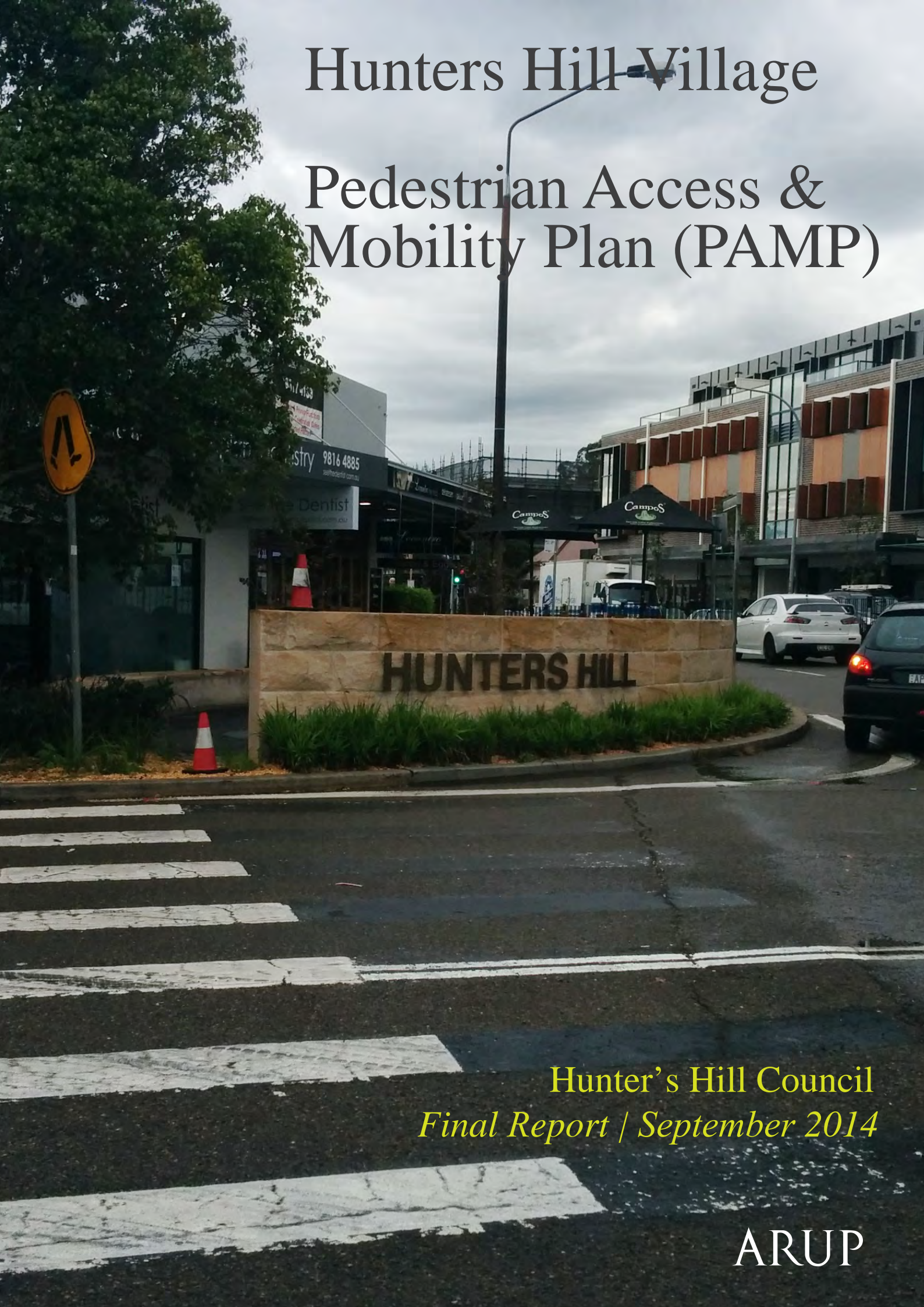


Hunters Hill Village

Pedestrian Access & Mobility Plan (PAMP)



Hunter's Hill Council
Final Report | September 2014

ARUP

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Action Plan

1 Introduction

1.1 Background

Arup were appointed by Hunter's Hill Council ('Council') to prepare a Pedestrian Access and Mobility Plan (PAMP) for the Hunters Hill Village Centre. The project aims to identify a framework for developing safe and convenient pedestrian routes and fostering improvements in personal mobility.

The PAMP process provides an opportunity for Council to develop a framework to implement pedestrian improvement programs and infrastructure over the short, medium and long term. The PAMP will allow Council to capture funding opportunities from the Roads and Maritime Services (RMS), as well as from future developments, to implement the recommended actions.

The study area for the Hunters Hill PAMP is illustrated on the following page.

1.2 Study objectives

The key objective of this study is to deliver a PAMP improvement work program that meets the specific needs of users of the Hunters Hill Village. The PAMP adopts a user perspective approach to pedestrian improvements, in particularly less mobile users, providing a safe and connected pedestrian network. The study will outline key recommendations to ensure planning for pedestrians in Hunters Hill is prioritised over motorised forms of transport – recognising that walking is a focal part of the system that supports a sustainable city.

Some specific objectives of the Hunters Hill PAMP are as follows:

- Facilitate improvements in the level of pedestrian access and priority, particularly in areas of high pedestrian concentrations such as Gladesville Road;
- Reduce pedestrian access severance and enhance safe and convenient crossing opportunities on major roads, in particular the crossing of Burns Bay Road;
- Facilitate improvements in the level of personal mobility and safety for pedestrians with disabilities and older persons through the provision of facilities which cater to the needs of all pedestrians;
- Provide links with other transport services, with particular respect to the proposed relocation of bus stops in the Hunters Hill Village;



Base Map

- PAMP Study Area
- Cadastre
- Hunters Hill LGA
- Main roads
- Local roads



1.3 Methodology

The methodology for the study has been tailored to recognise the small study area and specific requirements of its users. The methodology adopted is outlined in Figure 2, and includes the following components:

- Review of background documents and data;
- Community consultation;
- Development of PAMP route network;
- Audit of routes; and
- Action recommendations development;

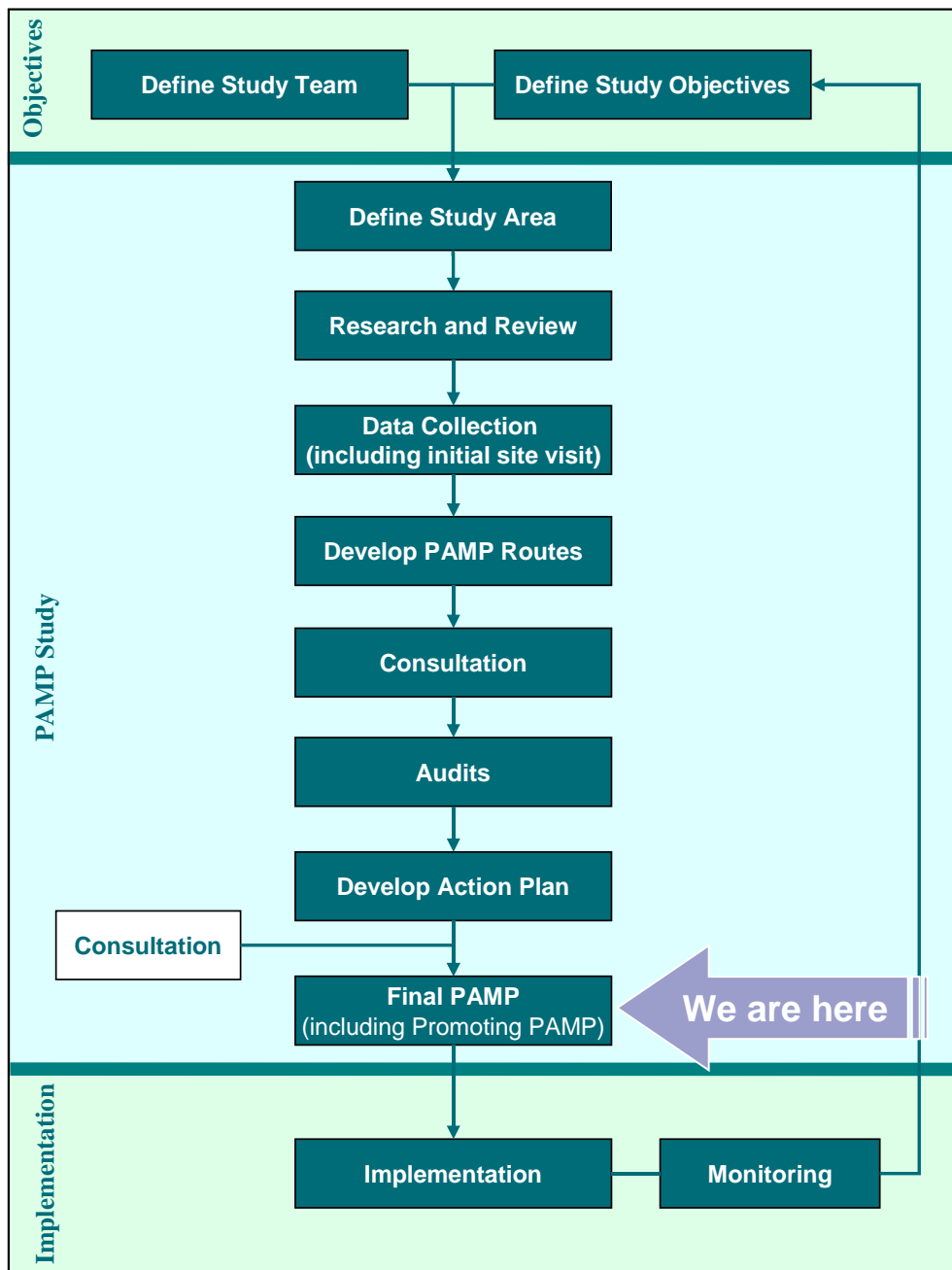


Figure 2: Study Methodology

2 Characteristics of Hunter's Hill

Understanding the characteristics of the study area provides insight into the specific needs and requirements of users.

2.1 Travel patterns

The 2011 Census Journey to Work (JTW) data was used to determine how people travelled to and from the Hunter's Hill Village – shown in Figure 3.

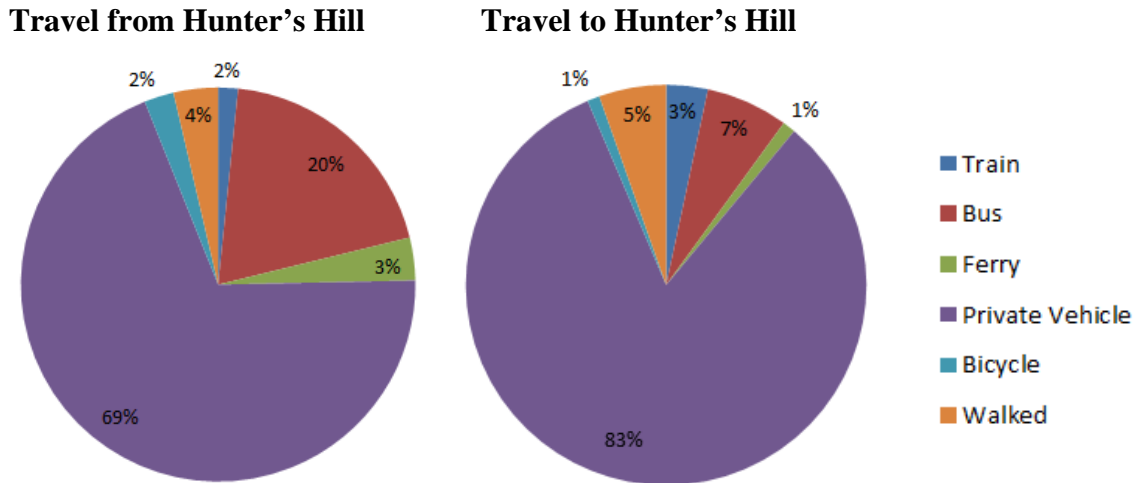


Figure 3: Method of travel to work (source: Census 2011)

The data shows that the vast majority of travel to and from the area is by private vehicle. Travel by bus was the next highest mode at 20% for people travelling from Hunter's Hill and 7% for people travelling to Hunter's Hill. This demonstrates that providing good pedestrian connections to bus stops in the Hunter's Hill Village should form an important component of this PAMP.

2.2 Age profile

Pedestrian planning often considers a number of facility user groups based on age. With respect to the Hunter's Hill area¹, the elderly comprise a significant proportion of the population – with nearly 1 in 3 residents aged 65 or over. Further, the proportion of Hunter's Hill residents over the age of 85 (12%) is six times that the NSW average. This age profile demonstrates the importance of planning for less mobile users in the development of the Hunter's Hill PAMP.

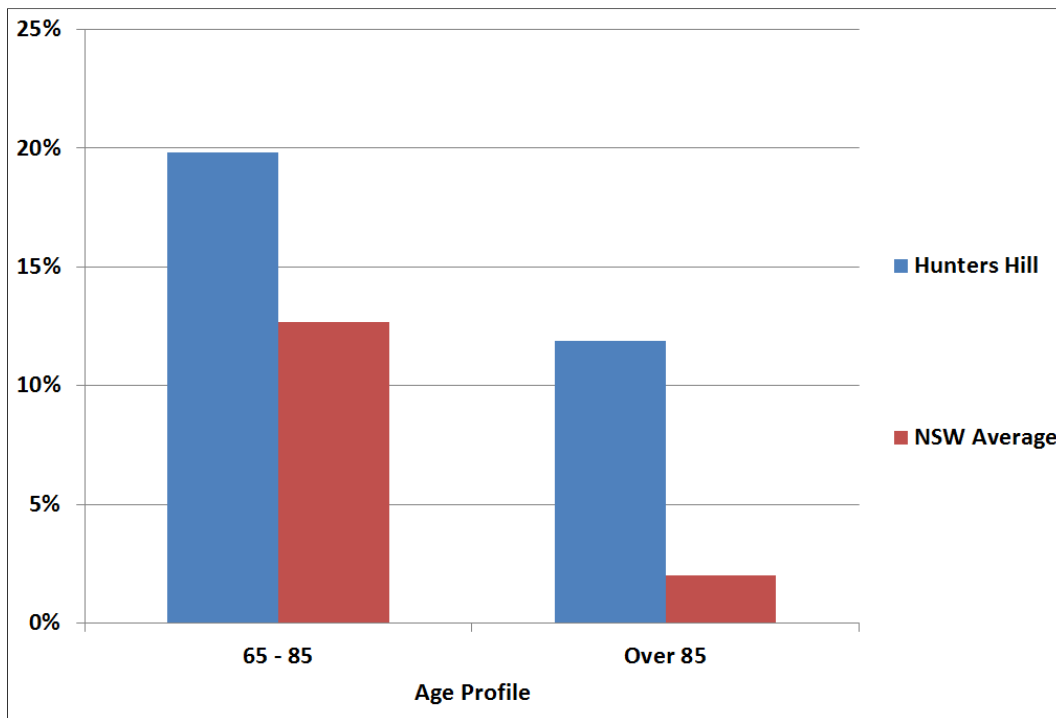


Figure 4: Hunter's Hill Age Profile

2.3 The terrain

The Hunter's Hill area is on a peninsular, in-between Tarban Creek and Lane Cove River. The Village is located approximately 7 km to the northwest of Sydney City Centre. Burns Bay Road splits the suburb in half. Outside of Gladesville Road / Ryde Road corridor, Hunter's Hill is predominantly residential in character to the waterfronts.

The topography of Hunter's Hill generally has steep grades due to the high elevation of the ridgeline and proximity to the surrounding rivers. The Village is set upon the ridgeline at the intersection of Gladesville Road and Ryde Road. While this may limit walking and cycling opportunities from surrounding streets, the road and footpath network in the area is generally built on these ridgelines providing more gentle changes in elevation when travelling along footpaths.

