the priority routes allowed the professional experience of Bitzios Consulting staff to be assisted by experienced individuals with local knowledge and an understanding of pedestrians with mobility challenges. A member of the Access Committee was present on each of the site audit days and provided advice on the challenges each issue presented to elderly and less able pedestrians, as well as identifying a range of issues.

6.4 ONLINE COMMUNITY SURVEY

6.4.1 Methodology

An online survey using SurveyMonkey was set up by Bitzios Consulting, seeking responses from small businesses and residents of the three precinct areas about their experiences as a pedestrian. Notification was provided to small businesses in the Coxs Road and Blenheim Road Shopping Centres in the form of flyers delivered by a Bitzios Consulting staff member. At this time there was also an opportunity for business owners and staff to air any concerns or ask questions of the processes, face to face. An advertisement was placed in the local newspaper, *The Northern District Times*, as well as appearing on the City of Ryde website. The survey was made available from mid-January to mid-February 2016. A total of 17 responses were received.

The community questionnaire addressed the following topics:

- pedestrian trip journey origin
- purpose of trips made by foot within the study area;
- issues with existing crossings, footpaths and kerb ramps; and
- desired upgrades to pedestrian facilities with regards to crossings, kerb ramps, streetscape, directional signage, accessibility, and safety and security.

The Community Questionnaire responses are provided in Appendix B.

The key survey responses are summarised below. It should be noted that there was a strong response by residents, shoppers and workers of Precinct 2 (areas surrounding Coxs Road Shopping Centre), with 59% of the survey respondents identifying this as their place of work, shopping or residence. This is significant as by the population statistics this area contributes only 20% of the combined population of the three precincts. In contrast, Precinct 1 contributes 65% of the combined population but only 12% of the responses to the survey.

6.4.2 Pedestrian Origin

Respondents were asked to identify their origin of Precinct, with specific interest to Top Ryde Commercial Precinct, Cox's Road Small Business Precinct, Blenheim Road Small Business Precinct and others not specified as shown in Figure 6.1.

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Q1 Which precinct are you from? (See image below to identify your area)

Answered: 17 Skipped: 0

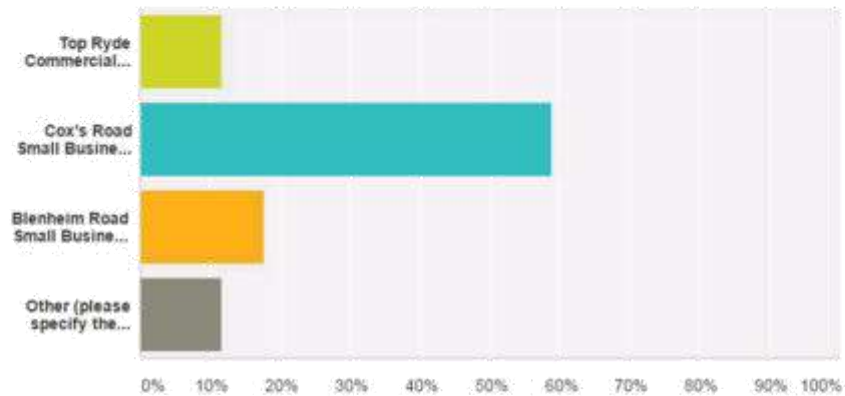


Figure 6.1: Pedestrian Origin

The vast majority of respondents identified with Coxs Road Small Business Precinct as their precinct of interest. As a result the SurveyMonkey data is more applicable to the Coxs Road Small Business Precinct than other precincts and other areas that received very few responses. All respondents answered this question. Areas represented by the "Other" option were Meadowbank and Marsfield.

6.4.3 Purpose of Pedestrian Trips

Respondents were asked to identify the purpose of common trips taken by foot within the study area. As shown in Figure 6.2, the most frequently cited purposes for walking were for leisure/health, followed by access to shops and transport facilities.

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Q2 What are your main reasons for walking?

Answered: 16 , Skipped: 1

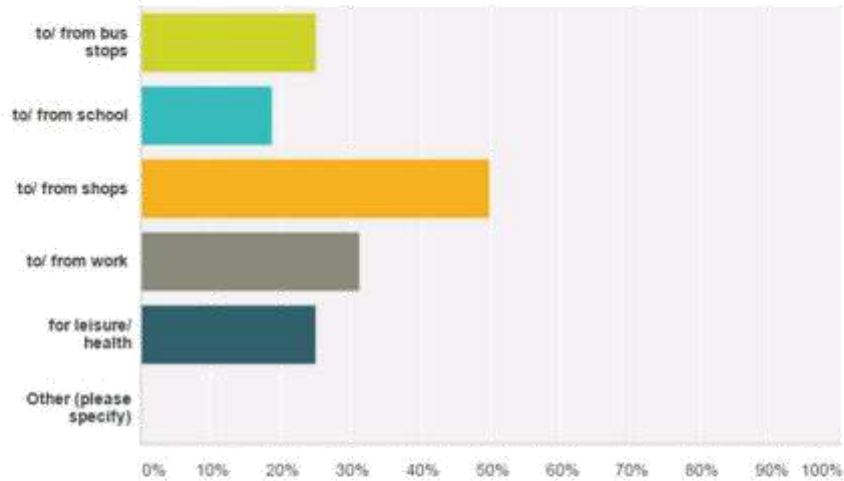


Figure 6.2: Reasons for Walking

The results show that half of the respondents use pedestrian facilities to access shopping centres or local shopping precincts. The other methods of travel, including to school, public transport services, work and for leisure purposes, are split fairly evenly in their use. Please note that multiple options were able to be selected for this question and one of the 17 respondents chose not to answer this question.