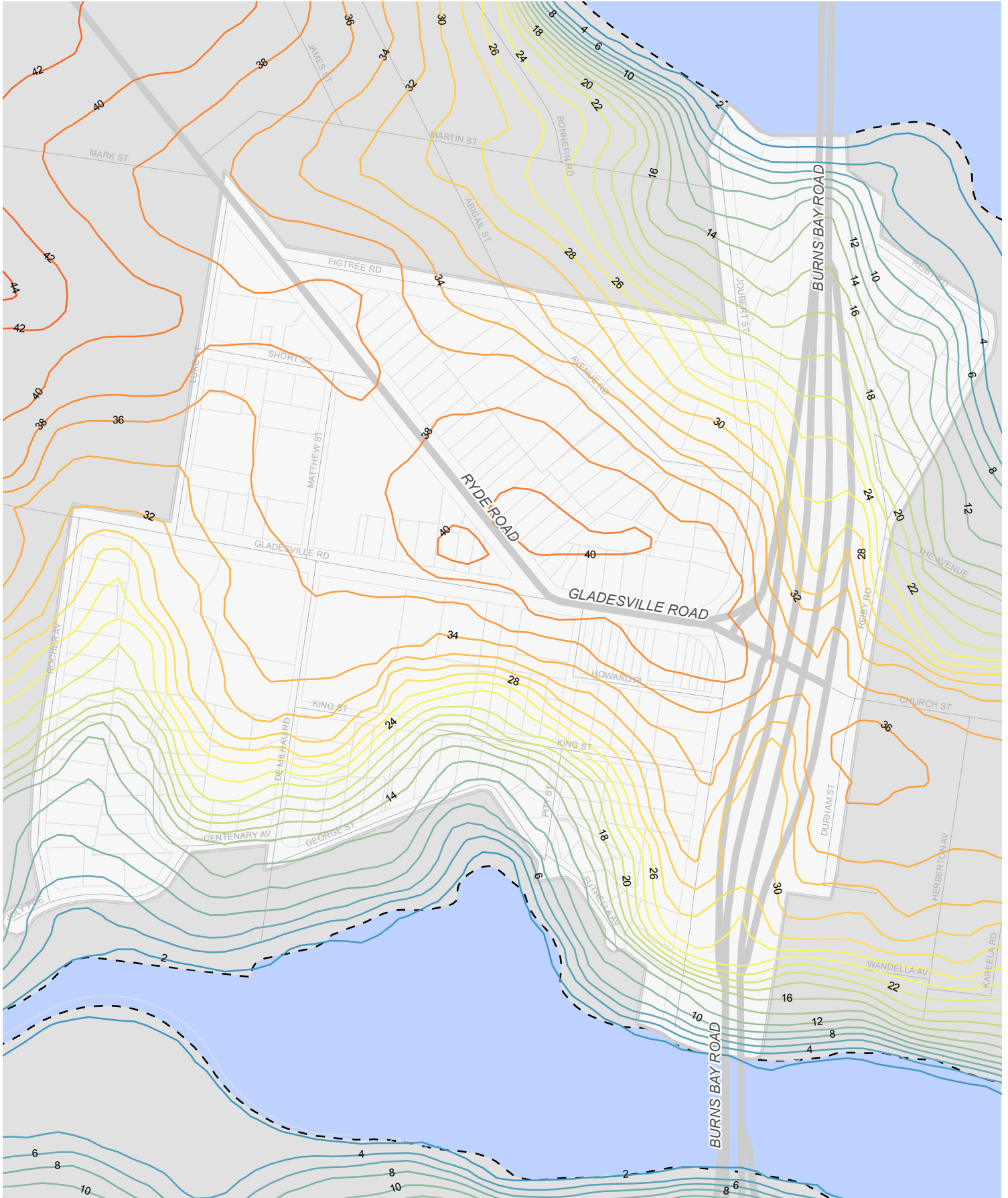
¹ Area bounded by Mary street, Abigail Street & Burns Bay Road, south to Tarban Creek



Topography

- PAMP Study Area
- Cadastre
- Hunters Hill LGA
- Main roads
- Local roads

Elevation (Contours)



2.4 Transport facilities

The sections following describe the existing transport network serving the Hunter's Hill Village. This is illustrated graphically in Figure 7 on page 10 of this report.

2.4.1 Pedestrians

In the Hunter's Hill Village, footpaths are generally provided on both sides of the road. The exceptions to this are on Luke Street, George Street, Joubert Street and Howard Place.

Along Gladesville Road (east of Ryde Road) the condition of footpaths is generally of high quality, with recent public domain works completed adjacent to Joubert Street (Photograph 1). Outside the core of the study area however, there are a number of areas where the footpath surface is cracked and uneven. This presents a trip hazard, particularly for elderly and less mobile users.

Some footpaths were observed to be under transition adjoining construction sites, such as that shown in Photograph 2 on Gladesville Road.



Photograph 1: Gladesville Road footpath



Photograph 2: Footpaths under transition adjoining construction sites

Signalised pedestrian crossings are provided along Gladesville Road (east of Burns Bay Road) at three separate locations. It should be noted however that pedestrian crossing legs are not present on all approaches of these intersections, restricting the movement of pedestrians across this busy road. Pedestrian crossing legs are also provided at the Burns Bay Road / Church Street intersection, in the east of the study area. The only other dedicated crossing facility provided in the study area is a zebra crossing on Joubert Street.

The remaining streets require pedestrians to cross mid-block by waiting for a gap in oncoming traffic. Pram ramps are generally provided at road crossing points, although the condition of these facilities varies across the study area.

Burns Bay Road and Tarban Creek Bridge present the primary barriers to walking across the Hunter's Hill area. Only two east-west pedestrian linkages currently exist across Burns Bay Road – at Gladesville Road / Church Street and via a pedestrian underpass at the north of the study area.

2.4.2 Public transport

The area is well served by public transport with bus services along Ryde Road / Gladesville Road. From these bus stops there are regular bus services (operated by Sydney Buses) to the City, Woolwich and Gladesville as shown in Table 1. Bus stops are located along Gladesville Road, either side of the Burns Bay Road off-ramps, and act as major attractors and generators of pedestrians. Ensuring easy and safe pedestrian access to these bus stops is one of the primary objectives of the Hunter's Hill PAMP.

There are also local bus services using the surrounding streets adjacent to the study area. Mary Street / Mark Street are the main streets used for St Josephs School and Reiby Road and The Avenue are used for Hunter's Hill High School.

Table 1: Peak Hour Bus Services

Route Number	Destination	Number of Peak Services (AM/PM)
505	Woolwich	0 / 3
	City	2 / 0
506	Macquarie University	2 / 5
	City	9 / 2
538	Woolwich Wharf	2 / 0
	Gladesville	2 / 2
X06	East Ryde (from City)	0 / 4

2.4.3 Roads

Burns Bay Road is a state arterial road that divides the Hunter's Hill suburb, providing access to both the City and Lane Cove. It forms the major route throughout the suburb and carries approximately 40,000 vehicles per day.

Ryde Road and Gladesville Road (up to Ryde Road) are regional (RMS controlled) sub-arterial roads, connecting Burns Bay Road to Victoria Road and Epping Road (via Pittwater Road). In response to the classification of these roads, any changes to the operation of these roads, including speed limits and pedestrian crossing facilities, will require the support of the RMS

The remaining roads within the study area are local Council owned streets.

2.4.4 Cycling

There are cycling routes along the state and regional road network as mixed traffic. There is also a recreational bike route that loops around the study area, which takes Tarban Creek, Tarban Creek Bridge and back roads behind each school as shown in Figure 6.

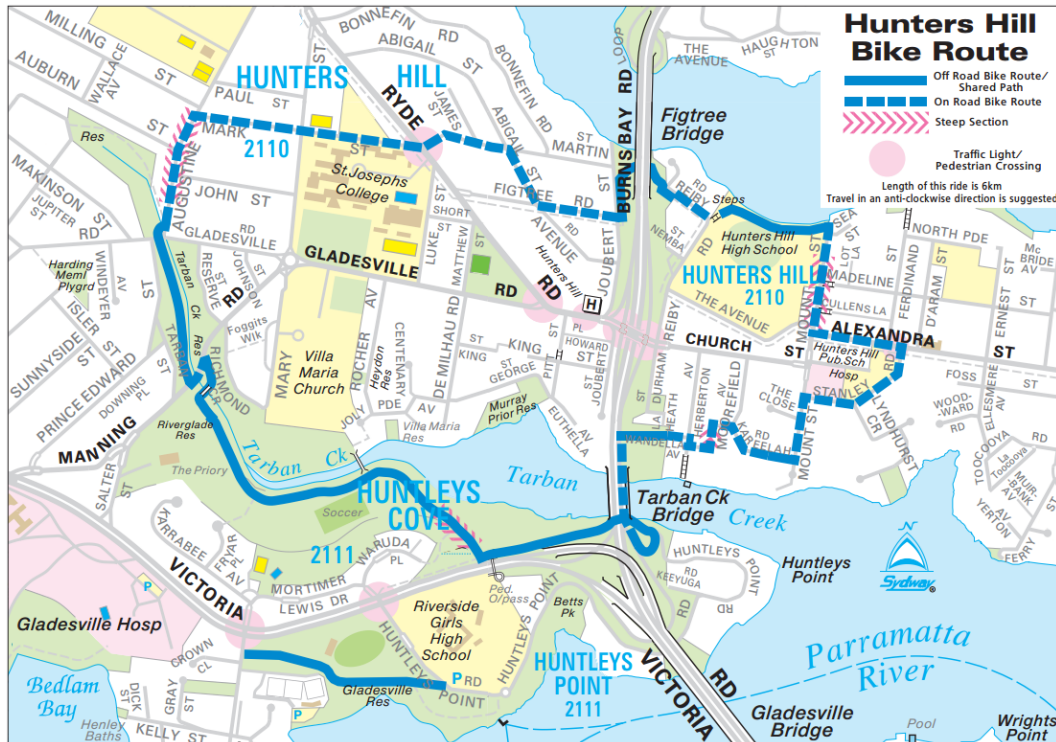


Figure 6: Hunter's Hill Bicycle Routes



Transport Facilities

- PAMP Study Area
- Bus Routes (TfNSW Bus Routes)
- Cadastre
- Bus Stops
- Hunters Hill LGA
- Footpaths
- Main roads
- Local roads



3 Strategic planning context

3.1 State wide documents

3.1.1 Development and Active Living - Designing Projects for Active Living, 2010

This document highlights the opportunity for facilities in the built environment (including pedestrian facilities) that can increase participation in physical activity and enhance the lives of our communities.

PAMP implication: This PAMP project is consistent with the Active Living principles highlighted within *Development and Active Living - Designing Projects for Active Living* as they promote comfort for walkers; encourage traffic management devices that are pedestrian friendly and supports access provisions for all.

3.1.2 Transport NSW Draft Disability Action Plan 2012-2017

Transport for NSW funds specific programs to deliver pedestrian facilities like bridges over busy roads, pedestrian crossings, fencing and shared paths that are used by many pedestrians (as well as cyclists) for transport, exercise and recreation. The mobility and safety of pedestrians at public transport interchanges is an area of increasing focus. There is an expectation that mobility plans are prepared for all transport interchanges at the design phase to ensure that customers can move safely between modes of transport.

PAMP implication: The PAMP can recommend consideration to apply funds for some of the identified PAMP work along Ryde Road and Gladesville Road.

3.2 Local context

3.2.1 Hunter's Hill Local Environmental Plan 2012 (LEP 2012)

Under this plan the area known as the Hunter's Hill Village lies to the east of Burns Bay Road and is zoned B4 Mixed Use on Ryde Road, and R3 Medium Density Residential on Ryde Road as shown in Figure 8.



Figure 8: Hunter's Hill Village (source: 2012 Hunter's Hill LEP)

The Village is separate into two separate parts, Area 1 (B4) and Area 2 (R3). The heights and floor space ratio for the B4 zoned land varies however, with the majority of B4 zoned land indicates height limits and floor space ratios that would allow for medium to high density residential/commercial development.

The primary objectives of B4 zones include the following:

- To provide a mixture of compatible land uses.
- To integrate suitable business, office, residential, retail and other development in accessible locations so as to maximise public transport patronage and encourage walking and cycling.
- To ensure that new buildings provide an appropriate transition between the business zones and surrounding residential localities.
- To maximise levels of pedestrian and business activity along street frontages.

The primary objectives of R3 zones include the following objectives.

- To provide for the housing needs of the community within a medium density residential environment.
- To provide a variety of housing types within a medium density residential environment.
- To enable other land uses that provide facilities or services to meet the day to day needs of residents.

3.2.2 Hunter's Hill Council Consolidated Development Control Plan 2013 (DCP)

Chapter 4.5 of Hunter's Hill Consolidated DCP 2013 (Hunter's Hill Village Centre) applies to all properties that are located along Ryde Road / Gladesville Road and zoned B4 Mixed Use under Hunter's Hill Local Environmental Plan 2012. The development objectives for this area are:

- (a) Ensure that future development respects and enhances the environmental character and amenity of the Hunter's Hill Village.
- (b) Promote high standards of architecture, landscaping and urban design.
- (c) Improve commercial and retail functions of the Hunter's Hill Village while recognising that its role is secondary to the Gladesville Village Centre.
- (d) Encourage additional residential development as a component of mixed developments within the commercial core precinct of this Village.
- (e) Ensure that environmental heritage is conserved.
- (f) Protect the amenity of residential neighbourhoods which surround the Hunter's Hill Village.

PAMP implication: A strong and connected pedestrian network that will be proposed by this PAMP will support an active Hunter's Hill Village.

3.2.3 Hunter's Hill Community Strategic Plan 2030

The Hunter's Hill Community Strategic Plan 2030 outlines a series of objectives to improve the quality of life for residents of the LGA. The strategy defines service standards to ensure the key objectives are achieved.

PAMP implication: Strategies and objectives outlined in the Strategic Plan relevant to this PAMP include:

- Plan and integrate bicycle and pedestrian networks with public and private transport systems. This will create safer pedestrian facilities connected to transport nodes, and village centres that are pedestrian friendly
- Ensure no trip hazards are present on footpaths
- Provide seating at all bus stops

3.3 Hunter's Hill Public Domain Plan

This manual prepared by Oculus provides a guide for the future planning and design of the public domain for the Hunter Hill village centre.

PAMP implication: The technical manual has identified a number of opportunities to enhance the pedestrian network in the Village, by:

1. **Creating new pedestrian pathways and upgrade existing pathways** to give local pedestrian alternative access to shops and facilities, free from the traffic congestion, noise, pollution and overcrowding associated with Gladesville Road

2. **Providing better pedestrian access along Gladesville Road** to provide a better visual and physical connection within the village centre. Measures to enhance the pedestrian environment may include:
 - Entry markers or precinct signage at crossings.
 - Specific road treatment at crossings to provide a visual contrast to the general roadways.
 - Increased width of pedestrian crossings.
 - Widening of footpaths at intersections
3. **Enhancing pedestrian safety** by providing sufficient width, lighting and finishes on footpaths
4. **Providing standard pavement types** to be implement in high pedestrian activity areas on Gladesville Road and Ryde Road.

These opportunities will be considered in the development of the PAMP Action Plan.

3.4 Hunter's Hill Traffic Study

This study prepared by Stapleton Transportation and Planning provides a transport strategy for the Hunter's Hill Village – responding to the impacts of future development. The strategy covers pedestrians, public transport and traffic issues.

PAMP implication: The strategy has identified a number of opportunities to enhance the pedestrian network in the Hunter's Hill Village. Some recommendations relevant to this PAMP include:

- Introduction of a 40km/h speed limit in Gladesville Road between Joubert Street and Luke Street and in Ryde Road 80m west from Gladesville Road
- Landscaping on the footpath in the Village, paving at the intersection of Gladesville Road and Ryde Road and further works to the west of Ryde Road.
- Bus stops to be removed from the Village Centre and stop only in Ryde Road and Burns Bay Road.
- Add a signalised pedestrian crossing over Gladesville Road at the signals on the western side of the Burns Bay Road overpass.
- Realign the left turning lanes from Tarban Creek to Gladesville Road to create an island to accommodate the pedestrian crossing
- Add a pedestrian safety fence to the two footpaths on the Burns Bay Road Overpass
- Add bike lane signage in Ryde Road, shared bike/pedestrian signage on the overpass and new access paths between at Joubert Street.
- Narrow the width of the pedestrian crossing Joubert Street
- Add a flashing warning light in Joubert Street south to indicate when left turns are permitted from the northbound exit from Burns Bay Road. The cycle length of reduced in off-peak periods to improve pedestrian amenity.
- Add Auto Call to pedestrian phases in Gladesville Road and Ryde Road.

3.5 Other Documents

Other documents and strategies (within a local context) considered in the development of this PAMP include:

- Hunter's Hill Bicycle Plan 2004
- Hunter's Hill Council Development Contributions Plan
- Hunter's Hill Public Urban Design Strategy
- Hunter's Hill Local Environment Plan 2012
- Hunter's Hill Council Footpath Construction Renewal Program

4 Data collection and review

4.1 Pedestrian trip generators and attractors

The Hunter's Hill Village supports a mix of local land uses as shown in Figure 9. The Village is defined by the retail uses on Gladesville Road running from Burns Bay Road to Matthew Street. These retail uses support local retail including a butcher, green grocer, cafes and eateries, IGA and the Hunter's Hill Hotel.

The land uses within the Hunter's Hill Village also reflect the older demographic in the area. Aged care housing is present along Gladesville Road, as well as a series of aged care and community facilities.

St Joseph's College and the Hunter's Hill High School 'bookend' the study area, bringing a high number of school aged students into the Hunter's Hill Village using the bus services along Gladesville Road.

The open space within the study area, Figtree Park, Saint Malo Reserve and Murray Prior Reserve provides a strong network of green space in the study area. The Saint Malo Reserve and Murray Prior Reserve provides access to enjoy the waterfront of Hunter's Hill.

As bus services form the primary public transport services within Hunter's Hill, the bus stops along Gladesville Road act as a key pedestrian attractor and generator node.



Pedestrian Attractors and Generators

- PAMP Study Area
- Cadastre
- Hunters Hill LGA
- Main roads
- Local roads
- Aged Care Facility
- Church
- School
- Retail/ Commercial uses
- Green space/ Open space



4.2 Pedestrian related crash and injury data

Crashes involving pedestrians in the Hunter’s Hill study area over the latest five years from July 2009 - June 2013 (inclusive) have been analysed as part of this PAMP. The number of crashes recorded during this time period was three pedestrian related crashes and two cyclist related crashes. Details of each crash are detailed in Table 2.


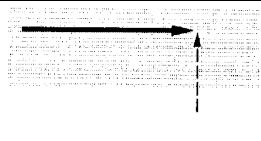

Key results of the pedestrian crash data analysis within the study area are presented in Figure 10 and described as follows:

- All pedestrian and cyclist related crashes recorded injuries;
- There appeared to be no identifiable crash clusters; and
- The time of the crashes involving pedestrians were recorded during peak hours (two in AM peak and one in PM peak).

Table 2: Investigation of crashes

Location	Cross Street or Nearby Feature	Pedestrian Crash Type (Road User Movement) <i>See Table 3 for descriptions of Road User Movement</i>	Time and Date of Crash
Burns Bay Road	15m north of Gladesville Road	00: Near side	08:08 in 2009
Gladesville Road	at Rocher Avenue	02: Far side	07:55 in 2012
Ryde Road	100m north of Gladesville Road	03: On carriageway	09:15 in 2013

Table 3: Road User Movement Code Description

 NEAR SIDE 00	 FAR SIDE 02	 PLAYING, WORKING LYING, STANDING ON CARRIAGEWAY 03
----------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------

It should be noted that crashes involving pedestrians are usually under-reported and may actually be higher. Arup has been made aware of an incident involving a school aged student in recent years crossing the northern side of Burns Bay Road which has not been included in the RMS database. The issue of pedestrian safety at this crossing (see Photograph 3) will be important to consider during the PAMP audit process.



Photograph 3: Burns Bay Road northern crossing



Crashes involving pedestrians

- PAMP Study Area
- Cadastre
- Hunters Hill LGA
- Main roads
- Local roads
- Crashes involving pedestrians (2009 - 2013)**
 - Fatal
 - Injury



4.3 Initial site visit and observations

Arup, alongside representatives from Hunter's Hill Council conducted an initial site visit in January 2014 to understand the existing pedestrian issues, observe pedestrian desire lines, and pedestrian behaviour in the study area. Initial site visit findings are summarised below.



Severance caused by Burns Bay Road

The Hunter's Hill Village is unique in that it is located directly adjacent to an 80km/h freeway (Burns Bay Road). The presence of this road presents a major barrier to walking, particularly connections between the Village Centre and uses on the eastern side of the road including Hunter's Hill High School. Maximising the safety of users at this location has formed a key consideration of this PAMP.



Concentration of aged care facilities

A high number of aged care facilities are located along Gladesville Road. It is therefore important the pedestrian network supporting these facilities provide pedestrian infrastructure that are an appropriate width, are of high quality and meet DDA standards. Any trip hazards along footpaths need to be identified to ensure the safety of these users.



Access across Gladesville Road

There is a strong pedestrian desire line across Gladesville Road particularly to travel to and from the aged care facilities located along this corridor.

There are currently no pedestrian crossing facilities on Gladesville Road between Ryde Road and Mary Street, a distance of approximately 600m.



Quality of Footpaths

A number of footpaths in the study area were observed to be either cracked or uneven – presenting trip hazards. Given the high proportion of elderly users utilising these footpaths, it is important the PAMP identifies areas of where footpaths require remedial action.



Public domain improvements

Recent public domain improvements along Gladesville Road provide high pedestrian amenity environment, good quality pavements, and encourage pedestrians to stop and rest in the Village area. The PAMP should ensure these improvements are implemented throughout the Village Centre in accordance with the Hunter's Hill public domain guidelines.



Future developments

A number of sites within the study area have been identified, or are currently under construction for development. It is important that this PAMP considers the implications of these developments with respect to the adjacent pedestrian environment.



Access to bus stops

Bus stops are currently provided on Gladesville Road near Burns Bay Road (adjacent to the Hunter's Hill Hotel). A recommendation arising out of a traffic study prepared by Council involved relocating bus services utilising these stops to Burns Bay Road.

The Hunter's Hill PAMP will consider how access for pedestrians walking to and from these bus stops may be impacted following their potential relocation.

5 Consultation

5.1 Stakeholder Workshop

The primary means of community consultation for the Hunter's Hill PAMP was through a stakeholder workshop. The group format of the workshop provided an opportunity for generation and exchange of ideas between key stakeholders in the PAMP process. The aim of the workshop was to identify the key pedestrian issues and concerns for the Hunter's Hill Village.

The workshop was held at the The Gladesville Road Community Centre on Tuesday 4 March 2014. Both an afternoon (2.30pm – 4.30pm) and evening (5.30pm – 6.30pm) session was held to allow all stakeholders to participate. A mix of local residents as well as representatives from Council and Hunter's Hill High School were in attendance at the workshop. A number of residents from nearby aged care facilities participated in the stakeholder workshop, including a number from Hunter's Hill Lodge.

Approximately 35 people were present during the afternoon workshop, where participants were separated into five discussion groups. At the conclusion of each discussion session, each group was provided the opportunity to present their key findings to the remainder of those present. Topics covered within the group discussion included:

- The main pedestrian routes in Hunter's Hill are focused on Gladesville Road to access the local shops and bus stops;
- A key desire line is connecting Hunter's Hill High School and the bus stops in the Village;
- There are a series of existing barriers to walking along recreational walking routes including missing footpaths and stair only access;
- Car dominant environments along Burns Bay Road are barriers to walking in Hunter's Hill including safety concerns at Gladesville Road slip lane and narrow footpaths to cross Burns Bay Road;
- There are existing hazards along locations within the main pedestrian routes, particularly along Gladesville Road and Ryde Road including obstructions along the path;
- The benefits and challenges of the potential options for relocation of bus stops in the Hunter's Hill Village including the need for bus stop facilities;
- In some areas, the condition of footpaths within the study area were identified as uneven and hazardous;
- Improved connectivity and access to Figtree Park;
- Priority of PAMP routes; and
- Potential facilities improvements to enhance pedestrian movements including lighting improvements, raised crossings, pedestrian refuges, improved signage for key pedestrian facilities, footpath continuity treatments, lower speed environments i/e '40km/h high pedestrian activity area', .

Selected photos from the workshop are shown in Photograph 4 on the following page.



Photograph 4: Stakeholder Workshop Photos

5.2 Questionnaire Survey

Arup designed a questionnaire survey to capture the key issues relevant to walking within Hunter's Hill. The survey was posted on the Hunter's Hill Council website, as well as printed for those without internet access.

Respondents were asked a series of questions with respect to walking in the study area, including trip purpose and the quality of the walking environment. Respondents were invited to identify (on a map provided) locations where they have experienced barriers in the study area.

The results of this spatial analysis are illustrated in Figure 11, and demonstrate a cluster of issues identified around the Gladesville Road and Ryde Road corridors. 190 pedestrian related issues were recorded from 41 respondents. 11 people responded online and 30 people responded by printed questionnaire. Issues were categorised (and had the following number of responses) for each issue:

- Footpath issues (28)
- Safety/security concerns including motorist behaviour (17)
- Crossing issues (11)
- Lack of signage (9)
- Poor lighting (8)
- Poor amenities including maintenance and cleanliness (8)
- Kerb ramp issues (4)
- Obstructions (3)
- Long distances to walk to destinations (1)

There were a cluster of comments recorded along Gladesville Road, especially around the intersections of Mathew Street and De Milhau Street. This aligned with the feedback received in the stakeholder workshop with respect to footpath condition, poor lighting (due to trees) and lack of crossing opportunities at these locations.

The Village Centre also had a concentration of comments largely surrounding pedestrian safety (particularly crossing Burns Bay Road).



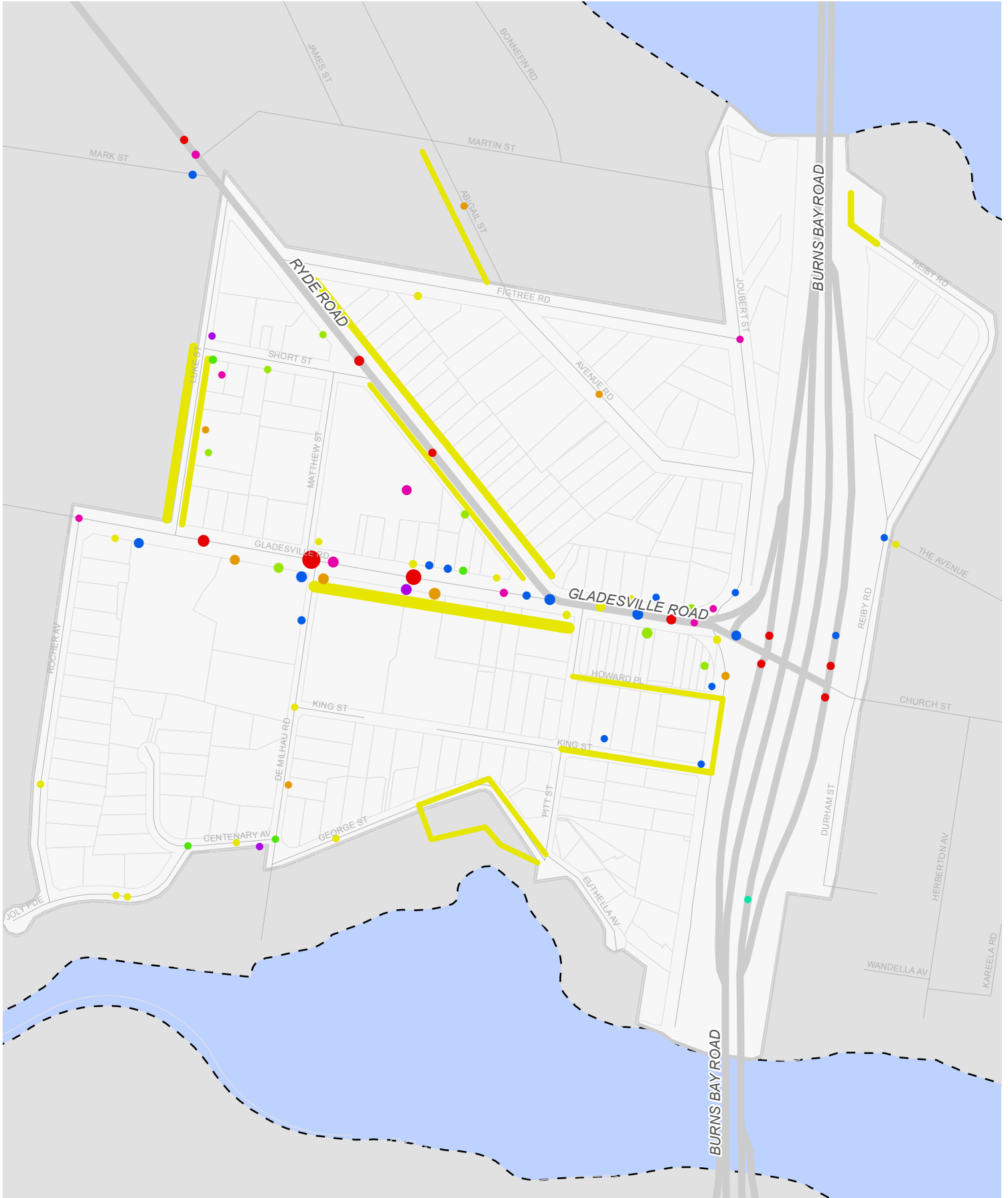
Community Issues

- PAMP Study Area
- Cadastre
- Hunters Hill LGA
- Main roads
- Local roads

- Consultation Issues
- Lack of signage
 - Crossing issues
 - Poor lighting
 - Footpath issues

- Poor amenities
- Kerb ramp issues
- Long distances to walk to destinations
- Safety/security concerns
- Obstructions

- Scale
- 1
 - 2
 - 3
 - 4
 - 5
 - 6
 - 7
 - 8
 - 9
 - 10



5.3 Council Briefing

Arup presented the findings of the draft PAMP report to a Hunter's Hill Council briefing on Monday 26 May 2014. The meeting provided Councillors the opportunity to provide feedback on the key recommendations of the draft PAMP, including:

- Crossing of Gladesville Road;
- Pedestrian and traffic arrangements at the Gladesville Road / Ryde Road intersection;
- Crossing of Burns Bay Road; and
- Location of bus stops in the village centre.

A number of comments and suggestions were made by Councillors with respect to the issues discussed at the briefing. This feedback has been incorporated into this final PAMP report.

5.4 Public Exhibition

The draft PAMP was placed on public exhibition from 22 July to 22 August 2014. Placing the draft PAMP on public exhibition is part of the community engagement stream of the PAMP process. Six responses to the draft PAMP were received during the public exhibition period.

The primary issue reflected in the submissions received related to the location of bus stops in the Hunters Hill Village. Hunters Hill High School provided a detailed response recommending a bus stop be provided for students and staff on the Burns Bay Road on-ramp to eliminate the risk of children walking across the (currently uncontrolled) Burns Bay Road overbridge. A petition signed by 13 residents recommended that the existing bus stop at Joubert Square be retained as it provides good access to the Village Centre.

The community engagement stream is recognised as a key component of the PAMP as it enables community and stakeholder input to inform the PAMP issues and recommendations. Comments on the draft PAMP have been incorporated into this document to finalise the study.

6 PAMP Routes

The development of the PAMP routes enables Council to best allocate limited resources within competing pedestrian opportunities and facilities. The PAMP route network development is informed by the data analysis and initial site visit base built for the PAMP study and feedback received from the community during the consultation stage.

The pedestrian routes were prioritised based on factors outlined in the RMS *How to Prepare a PAMP* document, as follows.

- **Land use** – the number of attractors and generators in the area, the type of land use, distance and future developments
- **Traffic impact** –based on the road hierarchy, with State Roads (e.g. Gladesville Road and Ryde Road) given highest priority
- **Safety** – how safe the public feel about the area, and the accident history of the area;
- **Facility benefit** –the demonstrated usage of the route, based on the nearby attractors and generators with input from observed activities and community consultation;
- **Continuity of routes** –how the route links with the existing pedestrian network, whether it is to or from an existing footpath, or to an attractor and/or generator; and
- **Priority** – The priority relates to the identified route priority.

Particularly, importance was given to feedback provided in the stakeholder workshop and questionnaire survey. A priority of routes presents the best opportunity to:

- provide links between main attractors and generators
- improve existing pedestrian hazards locations
- formalise existing pedestrian links
- support connections to recreation routes

The network of PAMP routes is summarised in Figure 12.



PAMP Routes

- PAMP Study Area
- Cadastre
- Hunters Hill LGA
- Main roads
- Local roads
- PAMP Routes**
- High
- Medium
- Low



7 PAMP Routes Audit

7.1 Audit Process

A physical access audit of the high priority routes² within the study area was completed over one day in May 2014. The audit checklist was developed from the pedestrian facilities standards in AS 1428.1, AS 1428.2, AS 1428.4.1 and Austroads standards.

The key focus of the physical audits is to identify deficiencies in the existing pedestrian network. Factors considered in the audits are detailed below.

- Footpaths provision (are footpaths absent?);
- Footpath quality (are footpaths damaged, cracked or uneven path, narrow, or trip hazards?);
- Kerb ramp provision (are kerb ramps absent? Do existing kerb ramps conform to Australian Standard design?);
- Obstruction / barriers along path (are there poorly placed trees, bus shelters, signage or seating?);
- Pedestrian crossing facilities (are there locations where additional crossing facilities are required or existing are in need of upgrade?);

A full list of the issues arising from the footpath audit is included in Appendix A. Each issue has a unique ID number that links the issues maps to the Staged Work Plan. Photos of the audited issues have been collected, and selected photos have been presented in this report.

7.2 General Audit Findings

As highlighted through throughout the stakeholder consultation period, pedestrian crossing issues and lighting issues were identified through the audit as a key concern for the study area. A number of footpaths in the core of the Village Centre are currently being upgraded, however outside the centre there are a number of missing footpaths or footpaths with reduced quality paving.