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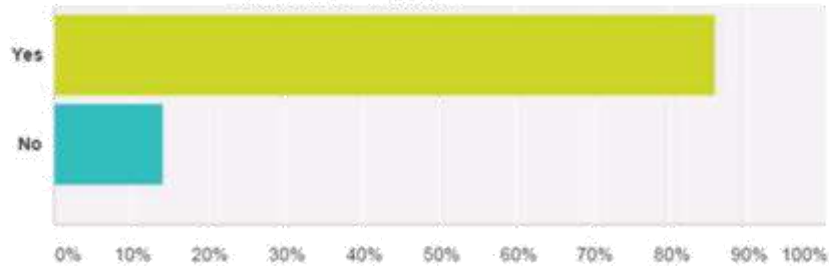
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6.4.4 Pedestrian Satisfaction

Respondents were asked to identify whether they were satisfied with the existing footpaths, kerb ramps and pedestrian facilities. The results are shown in Figure 6.3

Q3 Are you satisfied with the footpaths and kerb ramps in your area?

Answered: 14 Skipped: 3



Q4 In general, are you satisfied with the pedestrian facilities in your area?

Answered: 14 Skipped: 3

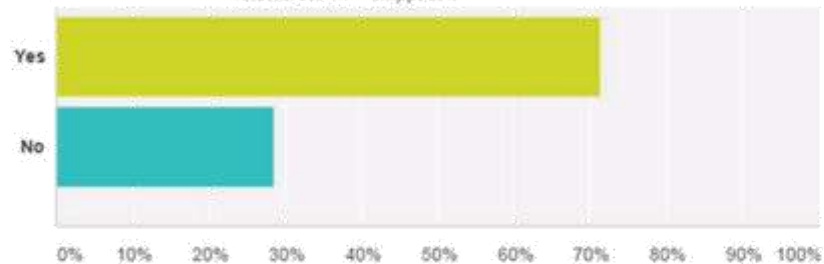


Figure 6.3: Pedestrian Satisfaction

Overall respondents were pleased with the existing condition of footpaths with 86% of respondents expressing satisfaction with existing infrastructure in place. Of the respondents who were not satisfied three issues were raised, which included the lack of footpaths on both sides of the road, the uneven nature of footpaths made it difficult to navigate for the less mobile, and footpaths are overgrown with weeds that limit the operating width and trap rubbish.

Similarly the majority of respondents were satisfied with the overall existing condition and infrastructure provided by pedestrian facilities in the three precincts with a satisfaction rating of 71%. Of the respondents who were not satisfied with the pedestrian facilities, issues were raised such as difficulties presented to drivers and pedestrians by the reverse only angled parking at Blenheim Road Shopping Centre and vehicles not giving way at pedestrian crossings near Coxs Road Shopping Centre.

Of the 17 respondents three chose not to answer both Question 3 and Question 4.

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6.4.5 Pedestrian Facilities

Respondents were asked to consider the main barriers to walking were in their local Precinct. The results are shown in Figure 6.4.

Q5 What are your main barriers to walking?

Answered: 11 Skipped: 6

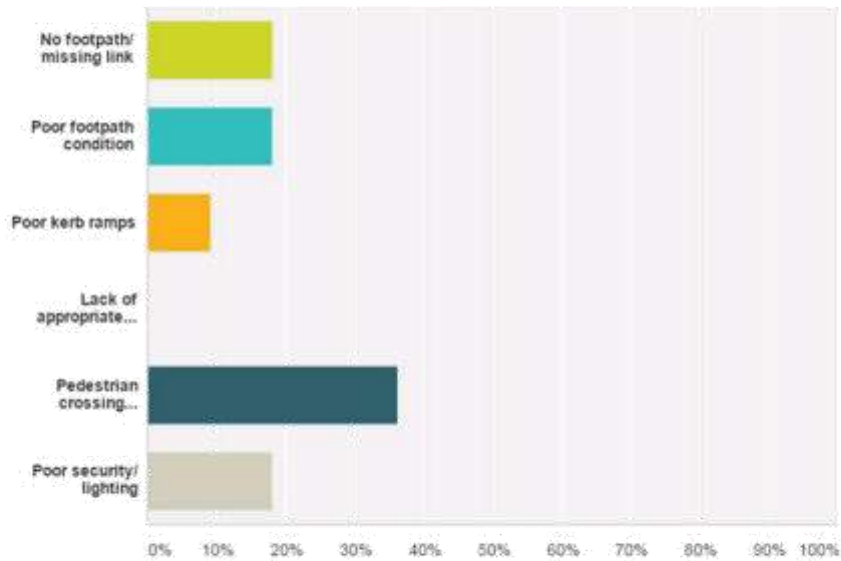


Figure 6.4 Main Barriers to Walking

The main barrier identified by respondents was the lack of pedestrian crossing facilities and the safety of those pedestrians crossing roads, with a response rate of 36%. The lack of paved footpaths, condition of footpaths and kerb ramps and poor security and lighting for pedestrians had a similar response rate. Of the 17 respondents six opted not to answer this question.