² Auditing of the medium and low priority routes is outside of the scope of this study

7.3 Footpath Audit Findings

Footpath issues that were observed during the audit included:

- Cracked and uneven footpaths due to:
 - Manholes and service pits
 - Driveway crossovers
 - Wear and tear of existing footpaths
- Narrow footpaths widths including:
 - Insufficient pavement widths
 - Obstructions within the footpath
- Missing footpaths

7.3.1 Cracked and Uneven Footpaths

There were a number of locations throughout the study area where the footpath was identified as uneven or cracked. Cracks, cavities and uneven footpaths appear due to wear/age, poor drainage/sub-base and nearby tree roots. Some locations of where footpaths were in poor condition are shown below.



Matthew Street (western side)



Ryde Road (southern side)



Burns Bay Road NB off-ramp (western side)



Reiby Road (western side)

There were also a number of locations where the footpath was uneven due to manhole covers. These locations are illustrated below:



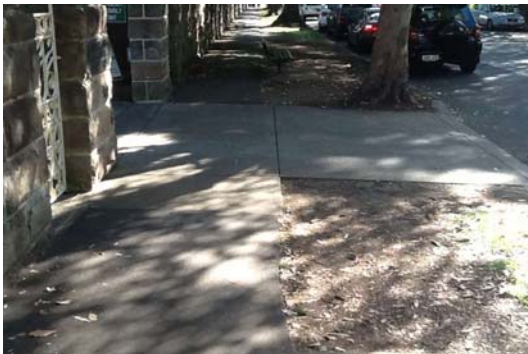
Ryde Road (northern side)



Gladesville Road (southern side)

7.3.2 Footpath Widths

The width of the footpath was observed during the audit process. Width was assessed against standards to the minimum required width (for DDA compliance) of 1.2m. It was also assessed on existing evidence of wear (of the nature strip) to determine pedestrian demand. Examples of locations where footpaths were observed to be narrow are outlined below:



Gladesville Road (southern side)



King Street (northern side)

There were also a number of footpaths that meet the minimum standards, but contain pinch points that reduce the available width (due to obstructions). Obstructions include telegraph poles, roadside signage and service boxes. Some of these locations are outlined below:



Joubert Street (western side)



Gladesville Road (northern side)



King Street (northern side)



Ryde Road (northern side)

7.3.3 Missing Footpaths

The audit identified that there were a number missing footpaths along the high priority routes. These were located at the following locations:



Matthew Street (eastern side)



Howard Place (both sides, south of Ryde Road)



Pitt Street (western side)



George Street (both sides, west of Pitt Street)



Joubert Street (eastern side)



Reiby Road (western side)

7.4 Kerb Ramp Audit Findings

The audit identified that the majority of footpaths along the high priority routes contained suitable kerb ramps. Kerb ramp issues that were observed during the audit included:

- A lip or step between kerb ramp and road
- Steep grades on kerb ramps
- Direction of kerb ramps
- Missing kerb ramps.

Selected photos of these issues are found below.



Gladesville Road (at Luke Street) not aligned



Ryde Road (at Matthew Street) missing kerb ramp



Ryde Road (at Burns Bay Road) not aligned



Ryde Road (at Burns Bay Road) missing kerb ramps



Ryde Road (at Figtree Road) has lip/step



Ryde Road (at Figtree Road) has lip/step

7.5 Awning Fixtures

Awning fixtures were generally observed to be present at the key retail areas within the Village Centre. The physical audit highlighted that there was limited provision for awnings beyond these locations. It is noted however that the implementation of awning fixtures throughout the whole route network is unrealistic and unfeasible, and the existing awning fixtures provided by structures within the Village Centre is generally sufficient.

Implementation of awning fixtures could be considered as further development continues along Ryde Road or Gladesville Road.

7.6 Lighting

Through the physical audit, street lighting was observed to be present along most of the high priority PAMP routes. However, the audit noted that a number of large trees with extensive foliage covered the street lights. This was especially evident along Gladesville Road and Ryde Road (northwest of the Village Centre), as well as Joubert Street south of Gladesville Road. Some examples are shown below.



Gladesville Road (southern side)



Ryde Road (southern side)

Locations with no lighting poles nearby are shown below:



Burns Bay Road connection to Reiby Road



Joubert Street north of Ryde Road

7.7 Signage

There is limited wayfinding signage present within the Village Centre, with some examples shown in Photograph 22.



Signage in front of 46 Gladesville Road



Signage on Ryde Road at Howard Place

Additional locations for wayfinding signage were also identified through the audit. New locations were mainly identified at locations on the outskirts of the Village Centre, providing linkages to key destination points. These locations include:

- Gladesville Road near Luke Street;
- Gladesville Road at Figtree Park connection;
- Ryde Road near Figtree Road;
- Joubert Street at King Street; and
- Joubert Street at Hunter's Hill Park frontage.

A consistent signage strategy is recommended to be adopted across the Hunter's Hill LGA's.

7.8 Crossing Audit Findings

A series of pedestrian crossing issues were identified during the audit, including:

- Pedestrian refuge designs
- Signalised pedestrian crossings
- Opportunities to provide new crossings on existing pedestrian desire lines

Refuge islands within the study area were generally unprotected and not wide enough to accommodate a wheel chair user or bicycle. Refuge islands without handrails and sufficient width create a false sense of security for users crossing the road. Examples of poor refuge crossing points are shown below.



Figtree Road at Ryde Road intersection



Gladesville Road near De Milhau Road

The signalised intersection of Gladesville Road and Ryde Road currently has no pedestrian crossing on the eastern approach. Similarly, the signalised intersection at the Burns Bay Road ramps with Gladesville Road has no north-south pedestrian crossing. However, there is a mid-block set of pedestrian signals near Howard Place.

There were also a number of locations without safe pedestrian crossing facilities nearby. These include the following:

- Gladesville Road (west of Ryde Road);
- Ryde Road (near Mathew Street and Figtree Road); and
- Joubert Street (north of Ryde Road) and Burns Bay Road northbound on-ramp.

8 Assessment of Key Issues

8.1 Crossing of Gladesville Road

8.1.1 Existing Conditions

The lack of a formal pedestrian crossing facility on Gladesville Road (west of Ryde Road) was a recurring issue to arise during the consultation period. On either side of Gladesville Road (between Ryde Road and Matthew Street), there is an intense concentration of aged care facilities and community facilities. Consequently, the vast majority of users crossing this road are elderly and less mobile – reflective of the age profile for Hunter's Hill as outlined on page 5 of this report. **A strong pedestrian desire line exists across Gladesville Road for users travelling between these facilities.**

Gladesville Road contains two traffic lanes in each direction, with the kerbside lane used for on-street parking. The road is currently signposted at 50km/h, however higher traffic speeds are often recorded as the road is wide and straight with good sight distance. Observations undertaken during this PAMP study have indicated a high number of elderly users cross the road during the day.



Photograph 5: Gladesville Road west of Ryde Road

8.1.2 Traffic Volumes and Speeds

To understand the existing volume of traffic, and traffic speeds, Arup undertook a survey of all vehicles currently travelling along Gladesville Road. The survey was undertaken over a seven day period, between 2 May 2014 and 8 May 2014 (inclusive). A summary of the average hourly vehicle volumes on Gladesville Road is shown in Figure 13 below.

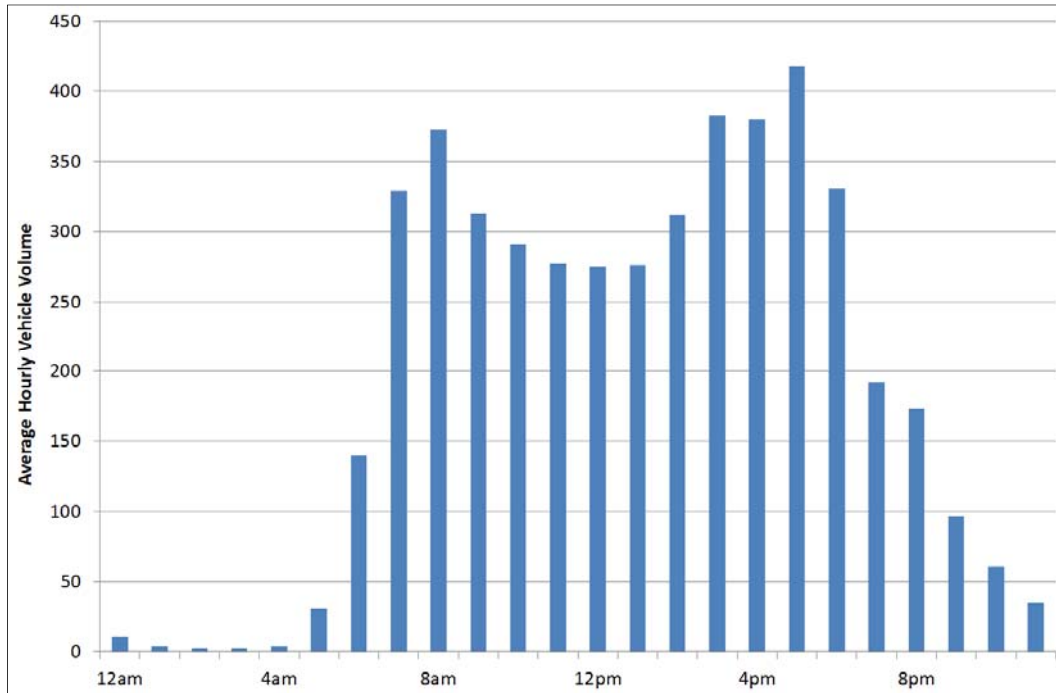


Figure 13: Gladesville Road traffic volumes

On a typical weekday, traffic volumes along Gladesville Road exceed 400 vehicles per hour during busy periods. On Saturday 3 May, between 10am and 1pm, approximately 1,450 vehicles were recorded on Gladesville Road – averaging nearly 500 per hour over a three hour period.

The 85th percentile speed along Gladesville Road was recorded at 48km/h – just below the signposted 50km/h speed limit. The survey recorded a number of vehicles travelling significantly above this limit, with five vehicles recorded to be travelling more than double than posted speed limit (greater than 100km/h).

8.1.3 Recommended Action

It is evident from the community consultation undertaken, site observations and traffic surveys, that some form of pedestrian crossing facility is required across Gladesville Road. The current levels of traffic on Gladesville Road do not warrant the introduction of traffic signals. A marked pedestrian crossing (zebra crossing) would be the most appropriate form of crossing treatment.

Roads and Maritime have specific requirements ('warrants') that must be satisfied in order for a zebra crossing to be introduced. This requires hourly vehicle flows to be greater than 500 per hour, with a minimum of 30 pedestrians per hour. However, reduced warrants apply in cases where the crossing is to be used by children, the aged or physically impaired pedestrians.

Given the strong desire line that exists between the aged care and community facilities, the high traffic volumes (approximately 500 per hour recorded on a Saturday) and significant proportion of aged or physically impaired pedestrians, it is considered a formal zebra crossing is warranted on Gladesville Road. It is recommended a raised crossing ('wombat crossing') be provided, which has the dual benefit of reducing traffic speeds and providing safe pedestrian access.

To align with the key pedestrian desire line, it is recommended the crossing be located adjacent to the driveway of 44 Gladesville Road (Community Centre). This will provide a linkage into Figtree Park further north. Introduction of this crossing will result in the loss of four on-street parking spaces on the southern side of Gladesville Road, and two spaces on the northern side.

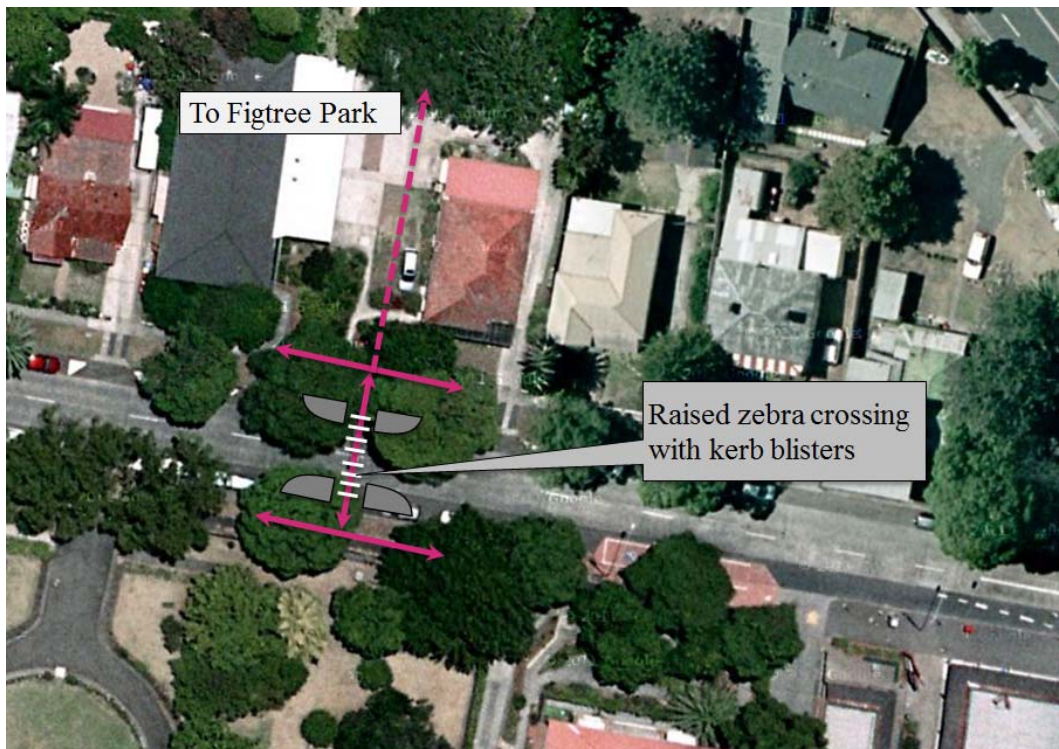


Figure 14: Proposed Gladesville Road Zebra Crossing

8.2 Gladesville Road Footpath

8.2.1 Current / Planned Works

The Hunter's Hill Village Centre is currently undergoing footpath treatment upgrades. Works involve repaving the existing verges and footpaths in accordance with the Hunter's Hill Public Domain Plan outlined previously in Section 3.3. The works extend from Joubert Street to approximately 60m west of the Gladesville Road and Ryde Road traffic junction.

The entry statement on the southeast corner of Gladesville Road and Joubert Street has been completed, along with the bus stop in front of 64-68 Gladesville Road. Works currently underway include outside the Hunter's Hill Hotel (64 Gladesville Road) and the corner of Gladesville Road and Ryde Road (52-56 Gladesville Road).

Future works involve either developer funded or Council funded works. Developer funded works are in the preliminary stages for 58-60 Gladesville Road, and should be completed within the next 12-18 months. Council funded works involve four separate sections. Section 1 will likely commence within the current financial year, while Sections 2-4 will be completed within the next 5-10 years by a Section 94A plan.

Works that are either completed, ongoing or have been put forward to Council are illustrated below in Figure 15.

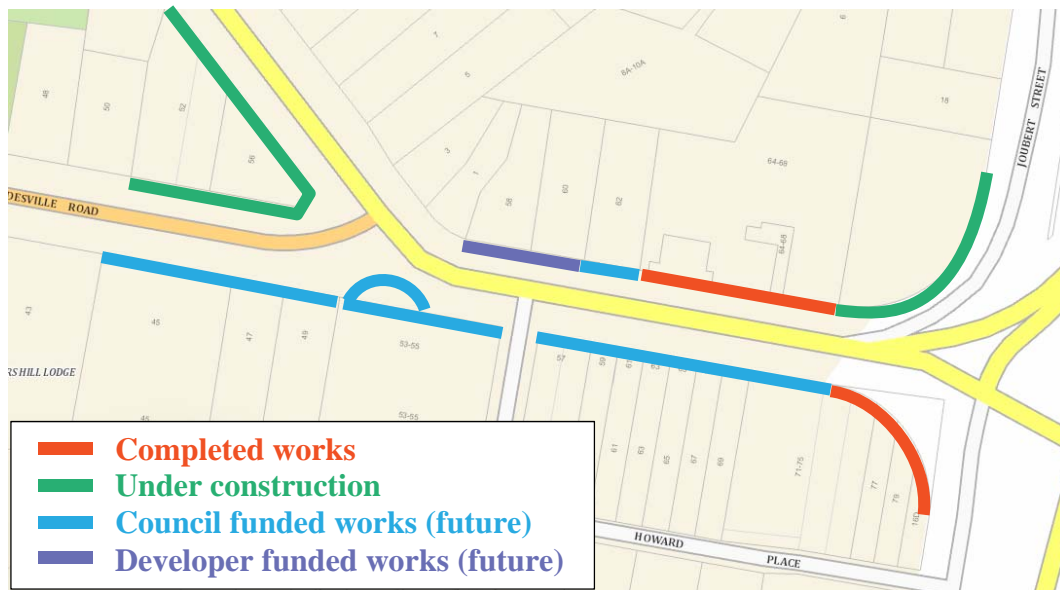


Figure 15: Village Centre Pavement Works
(Source: Minutes of Council Meeting 4357 held on 7 April 2014).

8.2.2 Recommended Works

The PAMP identified that the Gladesville Road southern footpath is narrow in sections (from the Village Centre up to Matthew Street). Therefore, it is recommended that Village Centre footpath works are continued from 45 Gladesville Road along the southern footpath. These works would involve widening the existing footpath, using a similar treatment to the paving provided adjacent to Joubert Street (asphalt pavement from boundary to kerb).

The current width and condition of the northern footpath of Gladesville Road (from Ryde Road to Luke Street) is generally adequate for its level of use and does not warrant similar upgrade works. The action plan outlined in Appendix A identifies areas along selected length of Gladesville Road where footpaths were considered narrow.

No works programs have been confirmed for 1-5 Ryde Road or the cobble signalled pedestrian crossing on Gladesville Road (at the western approach to the intersection). These works were outlined in the Public Domain Plan, and should be completed to finalise the Village Centre footpath works. This crossing treatment is discussed further in Section 8.3.

The extent of the recommended works is illustrated in Figure 16.

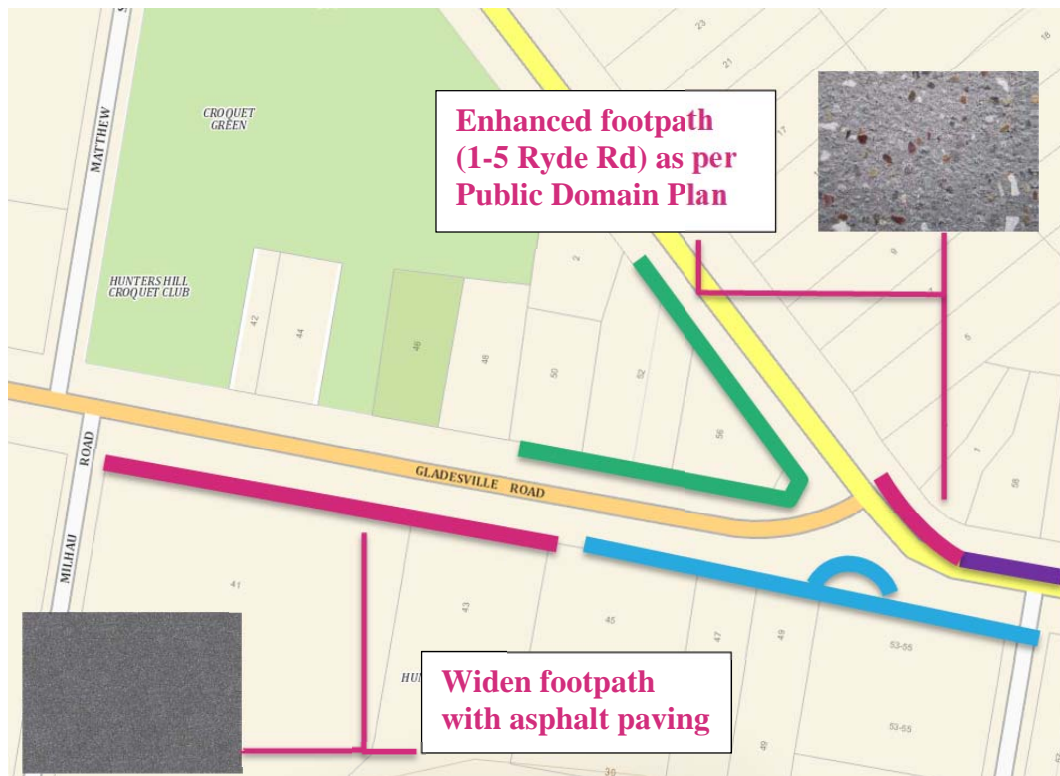


Figure 16: Recommended Footpath Works – Gladesville Road

8.3 Ryde Road / Gladesville Road Intersection

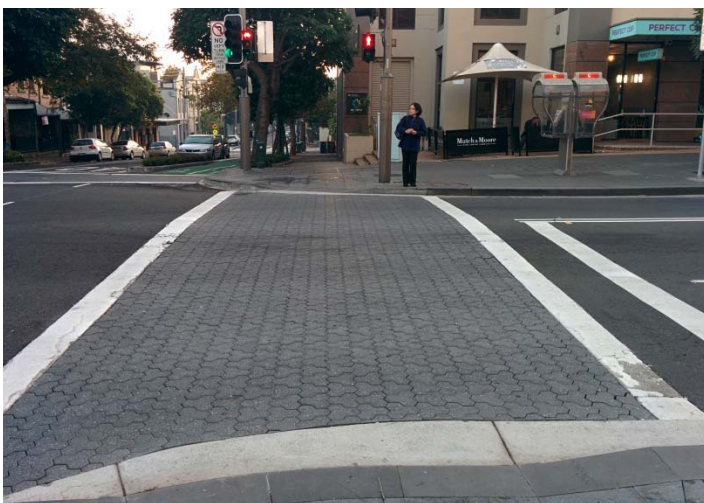
An issue arising out of the community consultation was the unsafe crossing environment for pedestrians walking across Gladesville Road at the Ryde Road intersection. Currently when the pedestrian phase is activated (i.e. the 'green man' appears), drivers are given no indication to stop and give way. The lantern only contains a single column of traffic signals, with no left turn arrow present (see Figure 17). This results in pedestrians having to stop for motorists turning left onto Gladesville Road.



Figure 17: Gladesville Road / Ryde Road Intersection

To improve pedestrian safety at this crossing, it is recommended that:

- New traffic signals on the south-western corner of the intersection be installed, which includes two columns of lights. When the pedestrian crossing phase across Gladesville Road is activated, a red left turn arrow will be called up to prevent drivers from turning left as pedestrians cross the intersection.
- The crossing be treated block paving / cobbles across the road to provide a visual indication to drivers of the presence of pedestrians. An example of this style of treatment is indicated in Photograph 6.



Photograph 6: Example of altered pavement surfacing at signalised crossing

8.4 Crossing of Burns Bay Road

No formal crossing facility is currently provided for pedestrians crossing the northern side of Burns Bay Road (adjacent to the Hunter's Hill Hotel). Pedestrians must cross two slip lanes (Joubert Street and Burns Bay Road on-ramp) to access the overbridge. A high number of school children walk this route on a daily basis, between Hunter's Hill High School and the bus stop outside the Hunter's Hill Hotel. During the course of this study, Arup were made aware of a recent incident where a school aged child was struck by a vehicle turning left from Gladesville Road onto the Burns Bay Road on-ramp.



Photograph 7: Burns Bay Road Northern Crossing

The high risk of conflict between pedestrians and moving vehicles at this location was one of the predominant themes to emerge from the consultation undertaken during this PAMP. The sections below explore potential options to enhance this crossing. These options are presented sequentially in order of their feasibility of implementation (i.e. simplest to most complex).

All of these options will require consultation with the RMS, given there will be some impacts to traffic flows.

Option 1: Joubert Street Crossing Relocation

Realign the existing raised speed table closer to Gladesville Road so pedestrians are directed to the centre of the traffic island. This will provide pedestrians with an improved line of sight to vehicles travelling north on Joubert Street, as well as directing them away from the narrow northern edge of the traffic island.

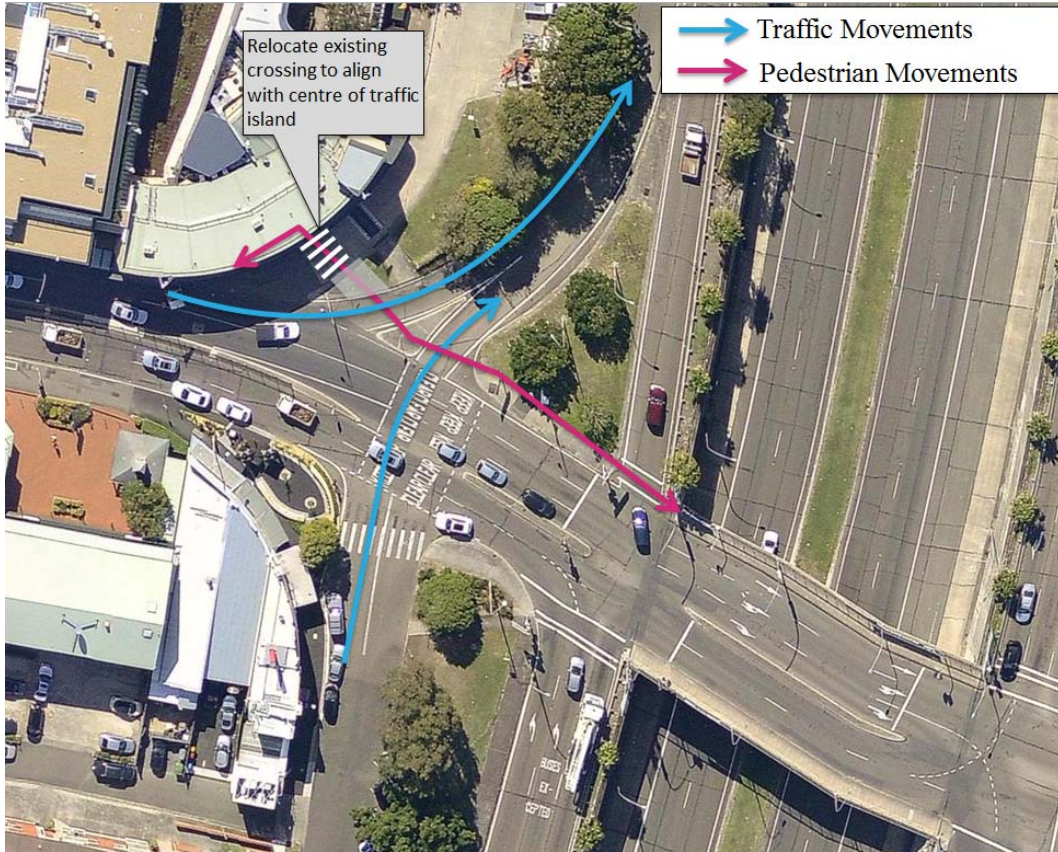


Figure 18: Option 1 – Burns Bay Road Crossing

Option 2: Joubert Street Crossing Relocation

As per option 1, however also provide zebra crossings across both on-ramps to Burns Bay Road.

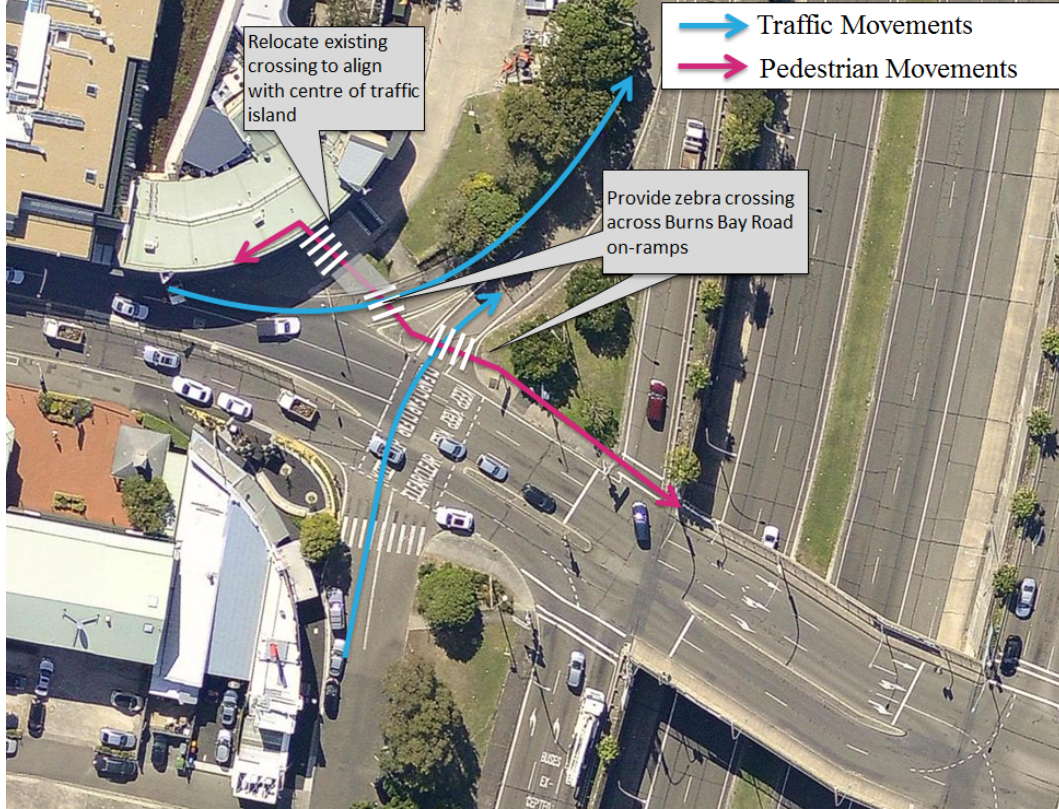


Figure 19: Option 2 – Burns Bay Road Crossing

Option 3: Kerb Build-Outs

As well as realigning the pedestrian route, consolidate both eastbound on-ramps into one on-ramp and adjust kerbs to allow heavy vehicles from Gladesville Road to the eastern on-ramp. This will slow vehicle speeds as they utilise the slip-lane onto Burns Bay Road as they manoeuvre the turn, while also continuing to allow access from the southern side of Joubert Street.

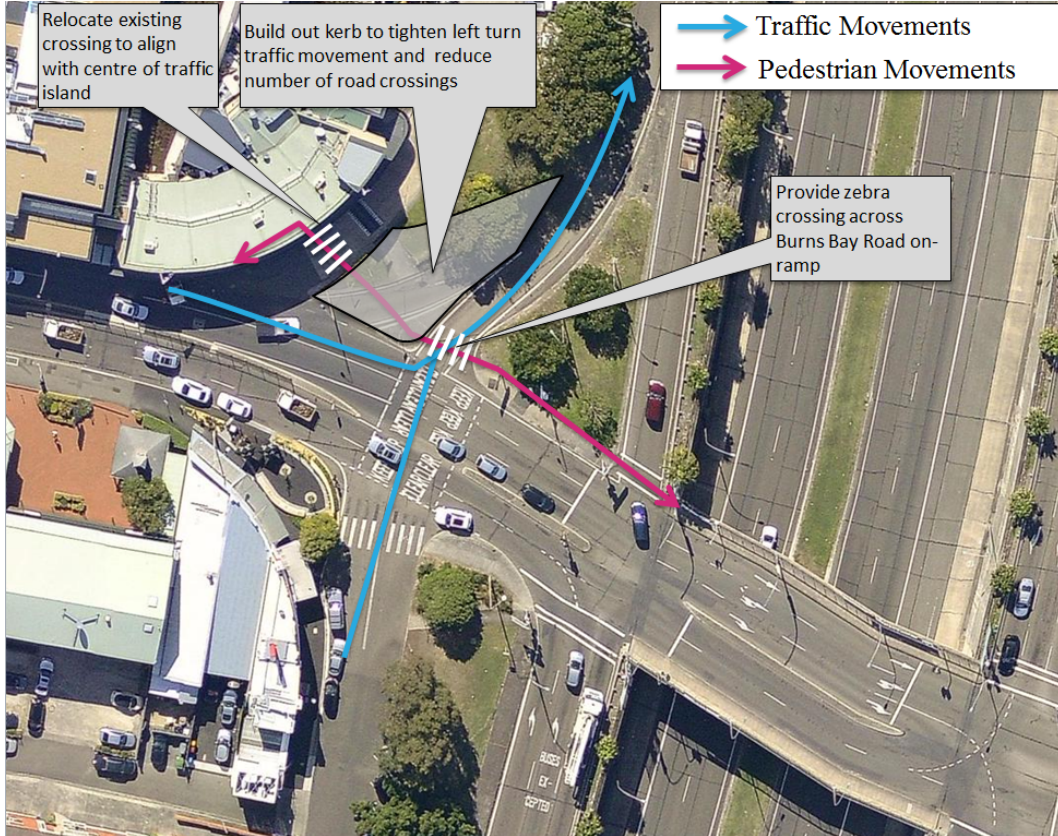


Figure 20: Option 3 – Burns Bay Road Crossing

Option 4: Kerb Build-Outs with Signalised Crossing

Similar to option 3, however replace the zebra crossing across Burns Bay Road with a signalised pedestrian crossing. A new left turn lane would provide additional storage capacity for vehicles turning left onto Burns Bay Road.

Under this configuration, traffic movements from the southern approach of Joubert Street would be restricted to left turns only. Access from Joubert Street (south) to Burns Bay Road (north) would be restricted.