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6.4.6 Desired Improvements

Respondents were asked about which improvements to pedestrian facilities they would most like to see in their area on a ranking scale system, with 1 being the highest priority and 6 being the lowest priority. The results are shown in Figure 6.5.

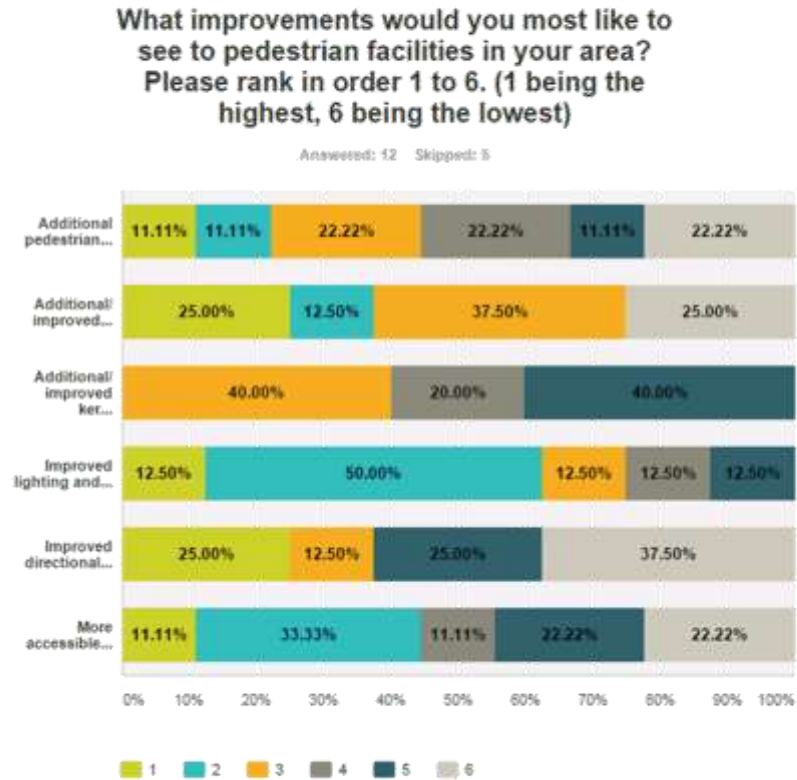


Figure 6.5 Desired Improvements to Pedestrian Facilities

In the main, the responses for Question 6 were incomplete, with five respondents opting not to respond to the question all together and only four completing the whole question. Each option also attracted different levels of response rates with most receiving eight or nine answers but the option of "additional/improved kerb ramps" only attracting five responses. As a consequence the results displayed for this question may not provide a true and representative indication of the improvements pedestrians seek. From the data displayed though the three options that attracted the most attention from the highest three priority rankings are:

- Additional/Improved Footpaths
- Improved Lighting and Security
- More Accessible Crossings with Audible/Tactile Crossing Facilities for Vision or Hearing Impaired

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6.4.7 Location Specific Feedback

Question 7 of the SurveyMonkey survey allowed respondents to raise any other issues that they may have encountered in the precinct areas outlined. Six responses were received with four specific to the precinct areas and three specific to pedestrian concerns within the precincts. The responses are provided in Table 6.2:

Table 6.2: Community Survey Location Specific Issues

Comment	Location
Coxs Road pedestrian crossing in front of CBA. On a daily basis I am likely to be almost hit by a car that has not given way to me while I am on the pedestrian crossing.	Coxs Road Pedestrian Crossing at Commonwealth Bank
Pedestrian crossing on Coxs Road (outside the Library) on a daily basis I will be on the crossing and a car will fail to stop. Suggest a raised crossing like the ones outside the School or Pharmacy	Coxs Road Pedestrian Crossing at Commonwealth Bank
Overgrown trees, bushes. Weeds, rubbish blocking paths. Car speeding around Ryrie St.	Near Ryrie Street

6.5 STAKEHOLDER WORKSHOP

[Workshops will be held with an aim to allow residents and other members of the community access to a presentation and question and answer session with Bitzios Consulting staff. Dates are yet to be determined. This section will be used to discuss the outcomes of the workshops.]

6.6 PUBLIC EXHIBITION

[The Draft PAMP will be exhibited to the public for a period of 28 days in the month of May, 2016. This section will be used to discuss the outcomes of the public exhibition period.]

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7. DETAILED RECOMMENDED WORKS PROGRAM

7.1 WORKS PRIORITY

A priority level has been assigned to each recommended action, taking into consideration its contribution to pedestrian safety, ease of accessibility and the amenity of the surrounding environment. Priority levels were assigned as follows:

- High Priority (H) = Essential for pedestrian safety:
 - for issues that require short term action (0-5 years);
 - for issues that would likely result in pedestrians having to use heavily trafficked streets due to a lack of footpath, deficient pedestrian facilities, or misleading pavement markings or street signage;
 - for locations where there are high pedestrian volumes as well as high traffic volumes that should maintain/improve the level of pedestrian access and mobility in accordance with design standards;
 - for locations where kerb ramps are missing at pedestrian signal crossings at heavily trafficked roads;
 - for areas such as shopping centre car parks, where traffic directional signage is unclear and likely to impede pedestrian safety;
 - for some locations where there is very limited footpath provision near a major pedestrian attractor or generator;
- Medium Priority (M) = Desirable for pedestrian safety, convenience or amenity:
 - for issues that require medium term works (5-10 years)
 - for issues that would likely result in pedestrians having to use local low-trafficked streets due to a lack of footpath, deficient pedestrian facilities, or misleading pavement marking or street signage;
 - for faded pedestrian crossings or narrow kerb ramps across roads through town centres; and
 - for trip hazards near schools, child care centres, or aged care facilities;
- Low Priority (L) = Little impact on pedestrian safety, desirable for pedestrian convenience or amenity:
 - for issues that require longer term works (10-25 years);
 - for minor footpath deficiencies, such as bad lip heights or narrow kerb ramps, in local streets;
 - for outdated symbol signs or faded traffic signs;
 - for minor bus stop deficiencies, such as missing shelters, seating, or bin provision; and
 - for lack of footpath provision in low pedestrian volume streets, where a footpath exists on the other side of the road.