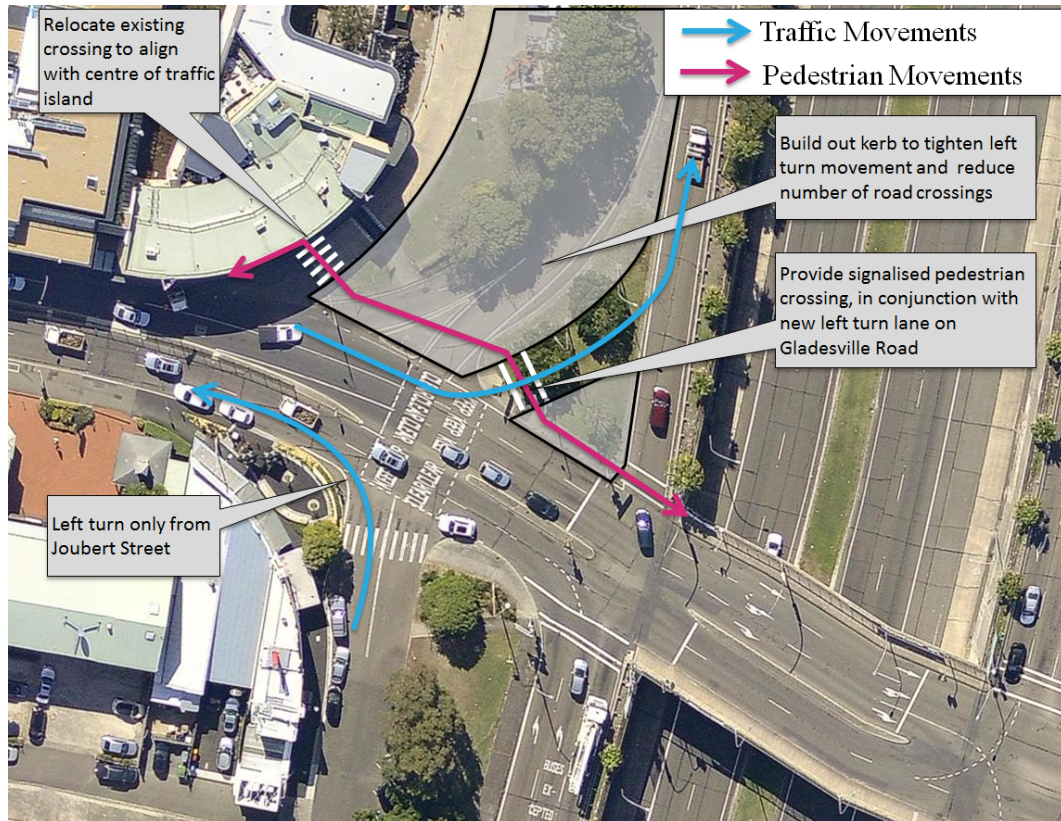


Figure 21: Option 4 – Burns Bay Road Crossing

Option 5: Removal of Left Slip Lane

This option is similar to that outlined in Figure 4.5 of the Hunter's Hill Traffic Study. The reconfigured road layout would remove the existing left turn slip lanes for vehicles travelling north onto Burns Bay Road. These vehicles would instead be required to turn left at the traffic signals further east on Gladesville Road.

The primary benefit of this option is that it removes the pedestrian / vehicle conflict across the two existing slip lanes onto Burns Bay Road, resulting in a much improved outcome with respect to pedestrian safety and efficiency. Prior to the implementation of this option, a detailed traffic study would be required to understand the implications of the layout on traffic flow through the town centre and onto Burns Bay Road.

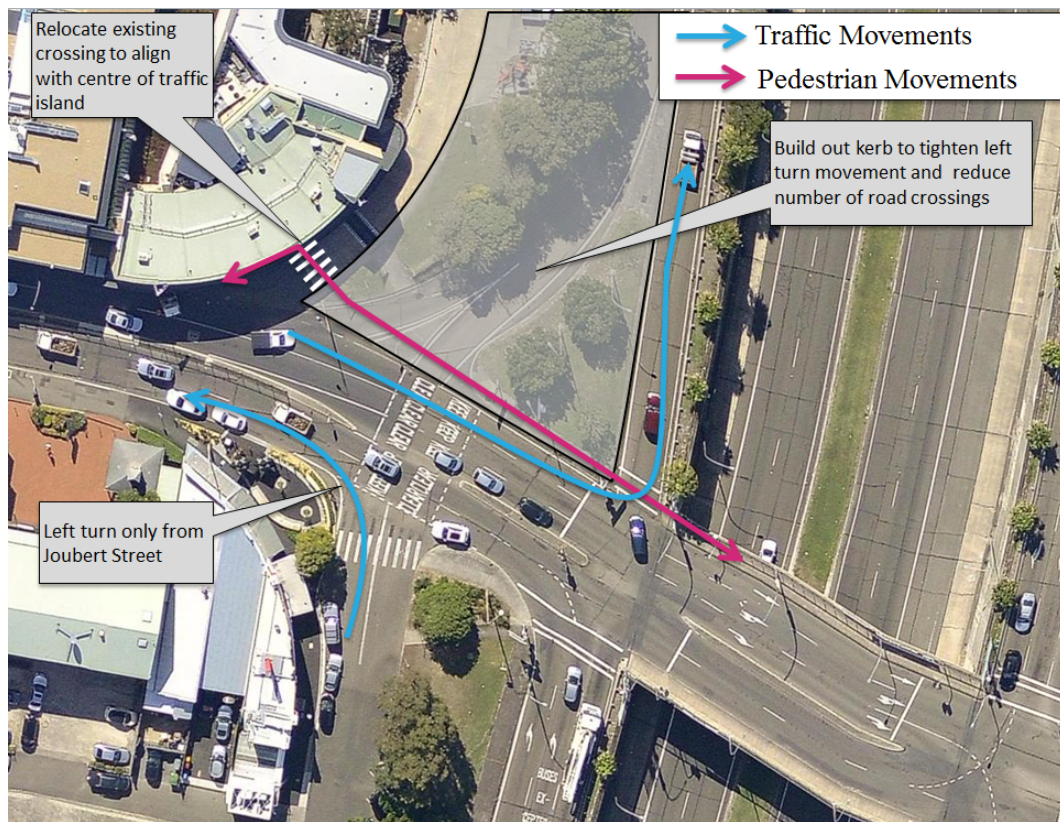


Figure 22 Option 5 – Removal of left slip lane

8.5 Bus Stops in Village Centre

The most suitable location for bus stops serving the Village Centre has formed a key component of this PAMP study. Three options have been considered, described in detail in the sections below.

Option 1: Retain Existing Stops

This option maintains all existing bus stops in their current locations, including the stop for eastbound buses outside the Hunter's Hill Hotel. Key issues include:

- Relatively short distance (~120m) between stops serving westbound buses on Gladesville Road and Ryde Road
- No weather protection or seating provided at a number of existing stops

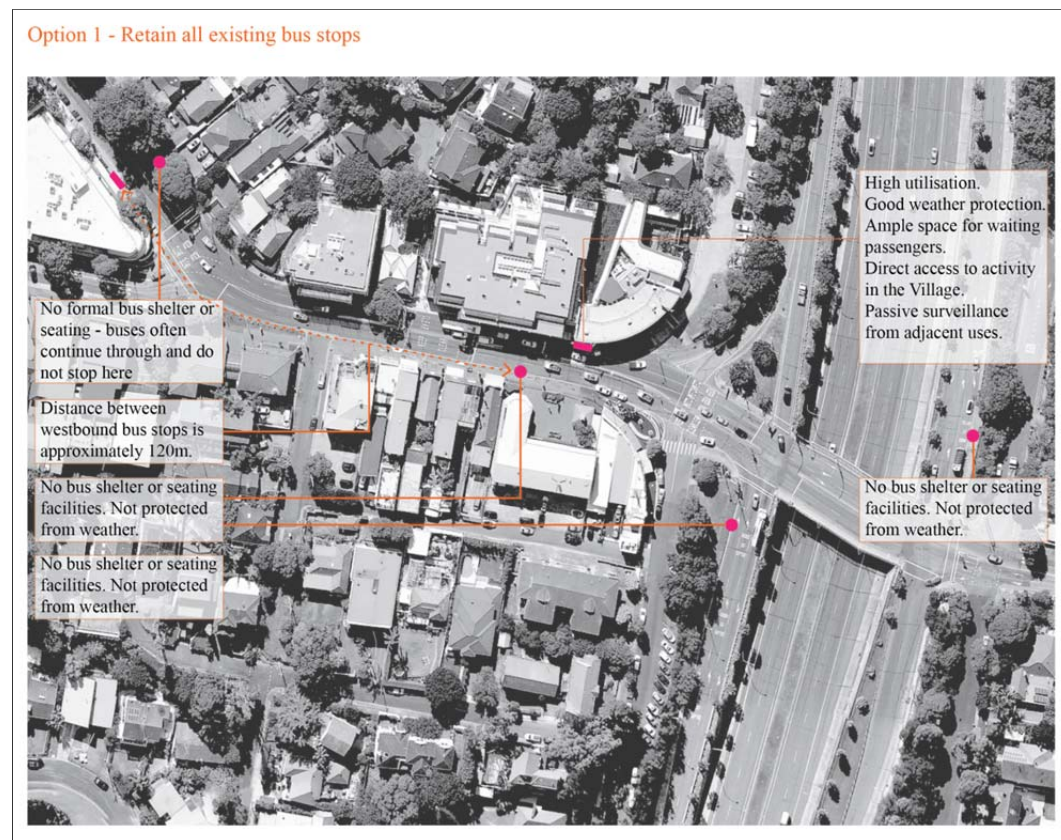


Figure 23: Option 1 –bus stops

Option 2: New Bus Stop in Conjunction with Intersection Upgrade

This option was outlined in the Hunter’s Hill Traffic Study prepared by Chris Stapleton Consulting, and involves incorporating a new bus stop with intersection works on the northern side of Burns Bay Road. Key issues include:

- Pedestrians are required to cross Joubert Street (albeit at a new zebra crossing) to access the bus waiting area
- Cars turning left onto Burns Bay Road (travelling north) will be queued behind stopped buses, increasing traffic congestion on Gladesville Road
- There is insufficient space to simultaneously store two buses
- Buses turning right onto Burns Bay Road (travelling towards the CBD) are required to weave across two lanes of traffic. For this reason, bus drivers have previously expressed their opposition to this proposal



Figure 24: Option 2 – bus stops

Option 3: Removal of Bus Stop Opposite Hunter's Hill Hotel

Under this option, the existing bus stop outside the Hunter's Hill Hotel would be relocated to Ryde Road, with a new stop created on the Burns Bay Road eastern on-ramp. This was a recommendation of the Hunter's Hill Traffic Study – that bus stops be provided on the edges of the Village to create space for on-street parking.

A detailed analysis has been undertaken to determine the feasibility (from a design perspective) of this proposal. Given the significant number of bus services currently utilising this bus stop (upwards of 20 in the AM peak hour), it is vital that sufficient waiting space and capacity is provided for the high number of bus passengers. To justify any relocation, the new facility must provide a commensurate level of service with the current bus stop. Key issues include:

- Only 8m is provided between private access driveways into properties on Ryde Road in the vicinity of the proposed stop. With a standard bus 12.5m long, there is insufficient space for a bus to drop off and pick up passengers without extending over into adjacent driveways. This creates a safety issue with respect to vehicle sight lines and pedestrians waiting on these driveways.
- Given the lack of weather protection and seating, a bus shelter would need to be provided. Sufficient space exists for one shelter, however a minimum of two would be required to service the expected level of pedestrian activity.
- The new bus stop on the Burns Bay Road eastern on-ramp would remove the need for pedestrians to cross the overbridge. However, this location currently contains a poor level of pedestrian amenity (adjacent to a freeway) and there is insufficient space for a bus shelter due to the narrow footpath.

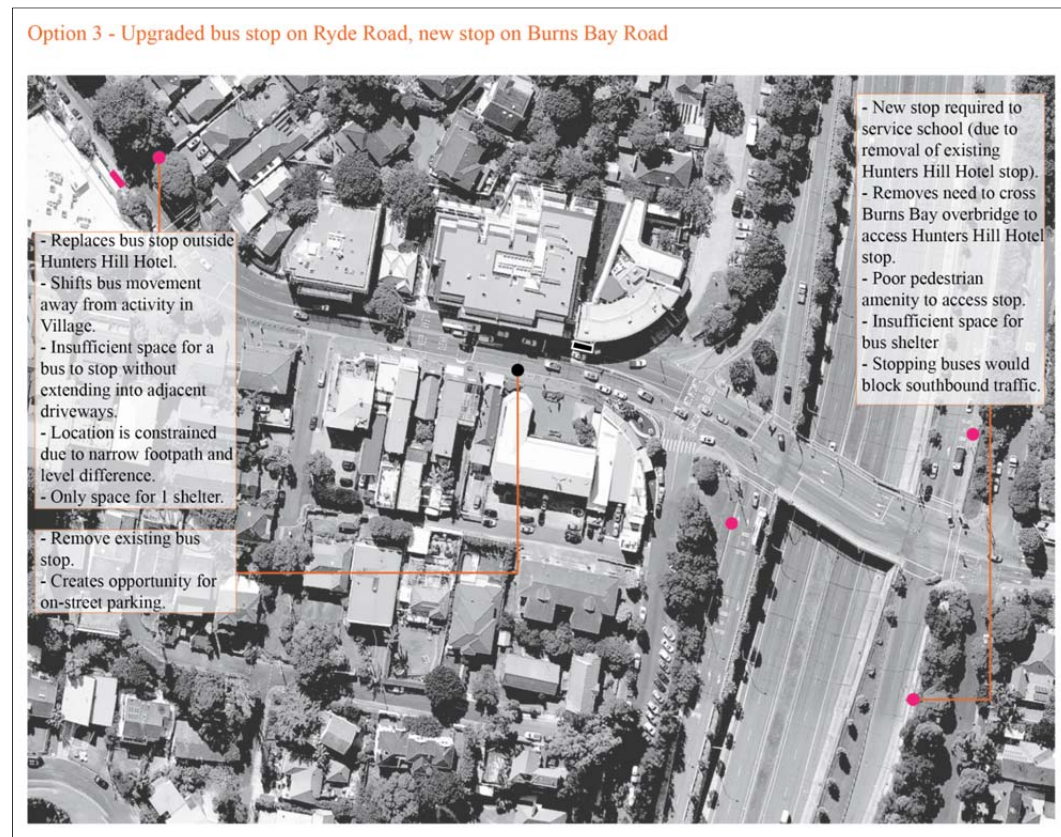


Figure 25: Option 3 – bus stops

Recommended Option

Based on the analysis conducted, it is recommended that the existing bus stop outside the Hunter's Hill Hotel be retained in its current position. The alternative location on Ryde Road is not considered feasible, given that only 8m of clear space is provided between driveways. The only way this stop could be facilitated would be to relocate existing driveways into private residences to create additional kerbside space.

The existing stop outside the Hunter's Hill Hotel provides passengers with ample weather protection (via the existing awning) as well as sufficient storage space for stopping buses. The stop acts as a 'front door' to the Hunters Hill Village, contributing to a vibrant, active centre. No other location (for eastbound buses) in the Village Centre could provide a similar level of service.

It is recommended that removal of the existing bus stop on the southern side of Gladesville Road be reconsidered (following discussions with Transport for NSW). While this measure would create an opportunity to provide on-street parking spaces during off-peak periods, the public consultation undertaken has identified this stop as providing good access to the Village Centre. Removing the stop would restrict access to key destinations for many users, particularly the elderly and mobility impaired.

Consideration should also be given to provide a new bus stop on the Burns Bay Road eastern on-ramp. This would remove the need for pedestrians to cross the overbridge, however would require widening of the existing footpath adjacent to the freeway. Discussions with Transport for NSW should be undertaken to further investigate the feasibility of this new bus stop.

Bus shelters are proposed for the stops on Burns Bay Road (space permitting).

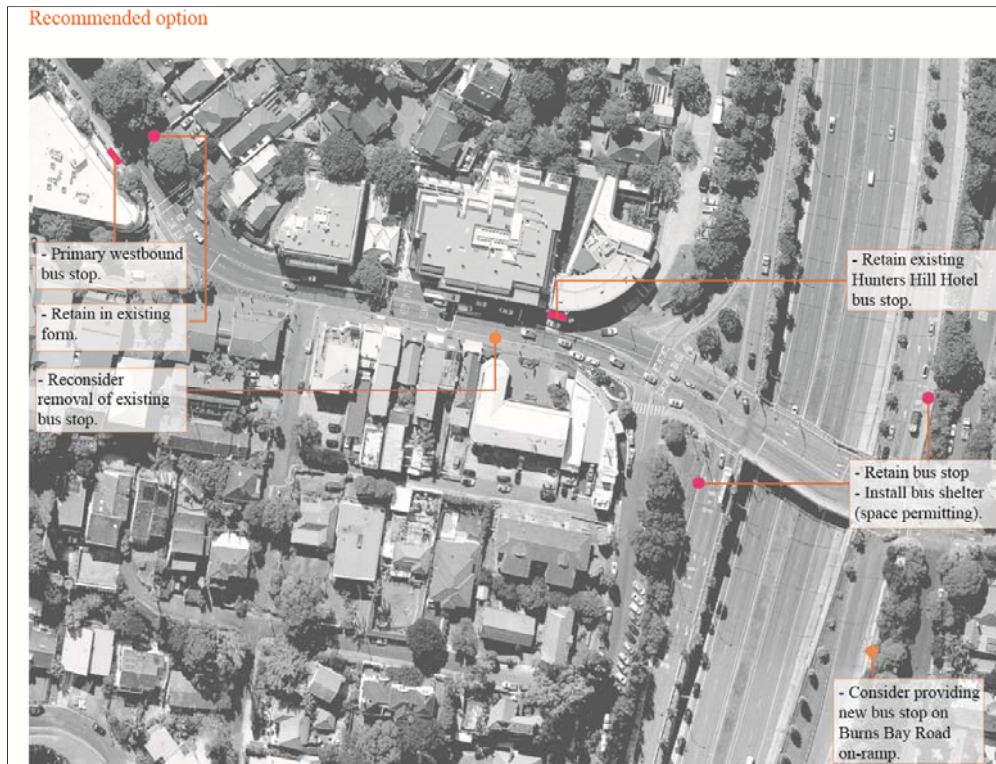


Figure 26: Recommended option – bus stops

8.6 Bus Manoeuvring

At the Council briefing in May 2014, it was noted by Councillor Sheil the safety issue of buses turning right from the northern Burns Bay Road off-ramp to Gladesville Road. While the wheels of the bus remain within the road carriageway, the body of the vehicle overhangs onto the pedestrian footpath – creating a major safety concern. This is a result of the narrow turning arc currently provided for this manoeuvre, due to the location of a central median and queued (eastbound) vehicles on Gladesville Road.

To ameliorate this issue, it is recommended the existing stop line and median be relocated further west on Gladesville Road. This will provide buses with a wider turning arc, so that the body of the vehicle remains completely within the road carriageway. This arrangement is illustrated in Figure 27 below.

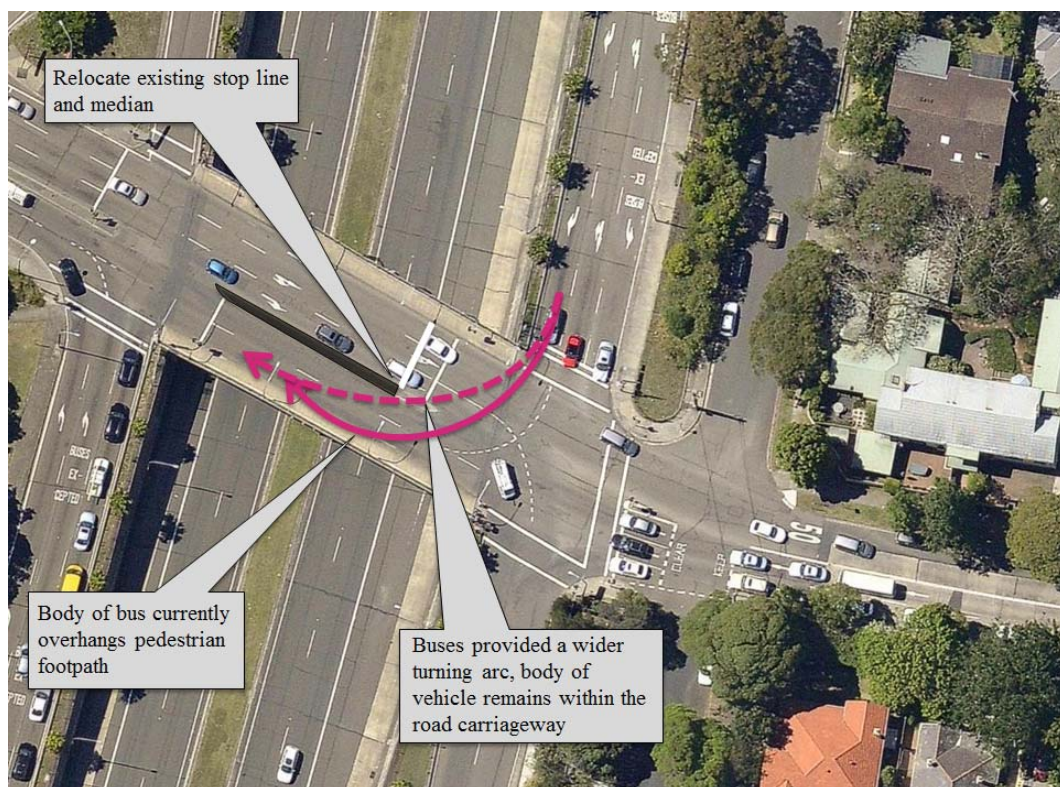


Figure 27: Recommended amendment to improve bus manoeuvring on Gladesville Road

It should be noted the distance the median and stop line are to be set back indicated in the above figure are indicative only. This will need to be the subject of a detailed study which considers the turning path of buses as well as the implications with respect to traffic flow.

9 PAMP Action Plan

Developing a prioritised Staged Action Plan within the PAMP helps to link pedestrian improvements to state and local government planning instruments and Council's requirements under Sections 94 of the Environmental Planning and Assessment Act 1979 (NSW). The Staged Action Plan places the PAMP action recommendations into a clear format that is required for Council and RMS funding approval processes.

The recommended PAMP Work Program is designed to be a 'living document' in the sense that Council will be able to make changes to and update the program where relevant to suit the Hunters Hill Village context. The action plan outlined in this document contains 144 individual measures to enhance pedestrian connectivity and movement within the study area.

9.1 PAMP Actions

The action recommendations are developed primarily through physical field audits undertaken on all the high priority routes identified in the PAMP network as well as through the literature review and consultation comments.

The location of specific issues were identified in the audit and presented in the Staged Action Plan of Appendix A. The locations of all issues were also registered in the GIS database with coordinates. The main issues and recommended actions are summarised in Table 4 below.

Table 4: Break down of issues and general recommended actions

Issue	Action	Cost (per item or m ²)
Bus stop: no shelter	Bus stop upgrade to accessible (seat, shelter, lighting)	\$ 13,500
Bus stop: not paved to kerb and no shelter	Bus stop upgrade to accessible (seat, shelter, paving, lighting)	\$ 13,500
Footpath obstruction - bus shelter	Investigate location, bus stop design and relocate/remove shelter to ensure adequate width	\$ 13,500
No path (other areas)	Install new minimum 1.2m wide footpath to AS	\$ 360
Footpath cavity or cracks (Type 1 Street)	Install new footpath to kerb - paving type 1 (Grey granite with sandstone-coloured granite banding to kerb)	\$ 920
Footpath cavity or cracks (Type 2 street)	Install new footpath to kerb - paving type 2 (grey granite to kerb)	\$ 920
Footpath cavity or cracks (other)	Remove existing path and install new footpath to match existing - minimum 1.2m wide	\$ 293
Driveway crossover cracked/uneven	Consultation with land owner to repave the driveway	\$ 347
Footpath uneven	Footpath grinding	\$ 25
Footpath too steep	Developer to address	n/a
Utilities/manhole uneven	Council to contact utility provider for further works to be carried out by utility provider.	n/a
Uneven nature strip	Backfill nature strip to ensure footpath is level with surrounding nature strip	\$ 139

Issue	Action	Cost (per item or m ²)
Pavers uneven	Remove pavers and install new footpath - paving type as per Gladesville Domain Manual	\$ 393
Narrow path	Investigate footpath widening (1.2m minimum) associated with future Development Applications)	\$ 160
Footpath obstruction - service pole/box with space on nature strip	Install new minimum 1.2m wide extension to footpath on surrounding nature strip	\$ 293
Footpath obstruction - service pole/box without space to kerb	Consultation with service provider to relocate	n/a
Footpath obstruction - signage pole	Relocate signage to ensure adequate footpath width	n/a
No kerb ramp	Install new kerb ramp to AS design	\$ 1,500
Kerb ramp lip/step	Remove existing kerb ramp and install new kerb ramp – upgrade to AS design	\$ 1,500
Kerb ramp not aligned	Remove existing kerb ramp and install new kerb ramp – upgrade to AS design	\$ 1,500
Kerb ramp too steep or cracked	Investigate location and install a new kerb ramp if able to do so	\$ 1,500
Refuge crossing non-standard	Provide handrails and extend width of refuge island to minimum 2m	\$ 3,500
No crossing facilities	Investigate location and install refuge with kerb ramps	\$ 8,000
Long wait times at crossing	Consultation with RMS to consider shorter waiting times for pedestrians. Further traffic modelling and investigation may be required. Consider options of changing signal phasing during off peak times.	n/a
No signalised crossing arm	Consultation with RMS to provide signalised pedestrian arm	\$ 300,000
Unsafe cyclist grate drain	Repair as required	\$ 253

9.2 Implementation Priority

Each of the measures recommended in the action plan has been prioritised into high, medium or low works. Prioritisation is generally based on the location of the works and the nature of the works, however a number of other criteria were also considered:

- Nature of works (new road crossing / new footpath etc)
- Proximity to key land uses (e.g. schools, bus stops)
- Existing and future levels of pedestrian activity
- Location with respect to hazardous areas
- Staging with other developments
- Community needs / disabled access
- Continuity (provides a key pedestrian link along an existing or planned route)

The works were assigned a priority of as shown in Table 5.

Table 5: Staged Action Plan Priority

Work Priority	Description	Staging of Works
1 – High Priority	Essential works	Short term works (0-5 years)
2 – Medium Priority	Desirable works	Medium term works (5-10 years)
3 – Low Priority	Low impact works that are dependent on funding	Long term works (10-25 years)

In the context of the Hunters Hill Village, it is important to consider the staging of upcoming footpath improvements when prioritising future pedestrian works. It is practical for Council to undertake these works concurrently with the footpath improvement works funded by developers of adjacent sites (as illustrated in Figure 15 on page 41 of this report.

9.3 Funding Sources

9.3.1 Roads and Maritime Services

Local Government Pedestrian Facilities (27401)

The development of the PAMP presents a Staged Action Plan that is in a format that is consistent with the requirements for applying for 50/50 funding from the RMS. All future RMS funding will be determined on an annual basis.

The main RMS funding arrangements for local government are documented in *Council Projects Funded by the RTA Memorandum of Understanding* (June 2009). The main funding sources relevant to pedestrian facilities include the Pedestrian Facilities Program 27401 and Blackspot facilities under Program 26301 (with funding requirements detailed in Attachment C of the MoU).

The works on Local and Regional Roads that are eligible generally for 50/50 RMS/Council funding include:

a) Preparation of Pedestrian Access and Mobility Plans

This document

b) Upgrading of existing pedestrian infrastructure

- Kerb ramps with tactile indicators built in accordance with AS1428 - 1 & 4 and RMS guidelines
- Cris-cross “scramble” crossings (exclusive pedestrian phase)
- Pedestrian priority systems

c) New pedestrian crossing treatments and facilities

- New signals for pedestrian access, convenience and safety
- Work to support pedestrian malls and shared zones
- Kerb extensions / blisters

- Raised pedestrian crossings
- Other pedestrian road crossing facilities

State operated roads

RMS will fund any upgrades of State controlled roads. This includes the provision of new pedestrian crossing legs at intersections. There are two State roads within the study area – Victoria Road and Pittwater Road.

9.3.2 Developer Contributions

A number of recommendations have been outlined in this PAMP which directly relate to upcoming or proposed developments within the Gladesville Town Centre. Given the nexus between the development and the requirement for the improvement of pedestrian facilities in their immediate proximity, the Action Plan has attributed the full cost of these works to the relevant developer.

The planning mechanisms in place for Council to require the developer to contribute funds for pedestrian improvements measures are outlined below.

Section 94 Contributions

Section 94 of the Environmental Planning and Assessment Act 1979 (NSW) allows Council to extract contributions from developers to provide for public facilities and services in the form of the dedication of land free of cost and/or payment of a monetary contribution.

Under Section 94, the consent authority may levy the developer for contribution to public services. 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.”*

A link between development and the need for a public amenity can be developed through the extent to which a development creates a need for a particular service or facility. Should developments increase pedestrian volumes to warrant facilities such as a pedestrian crossing or pedestrian signals, funding could be sought through Section 94 Contributions for the provision of such facilities.

Voluntary Planning Agreements (VPAs)

VPAs may involve monetary contributions, partial or full construction of new facilities, expansion, upgrades, augmentations, embellishments, fit-outs and resourcing of existing facilities or any other public benefit as agreed to by the Council from the potential developers.

The application of VPAs as a funding source for PAMP works would be agreed to between Council and developers on a case by case basis.

Conditions of Consent

In addition to requirements for pedestrian infrastructure as a condition of consent, developers would install new kerb ramps and driveway crossings as part of the DA approval process. These facilities are required to be installed in line with CoR's Public Domain Manual referred to in the DCP Section 4.5. See previous Section 10 for further information on funding initiatives.

9.4 Cost Estimates

The estimated cost for the works included in the work program are summarised in Table 6 below. This takes into consideration the unit costs for works outlined in Section 9.1 of this report.

Based on the available sources of funding for measures contained within the PAMP Action Plan, costs of the works have been apportioned between Council and the RMS. This is summarised in Table 6 below. Cost estimates for individual works are contained within the Action Plan as presented in Appendix A.

Table 6: PAMP Work Program Cost Summary and Apportionment

Priority of Works	Total Cost of Works	Cost Apportionment	
		Council	RMS
High	\$267,312	\$134,928	\$132,385
Medium	\$166,853	\$129,374	\$37,480
Low	\$229,620	\$115,157	\$114,463
Total	\$663,785	\$379,458	\$284,327

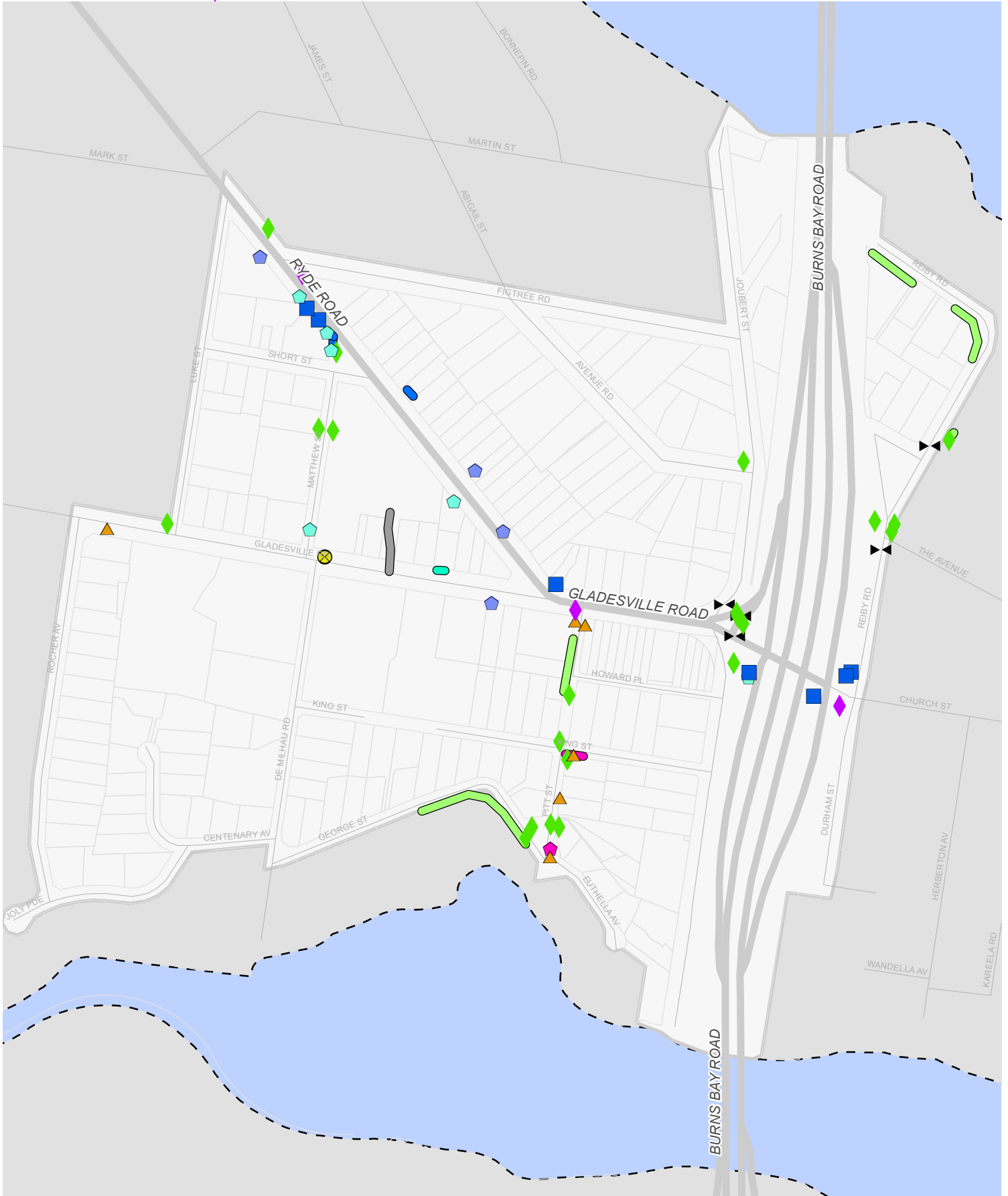
The actions by priority are presented in Figure 28 to Figure 30.