7.2 COST ESTIMATES

The estimated costs of treatments are based on unit rates supplied by Blue Mountains City Council from a previous PAMP undertaken by Bitzios Consulting, in addition to rates used in other PAMP studies for other local councils in NSW. The list of unit costs are shown in Table 7.1. These costs are indicative and should be used as a guide only.

Table 7.1: Indicative Unit Costs

Reference (if applicable)	Item	Unit Cost
	Install new concrete footpath	\$200 per m2
	Install new asphalt footpath	\$150 per m2
AS 1428.4.1 Austroads Part 4 and 6A	Install new kerb ramp	\$5,000 per item
	Install pedestrian (zebra) crossing sign	\$200 per item
	Pedestrian Lighting	\$1,000 per item

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	Clear vegetation (brushcutting/mowing 1m either side of footpath)	\$1.10 per m2
	Remove kerb ramps (part of repair/replacement of footpath)	\$182.62 per m2
	Kerb and Gutter	\$85 per m
	Pavement grinding	\$25 per item
AS 1428.4.1	Install TGSi	\$200 per item
	Erect traffic sign	\$200 per item
	Line Marking	\$5 per m
	Bollard	\$300 per item
	Handrails	\$200 per item
	Reflective Paint	\$10 per m
	Pedestrian Fencing	\$225 per m

Based on the preliminary cost estimates, the total cost for all recommended treatments (across priority works and priority routes) is shown in Table 6.2 below. These cost estimates do not include the additional funding of works from sources outside of the City of Ryde.

Table 7.2: Cost Estimate Summary by Priority of Issues

Area	Total	Priority		
		High	Medium	Low
Top Ryde	\$224,094.06	\$46,021.84	\$137,041.22	\$41,031.00
North Ryde	\$280,475.20	\$108,771.00	\$105,055.00	\$66,649.20
Sub Total	\$504,569.26	\$154,792.84	\$242,096.22	\$107,680.20

Presented below are the recommended treatments that are considered High priority works for the three precincts included in the PAMP. Table 7.3 shows the issues identified in and around Top Ryde (Precinct 1) and Table 7.4 shows the issues identified in North Ryde (Precincts 2 and 3). The full list of inspected priority routes with recommended works for Top Ryde are provided in Appendix C and North Ryde in Appendix D.

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Table 7.3: Top Ryde High Priority Issues, Recommended Treatments, and Estimated Costs

Location	Issue	Priority	Treatment	Cost
Pope Street North	School Zone Sign is Small and Lacks Flashing Warning Lights	High	Install New School Zone Sign	\$200
Tucker Street East	Section Missing in Pedestrian Fencing	High	Replace Damaged Sections of Fence	\$225
Victoria Road North across Devlin Street	No Push Button or Sound for Signalised Pedestrian Crossing	High	Install New Pedestrian Crossing Button	N/A
Victoria Road North / Hatton Street East	Trip Hazard - No Kerb Ramp Installed at Intersection	High	Install New Kerb Ramp	\$5,000
Victoria Road North / Hatton Street East	Trip Hazard - No Kerb Ramp Installed at Intersection	High	Covered in VRN051	\$0.00
Victoria Road North / Arras Parade Easy	No Distinction between Footpath and Roadway / Trip Hazard - Uneven Footpath	High	Install New Kerb Ramp and Kerb and Gutter	\$5,850
Victoria Road North	No Distinction between Footpath and Roadway	High	Install New Kerb Layback	\$1,275
Charles Street East across Victoria Road	Trip Hazard - Overgrown Kerb Ramp	High	Remove Vegetation Restricting Width of Kerb Ramp	\$3
Victoria Road South	Trip Hazard - Incomplete Footpath	High	Install New Footpath, Replace Asphalt Footpath, Remove Vegetation	\$1,200
Victoria Road South across Princes Street West	Kerb Ramp has no Adjacent Kerb Ramp	High	Remove Kerb Ramp	\$183
Victoria Road South across Princes Street East	Kerb Ramp Alignment	High	Replace Kerb Ramp to Align with Adjacent Kerb Ramp	\$5,000
Cowell Street North	Kerb Ramp Alignment/ Kerb Ramp Leads to Large Pothole / Stop Line Marking Faded	High	Remove Kerb Ramp and Move Stop Sign (add line marking)	\$383
Cowell Street North	Stop Sign is Hidden / Kerb Ramp Alignment/ Kerb Ramp Leads to Large Pothole / Stop Sign Line Faded	High	Install New Kerb Ramps	\$10,000
Cowell Street (facing west)	Conditions of Cowell Street Intersection	High	Replace Asphalt Footpath	\$450
Victoria Road South	Trip Hazard - Overgrown Kerb Ramp	High	Remove Vegetation Restricting Width of Footpath	\$3

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Location	Issue	Priority	Treatment	Cost
Victoria Road South / Devlin Street	Trip Hazard - Kerb Lip Deterioration	High	Replace Kerb Ramp	\$5,000
Church Lane access to Devlin Street West	Trip Hazard - Steep Ramp Section with no Hand Rails	High	Install Safety Handrails	\$400
Devlin Street West	Trip Hazard - Uneven Footpath	High	Replace Uneven Segments of Footpath	\$2,000
Parkes Street South / Belmore Lane East	Trip Hazard - Elevated Kerb Lip	High	Resurface Concrete Lip to Create Even Transition	\$200
Blaxland Road East	Footpath Blocked Partially by Repair Work	High	Move barriers / Replace Uneven Segments of Footpath	\$400
Blaxland Road East	Footpath Incomplete and Blocked Entirely by Repair Work	High	Move barriers / Replace Uneven Segments of Footpath	\$400
Blaxland Road South across William Street	Trip Hazard - Uneven Road Pavement	High	Replace Uneven Segments of Asphalt	\$2,250
Blaxland Road South / William Street West	Trip Hazard - Elevated Kerb Lip and Deterioration	High	Replace Kerb Ramp	\$5,000
Smith Street / Pope Street South	Lack of Signage to Inform Motorists of Pedestrians and School Zone	High	Watch for Pedestrians and School Zone Signage to be installed	\$600

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Table 7.4: North Ryde High Priority Issues, Recommended Treatments, and Estimated Costs

Location	Issue	Priority	Treatment	Cost
Blenheim Road West across Cutler Parade	Kerb Ramp Alignment	High	Re-Align Footpath North of the Intersection and Install New Kerb Ramp	\$5,000
Blenheim Road West across Cutler Parade	Kerb Ramp has no Adjacent Kerb Ramp	High	Covered in BLW042	\$0
Coxs Road North	Footpath Blocked by Overgrown Vegetation / Shared Path Line Marking Faded	High	Re Mark Shared Path Line Marking and Remove Vegetation Restricting Width of Footpath	\$216
Coxs Road North	Trip Hazard - Uneven Footpath / Line Marking	High	Re Mark Shared Path Line Marking and Replace Uneven Segments of Footpath	\$425
Coxs Road North	Shared Path Line Marking Faded	High	Re Mark Shared Path Lines	\$25,00
Coxs Road North	DDA Non-Compliant - Stairs Used as Access to Bus	High	Install DDA Compliant Ramp, TGSi and Platform	\$1,000
Coxs Road North	Trip Hazard - No Kerb Ramp Installed at Intersection	High	Install New Kerb Ramp	\$5,000
Coxs Road North	Kerb Ramp Alignment	High	Covered in CXN128 & CXN129	\$0,00
Coxs Road South	Trip Hazard - Elevated Kerb Ramp Lip	High	Replace Kerb Ramp	\$5,000
Coxs Road South	Trip Hazard - Elevated Lip on Kerb at Bus Stop	High	Replace Kerb and Guttering	\$680
Coxs Road South across Badajoz Road	No Pedestrian Crossing Provisions at Roundabout	High	No Treatment Required	\$0,00
Lane Cove Road East	No Footpath Despite Worn Path in Grass	High	Construct New Footpath	\$90,000
Lane Cove Road East	No Footpath Despite Worn Path in Grass To Bus Stop	High	Covered in LRE179	\$0,00
Lane Cove Road East	No Footpath Despite Worn Path in Grass To Bus Stop	High	Install TGSi at Bus Stop	\$200
Lane Cove Road East	No Footpath Despite Worn Path in Grass	High	Covered in LRE181	\$0
Lane Cove Road East	No Footpath Despite Worn Path in Grass	High	Covered in LRE182	\$0
Lane Cove Road East	No Footpath Despite Worn Path in Grass	High	Covered in LRE183	\$0

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Location	Issue	Priority	Treatment	Cost
Lane Cove Road East	No Footpath Despite Wom Path in Grass	High	Covered in LRE184	\$0
Lane Cove Road East	No Footpath Despite Wom Path in Grass To Bus Stop	High	Covered in LRE185	\$0
Lane Cove Road East	No Footpath Despite Wom Path in Grass To Bus Stop	High	Install Seat, TGS, Larger Handstand and Connecting Footpath	\$1,000
Lane Cove Road East	No Footpath Despite Wom Path in Grass	High	Covered in LRE187	\$0
Lane Cove Road East/ Coxs Road South	Trip Hazard - Overgrown Kerb Ramp	High	Covered in LRE192	\$0
Lane Cove Road East/ Coxs Road South	Signs to be installed to go With Line Marking	High	Re Mark Shared Path Line Marking and Add Directional Signage	\$225

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7.3 EXAMPLES OF KEY UPGRADES

7.3.1 Lane Cove Road between Kent Road and Twin Road

As identified in the site audit conducted on the 21st January 2016 a worn pedestrian path exists along the south eastern side of Lane Cove Road between Kent Road and Twin Road. It is recommended that a footpath be installed that connects the existing footpath along Lane Cove Road to the intersection of Lane Cove Road with Twin Road as shown in Figure 7.1. Additionally the two bus stops located along this stretch of road require upgrades.