Priority 1 Issues

- | | | |
|-----------------------------------------|------------------------------|-----------------------------------|
| Stairs only | Kerb ramp non-standard | Footpath cavity or cracks |
| Footpath obstruction - signage pole | No lighting | Driveway crossover cracked/uneven |
| Footpath obstruction - service pole/box | No signage | Footpath uneven |
| Footpath obstruction - bus shelter | No safe crossing location | Uneven nature strip |
| Bus stop: not paved to kerb | Long wait times at crossing | Utilities/manhole uneven |
| Bus stop: no shelter | No signalised crossing arm | No path |
| No kerb ramp | Refuge crossing non-standard | Narrow path |
| Kerb ramp lip/step | Zebra crossing non-standard | |

- PAMP Study Area
- Cadastre
- Hunters Hill LGA
- Main roads
- Local roads

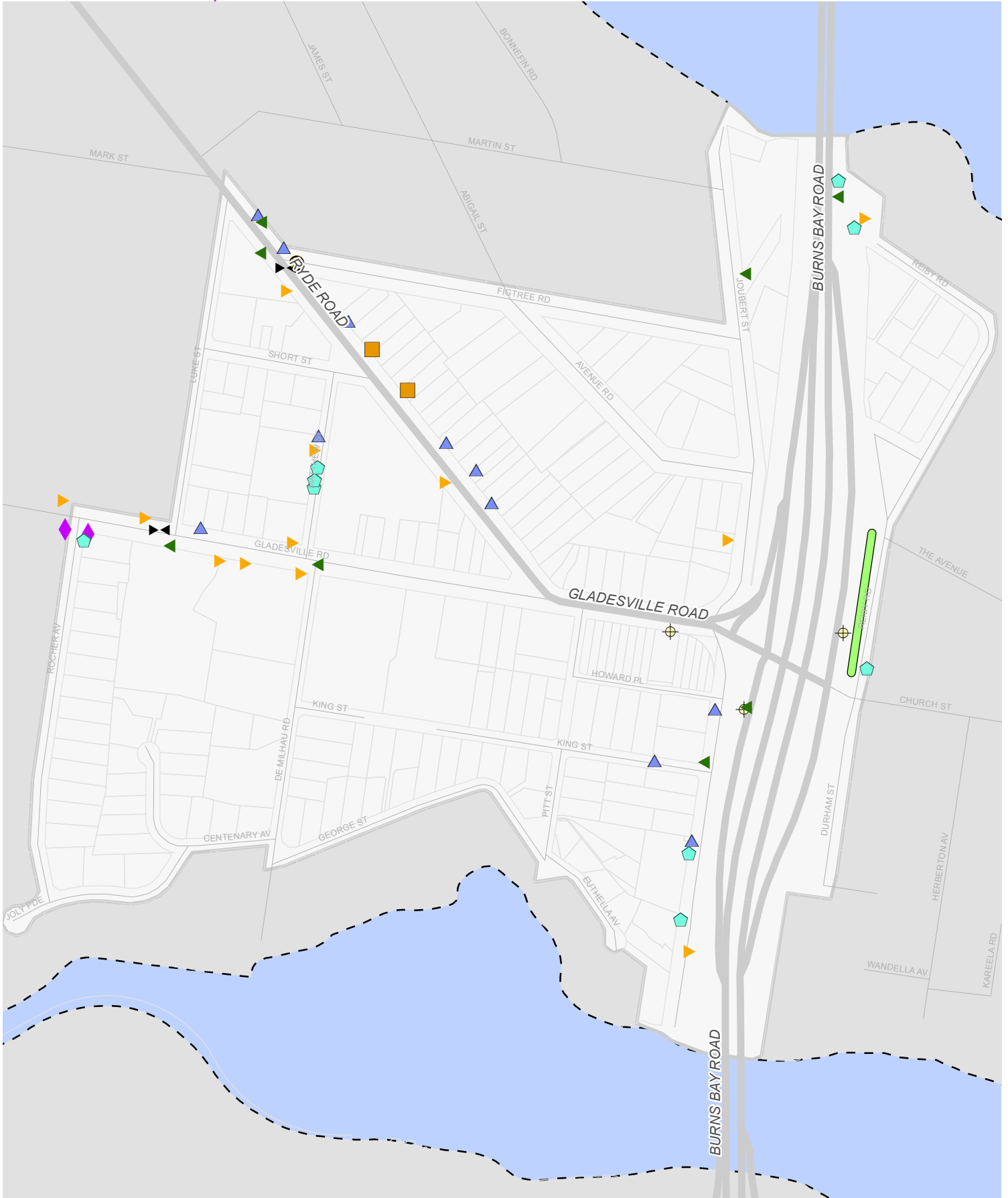




Priority 2 Issues

- | | | | | | |
|--|-----------------------------------------|--|------------------------------|--|-----------------------------------|
| | Stairs only | | Kerb ramp non-standard | | Footpath cavity or cracks |
| | Footpath obstruction - signage pole | | No lighting | | Driveway crossover cracked/uneven |
| | Footpath obstruction - service pole/box | | No signage | | Footpath uneven |
| | Footpath obstruction - bus shelter | | No safe crossing location | | Uneven nature strip |
| | Bus stop: not paved to kerb | | Long wait times at crossing | | Utilities/manhole uneven |
| | Bus stop: no shelter | | No signalled crossing arm | | No path |
| | No kerb ramp | | Refuge crossing non-standard | | Narrow path |
| | Kerb ramp lip/step | | Zebra crossing non-standard | | |

- PAMP Study Area
- Cadastre
- Hunters Hill LGA
- Main roads
- Local roads





Priority 3 Issues

- | | | |
|-----------------------------------------|------------------------------|-----------------------------------|
| Stairs only | Kerb ramp non-standard | Footpath cavity or cracks |
| Footpath obstruction - signage pole | No lighting | Driveway crossover cracked/uneven |
| Footpath obstruction - service pole/box | No signage | Footpath uneven |
| Footpath obstruction - bus shelter | No safe crossing location | Uneven nature strip |
| Bus stop: not paved to kerb | Long wait times at crossing | Utilities/manhole uneven |
| Bus stop: no shelter | No signalised crossing arm | No path |
| No kerb ramp | Refuge crossing non-standard | Narrow path |
| Kerb ramp lip/step | Zebra crossing non-standard | |

- PAMP Study Area
- Cadastre
- Hunters Hill LGA
- Main roads
- Local roads



10 PAMP Implementation

10.1 Implementation

The Staged Action Plan identified through the PAMP study would need to be assessed and implemented based on specific site conditions and reflect the latest pedestrian facilities standards at the time of implementation. The Staged Action Plan would be considered by Hunter's Hill Council for inclusion in their works programs for implementation according to the timeframe identified. Work program items that are under the sole responsibility of developers are expected to be implemented at timeframes to coincide with the proposed developments.

10.2 Future Actions and Maintenance

As the pedestrian network is developed, it will be important to monitor the progress of the network over time. In particular, it will be important to further develop an understanding of travel patterns and behaviour and the role that walking plays. Monitoring will relate to the following three areas:

- Route conditions and overall route quality;
- Changes in demand; and
- Implementation of work program.

Monitoring of the quality of pedestrian routes could be undertaken by establishing an ongoing regular Route Quality Audit process, with the results catalogued and regularly updated. The quality of routes would be measured against the existing design criteria as part of a "look and see" audit process. This will enable the overall quality of routes to be improved, problems to be addressed and resources to be targeted appropriately. Council would monitor the PAMP deliverables as per the works schedule.

A typical Route Quality Audit would involve an assessment of route conditions and would be undertaken by a person familiar with pedestrian design issues and involve a site visit along the specified route. A simple site visit report form could be developed that allows the auditor to note down a series of checks of the route against the design criteria specified. The route should also be reviewed in light of possible land use changes and Council works.

11 Summary

Arup has prepared a Pedestrian Access and Mobility Plan (PAMP) for the Hunters Hill Village on behalf of Hunter's Hill Council. The project aims to identify a framework for developing safe and convenient pedestrian routes and fostering improvements in personal mobility.

A priority PAMP route network through the study area was identified to focus on the development of a continuous and accessible path of travel for pedestrians. The priority PAMP route network was defined through:

- An analysis of the existing characteristics of the study area, a review of the existing transport services in the area, a documentation of site observations and a review of relevant state and local policy documents; and
- Consideration of the existing pedestrian facilities usage, current issues and locations for improvement and future demand as outlined through the community consultation process.

A pedestrian facilities audit was conducted along high priority PAMP routes. The focus of the audit was to identify deficiencies in the existing pedestrian network, with factors considered including:

- Footpaths provision;
- Footpath quality;
- Kerb ramp provision;
- Obstruction / barriers along path; and
- Pedestrian crossing facilities;

Based on the findings of the audits, a Staged Action Plan was developed which identified approximately 140 individual measures to enhance pedestrian connectivity and movement within the study area. These actions were prioritised on a series of criteria and cost estimates were provided for each of the actions.

The implementation of this PAMP Action Plan would need to be assessed and implemented based on specific site conditions that reflect the latest pedestrian facilities standards at the time.

Appendix A

Action Plan

ID	Closest Street Address	Street Name	Side of road/ Intersection	Issues	Action	Length(m) / Unit	Potential Funding Source	Works Priority	Timeframe	Indicative costing
1	2	Rocher Avenue	Intersection	Kerb ramp lip/step	Remove existing kerb ramp and install new kerb ramp – upgrade to AS design	1	50% Council / 50% RMS	Medium	5 - 10 years	\$1,500
2	1	Rocher Avenue	Intersection	Kerb ramp lip/step	Remove existing kerb ramp and install new kerb ramp – upgrade to AS design	1	50% Council / 50% RMS	Medium	5 - 10 years	\$1,500
3	2	Rocher Avenue	Intersection	Footpath uneven	Footpath grinding	1	50% Council / 50% RMS	Medium	5 - 10 years	\$25
4	28	Gladesville Road	South	Footpath obstruction - signage pole	Relocate signage to ensure adequate footpath width	1	50% Council / 50% RMS	High	0 - 5 years	\$1,500
5	35	Gladesville Road	South	Inadequate signage	Provide new sign	1	Council	Medium	5 - 10 years	\$600
6	35	Gladesville Road	Intersection	No safe crossing location	Investigate location and install refuge with kerb ramps	1	50% Council / 50% RMS	Medium	5 - 10 years	\$8,000
7	34	Gladesville Road	South	Poor lighting	Investigate current lighting and provide lights as necessary	1	Council	Medium	5 - 10 years	\$5,000
8	35A	Gladesville Road	South	Poor lighting	Investigate current lighting and provide lights as necessary	1	Council	Medium	5 - 10 years	\$5,000
9	38-40	Gladesville Road	South	Poor lighting	Investigate current lighting and provide lights as necessary	1	Council	Medium	5 - 10 years	\$5,000
10	42	Gladesville Road	Intersection	Inadequate signage	Provide new sign	1	Council	Medium	5 - 10 years	\$600
11	42	Gladesville Road	Intersection	Refuge crossing non-standard	Remove refuge and provide raised (wombat) pedestrian crossing	1	50% Council / 50% RMS	High	0 - 5 years	\$35,000
12	38-40	Gladesville Road	West	Footpath uneven	Footpath grinding	1	50% Council / 50% RMS	High	0 - 5 years	\$25
13	2-10	Matthew Street	West	Footpath uneven	Footpath grinding	1	50% Council / 50% RMS	Medium	5 - 10 years	\$25
14	2-10	Matthew Street	West	Footpath uneven	Footpath grinding	1	50% Council / 50% RMS	Medium	5 - 10 years	\$25
15	2-10	Matthew Street	West	Footpath uneven	Footpath grinding	1	50% Council / 50% RMS	Medium	5 - 10 years	\$25
16	12-14	Matthew Street	West	Footpath obstruction - service pole	Install new minimum 1.2m wide extension to footpath on surrounding nature strip	1	50% Council / 50% RMS	Medium	5 - 10 years	\$293
17	2-10	Matthew Street	West	Poor lighting	Investigate current lighting and provide lights as necessary	1	Council	Medium	5 - 10 years	\$5,000
18	45	Ryde Road	Intersection	No kerb ramp	Install new kerb ramp to AS design	1	50% Council / 50% RMS	High	0 - 5 years	\$1,500
19	11B	Short Street	Intersection	Kerb ramp non-standard (steep or not aligned)	Remove existing kerb ramp and install new kerb ramp – upgrade to AS design	1	50% Council / 50% RMS	Low	10 - 25 years	\$1,500
20	45	Ryde Road	West	Footpath uneven	Footpath grinding	1	50% Council / 50% RMS	High	0 - 5 years	\$25
21	4	Ryde Road	South	Footpath uneven	Footpath grinding	1	50% Council / 50% RMS	High	0 - 5 years	\$25

ID	Closest Street Address	Street Name	Side of road/ Intersection	Issues	Action	Length(m) / Unit	Potential Funding Source	Works Priority	Timeframe	Indicative costing
22	4	Ryde Road	South	Footpath cavity or cracks	Remove existing path and install new footpath to match existing - minimum 1.2m wide	1	50% Council / 50% RMS	High	0 - 5 years	\$293
23	6	Ryde Road	South	Footpath cavity or cracks	Remove existing path and install new footpath to match existing - minimum 1.2m wide	1	50% Council / 50% RMS	High	0 - 5 years	\$293
24	6	Ryde Road	South	Footpath uneven	Footpath grinding	1	50% Council / 50% RMS	High	0 - 5 years	\$25
25	10	Ryde Road	Intersection	No safe crossing location	Investigate location and install refuge with kerb ramps	1	50% Council / 50% RMS	Medium	5 - 10 years	\$8,000
26	6	Ryde Road	West	Poor lighting	Investigate current lighting and provide lights as necessary	1	Council	Medium	5 - 10 years	\$5,000
27	10	Ryde Road	South	Inadequate signage	Provide new sign	1	Council	Medium	5 - 10 years	\$600
28	10	Ryde Road	South	Utilities/manhole uneven	Council to contact utility provider for further works to be carried out by utility provider.	1	Council	High	0 - 5 years	Unknown
29	51	Ryde Road	North	No kerb ramp	Install new kerb ramp to AS design	1	50% Council / 50% RMS	High	0 - 5 years	\$1,500
30	53-55	Ryde Road	North	Footpath obstruction - service pole	Install new minimum 1.2m wide extension to footpath on surrounding nature strip	1	50% Council / 50% RMS	Medium	5 - 10 years	\$293
31	51	Ryde Road	North	Inadequate signage	Provide new sign	1	Council	Medium	5 - 10 years	\$600
32	2	Figtree Road	North	Footpath obstruction - service pole	Install new minimum 1.2m wide extension to footpath on surrounding nature strip	1	50% Council / 50% RMS	Medium	5 - 10 years	\$293
33	2	Figtree Road	Intersection	Refuge crossing non-standard	Provide handrails and extend width of refuge island to minimum 2m	1	50% Council / 50% RMS	Medium	5 - 10 years	\$3,500
34	4	Figtree Road	Intersection	Kerb ramp lip/step	Remove existing kerb ramp and install new kerb ramp – upgrade to AS design	1	50% Council / 50% RMS	High	0 - 5 years	\$1,500
35	47	Ryde Road	North	Footpath obstruction - service pole	Install new minimum 1.2m wide extension to footpath on surrounding nature strip	1	50% Council / 50% RMS	Medium	5 - 10 years	\$293
36	43	Ryde Road	North	Driveway crossover cracked/uneven	Consultation with land owner to repave the driveway	1	Council	Medium	5 - 10 years	\$347
37	35	Ryde Road	North	Driveway crossover cracked/uneven	Consultation with land owner to repave the driveway	1	Council	Medium	5 - 10 years	\$347
38	27	Ryde Road	North	Footpath obstruction - service pole	Install new minimum 1.2m wide extension to footpath on surrounding nature strip	1	50% Council / 50% RMS	Medium	5 - 10 years	\$293
39	21	Ryde Road	North	Utilities/manhole uneven	Council to contact utility provider for further works to be carried out by utility provider.	1	Council	High	0 - 5 years	Unknown
40	21	Ryde