Figure 7.1: Lane Cove Road Footpath Upgrades

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7.3.2 Cowell Street Intersection

The intersection at Cowell Street near Victoria Road presents dangers to pedestrians in its existing layout. Pedestrians are directed through the middle of the intersection by a kerb ramp towards the entry and exit driveway laybacks to the Ryde X Club. The intersection also contains large potholes and even road pavement in the direct pedestrian desire line and the stop sign to the left of the northern approach is unsighted due to its current location. A reconfiguration of the intersection is shown in Figure 7.2.

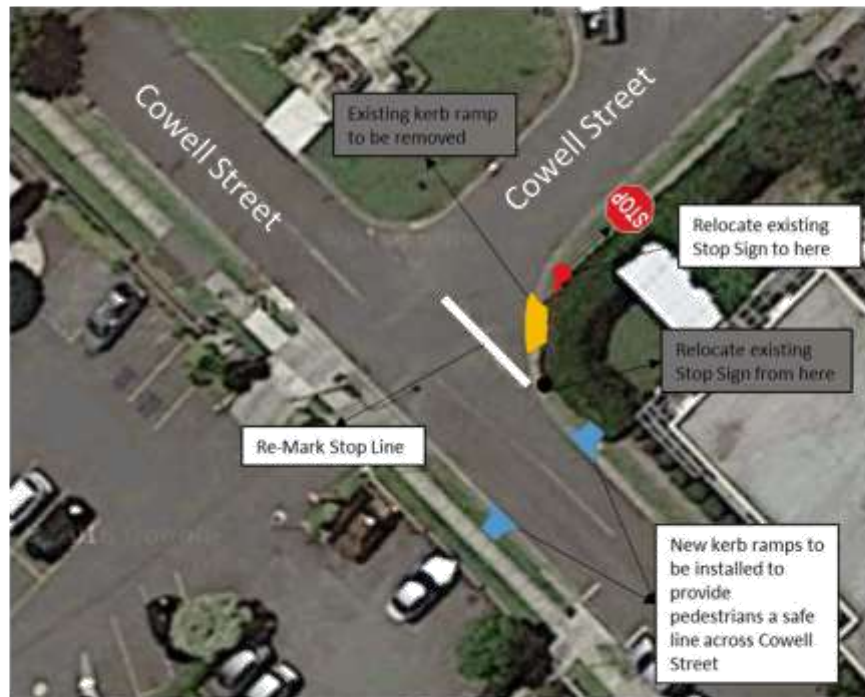


Figure 7.2: Cowell Street Intersection Pedestrian Facility Alterations

ITEM 6 (continued)

ATTACHMENT 1

7.3.3 Wicks Road Potential Pedestrian Refuge

The section of Wicks Road between Coxs Road and Beatrice Street does not have any existing pedestrian crossing provisions over a span of just over 500m. This section of road was identified as being a priority route for pedestrians and contains a number of bus stops. It is proposed that an investigation is conducted into the feasibility of a pedestrian refuge across Wicks Road. An initial concept location is shown in Figure 7.3.



Figure 7.3: Wicks Road Potential Pedestrian Refuge Location

ITEM 6 (continued)

ATTACHMENT 1

8. FUNDING SOURCES

8.1 ROADS AND MARITIME SERVICES

Generally RMS will fund works on State Roads including crossings and kerb ramps. State Roads are 100% funded by RMS, while works on Regional and Local Roads are funded 50/50 by RMS and BMCC. In the last two cases, RMS contributes funding for road crossing facilities and kerb ramps only.

Within the study area, the following classifications apply for funding purposes:

- State Roads – Church Street, Devlin Street, Blaxland Road, Lane Cove Road and Victoria Road; and
- Regional Roads – Wicks Road (as detailed in Table 2.6).

All other roads are considered local roads and are under the jurisdiction of City of Ryde.

Further details of RMS funding can be found in the "Council Projects Funded by The RTA, Memorandum of Understanding" June 2009. The works that are generally eligible for equal contribution between Council and RMS include:

- a) Preparation of Pedestrian Access and Mobility Plan
- b) Upgrade of Existing Pedestrian Infrastructure
 - Kerb Ramps
 - Pedestrian Priority System
- c) New Pedestrian Crossing Treatment and Facilities
 - New signalised pedestrian access points
 - Shared zone areas
 - Kerb extensions and blisters
 - Raised pedestrian crossings

8.2 SECTION 94 CONTRIBUTIONS

The Environmental Planning and Assessment Act 1979 makes allowance for a consent authority to extract money for the provision of public amenity or public services. Should a development increase pedestrian activity or demand then it would be reasonable for Council to seek contribution toward improvements to pedestrian facilities in the area provided a link between the development and facility can be reasonable shown. Section 94 states:

"Where a consent authority is satisfied that a development, the subject of a development application, will or is likely to require the provision of or increase the demand for public amenities and public services within the area, the consent authority may grant consent to that application subject to a condition requiring:

- (a) The dedication of land free of cost; or*
- (b) The payment of a monetary contribution, or both."*

In relation to the PAMP, Council may consider including some of the works as part of their Section 94 contribution plan.

8.3 VOLUNTARY PLANNING AGREEMENTS (VPAs)

VPAs are an agreement between Council and developers that may involve the funding or assistance of pedestrian facility upgrades, expansion, construction or reconstruction. Any VPA is considered on a case by case basis and can become an additional funding source for PAMP Works.

8.4 CONDITIONS OF CONSENT

Developments are required to install compliant footpaths, kerb ramps and driveway crossings as part of the Development Approval process with the City of Ryde. Such constructions are required to be compliant with relevant Australian Standards and the City of Ryde's Public Domain Manual.

ITEM 6 (continued)

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9. IMPLEMENTATION AND MONITORING PROGRAM

The next stages in the PAMP are to:

- organise funding sources to establish a budget and over what timeframe;
- establish an implementation program; and
- monitor implementation of the PAMP and its outcomes.

It is typical to have a monitoring program for the PAMP. This would involve:

- recording of all proposed pedestrian works in a database;
- analysis of crash statistics;
- collection of pedestrian count information; and
- periodic updating of the PAMP every five years.

The monitoring program for the PAMP can include the establishment of an auditing process that assesses and documents the condition of the priority routes established and progress of work recommended in this PAMP regularly. By ensuring a visual audit program is implemented the quality of the routes is able to be maintained and any issues incurred identified and addressed quickly. Assessments of the routes should be conducted by a person or team of professionals with experience in pedestrian facility design and standards to best identify arising issues and develop a suitable course of action. Priority routes should also be reviewed and updated as new Council works are proposed and land uses change.

ITEM 6 (continued)

ATTACHMENT 1

Top Ryde
Pedestrian Access and Mobility Plan

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10. CONCLUSIONS AND RECOMMENDATIONS

ITEM 6 (continued)

ATTACHMENT 1

GLOSSARY OF TERMS AND ACRONYMS

CoR: City of Ryde

PAMP: Pedestrian Access and Mobility Plan

DDA: Disability Discrimination Act

GIS: Geographic Information System

DCP: Development Control Plan

LEP: Local Environmental Plan

Historical Crash Data: The data are confined to crashes that conform to the national guidelines for reporting and classifying road vehicles crashes. The guidelines include crashes that meet all of these criteria:

- Were reported to the police
- Occurred on a road open to the public
- Involved at least one moving road vehicle
- Involved at least one person being killed or injured or at least one motor vehicle being towed away.

PAMP Route: Key pedestrian routes identified in the study, and prioritised and audited based on their proximity to pedestrian attractors and generators, pedestrian crash clusters, community feedback, and relation to road hierarchy.

Pedestrian: Any person walking including: a person driving a motorised wheelchair that cannot travel at over 10 kilometres per hour (on level ground), a person in a non-motorised wheelchair, a person pushing a motorised or non-motorised wheelchair, a person in or on a wheeled recreational device or wheeled toy. (Source: *RMS How to Prepare a Pedestrian Access and Mobility Plan*)

TGSI: Tactile Ground Surface Indicators

ITEM 6 (continued)

ATTACHMENT 1



APPENDIX A

DESIGN STANDARDS



ITEM 6 (continued)

ATTACHMENT 1

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DESIGN STANDARDS

Below is a list of links (where applicable) to all design standards and codes referenced in the PAMP. The design standards adopted include a combination of Australian Standards, Austroads Guides and local RMS technical directions and model drawings.

- Australian Standard AS 1158.4:2009: Lighting for Roads and Public Spaces
- Australian Standard AS 1428.4.1 – 2009: Design for Access and Mobility
- Australian Standard AS 1742.10: Pedestrian Control and Protection
- Austroads Guide to Road Design Part 4. Intersections and Crossings
- Austroads Guide to Road Design Part 6A, Pedestrian and Cycle Paths
- Disability Standards for Accessible Public Transport 2002
<https://www.comlaw.gov.au/Details/F2005B01059>
- NSW Bicycle Guidelines (RTA 2005).
http://www.rms.nsw.gov.au/business-industry/partners-suppliers/documents/technical-manuals/nswbicycle/v12aa_i.pdf
- RMS model drawings MDR173.B01.A1.
<http://www.rms.nsw.gov.au/business-industry/partners-suppliers/design-documents/model-road-drawings/mrd-general-concrete-paving.html>
- RMS Technical Direction TDT 2002/12b (Stopping and Parking Restrictions at Intersections and Crossings)
http://www.rms.nsw.gov.au/traffic-information/downloads/td02_12b.pdf
- RUM Codes (from Definitions and notes to support road crash data, TfNSW June 2014).
<http://roadsafety.transport.nsw.gov.au/downloads/definitions-notes.pdf>

ITEM 6 (continued)

ATTACHMENT 1



APPENDIX B

COMMUNITY CONSULTATION RESULTS



ITEM 6 (continued)

ATTACHMENT 1

Top Ryde and North Ryde Small Centres PAMP

Appendix B: Community Consultation Results

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Community Consultation

Which Precinct are you from?

Answered	17
Skipped	0

	Response Count	Response Percentage
Top Ryde Commercial Precinct	2	12%
Coas Road Small Business Precinct	10	59%
Blenheim Road Small Business Precinct	3	18%
Other (Please specify the street and/ or suburb)	2	12%

Number	Response Date	Other
1	27/01/2016 16:14	Stone Street, Meadowbank
2	27/01/2016 11:40	Torrington Drive, Mansfield

ITEM 6 (continued)

ATTACHMENT 1

Top Ryde and North Ryde Small Centres PAMP

Appendix B: Community Consultation Results

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Community Consultation

What are your main reasons for walking?

Answered	16
Skipped	1

	Response Count	Response Percentage
to/from bus stop	4	25%
to/from school	3	19%
to/from shops	8	50%
to/from work	5	31%
For leisure/health	4	25%
Other (please specify)	0	0%

ITEM 6 (continued)

ATTACHMENT 1

Top Ryde and North Ryde Small Centres PAMP

Appendix B: Community Consultation Results

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Community Consultation

Are you satisfied with the footpaths and kerb ramps in your area?

Answered	14
Skipped	3

	Response Count	Response Percentage
Yes	12	86%
No	2	14%

Number	Response Date	Other
1	27/01/2016 16:20	although it would be good to have footpaths on both sides of the road
2	27/01/2016 11:41	I have some mobility disability and there are uneven sections.
3	19/01/2016 9:16	Overgrown with weeds, trapping rubbish...

ITEM 6 (continued)

ATTACHMENT 1

Top Ryde and North Ryde Small Centres PAMP

Appendix B: Community Consultation Results

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Community Consultation

In general, are you satisfied with the pedestrian facilities in your area?

Answered	14
Skipped	3

	Response Count	Response Percentage
Yes	10	71%
No	4	29%

Number	Response Date	Other
3	27/01/2016 22:02	I'm often a pedestrian AND driver ... I park my car outside the shops at Blenheim Road and go about my business there etc. Many, if not ALL, people absolutely hate having to reverse their car into the car spaces. It's difficult to do, especially given cars may be waiting for you to park, and many elderly people cannot park there and drive up to Coas Road instead. They are unable to turn their head enough to be able to negotiate the reversal, which is tight. When our local community meets up for a street party etc they all agree that they experience this problem. Please, please can you make the cars move forward into the car spaces.
2	27/01/2016 16:21	My house fronts busy See Street opposite the TAFE and there is also a school and two kindergartens. we need traffic calming measures as cars speed up See Street.
3	21/01/2016 13:56	On a daily basis I am likely to be almost hit by a car that has not given way to me while I am on the pedestrian crossing
4	21/01/2016 11:16	Patients from the Macquarie Hospital tend to congregate outside our place of business. This can be very intimidating for myself and also our clients.

ITEM 6 (continued)

ATTACHMENT 1

Top Ryde and North Ryde Small Centres PAMP

Appendix B: Community Consultation Results

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Community Consultation

What are your main barriers walking?

Answered	11
Skipped	6

	Response Count	Response Percentage
No footpath/missing link	2	18%
Poor footpath condition	2	18%
Poor kerb ramps	1	9%
Lack of appropriate pedestrian signage	0	0%
Pedestrian crossing safety/ no pedestrian crossing facility	4	36%
Poor security/lighting	2	18%

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ATTACHMENT 1

Top Ryde and North Ryde Small Centres PAMP

Appendix B: Community Consultation Results

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Community Consultation

What are your main barriers walking?

Answered	12
Skipped	5

	1	2	3	4	5	6	Total
Additional pedestrian crossing (e.g. traffic signals, zebra crossing, refuge islands)	11.11%	11.11%	22.22%	22.22%	11.11%	22.22%	9
	1	1	2	2	1	2	
Additional/Improved footpaths	25.00%	12.50%	37.50%	0.00%	0.00%	25.00%	8
	2	1	3	0	0	2	
Additional/Improved kerb ramps	0.00%	0.00%	40.00%	20.00%	40.00%	0.00%	5
	0	0	2	1	2	0	
Improved lighting and security	12.50%	50.00%	12.50%	12.50%	12.50%	0.00%	8
	1	4	1	1	1	0	
Improved directional signage	25.00%	0.00%	12.50%	0.00%	25.00%	37.50%	8
	2	0	1	0	2	3	
More accessible crossings with audible/ tactile crossing facilities for vision or hearing impaired pedestrian	11.11%	33.33%	0.00%	11.11%	22.22%	22.22%	9
	1	3	0	1	2	2	

ITEM 6 (continued)

ATTACHMENT 1

Top Ryde and North Ryde Small Centres PAMP

Appendix B: Community Consultation Results

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Community Consultation

Are there any particular locations in your local area that you find of concern in regards to pedestrian access and mobility?

Answered	14
Skipped	3

	Response Count	Response Percentage
Yes	10	71%
No	4	29%

Number	Response Date	Other
1	27/01/2016 16:22	See Street opposite TAFE, near the corner of Stone Street needs traffic calming or refuge.
2	27/01/2016 23:43	Agincourt Rd between Balalaca Rd and Cornusa rd - uneven surface.
3	21/01/2016 13:57	Coxs road pedestrian crossing in front of CBA. On a daily basis I am likely to be almost hit by a car that has not given way to me while I am on the pedestrian crossing.
4	21/01/2016 13:39	Pedestrian crossing on Coxs Road (outside Library) on a daily basis I will be on the crossing and a car will fail to stop. Suggest a raised crossing like the ones outside the School or Pharmacy
5	21/01/2016 11:19	Cox's Rd mail. Patients from Macquarie Hospital are intimidating customer's who come to the mail.
6	21/01/2016 9:20	Overgrown trees, bushes, weeds, rubbish blocking paths. Cars speeding around Ryrie Street

ITEM 6 (continued)

ATTACHMENT 1



APPENDIX C

SCHEDULE OF WORKS – TOP RYDE



ITEM 6 (continued)

ATTACHMENT 1



APPENDIX D

SCHEDULE OF WORKS – NORTH RYDE



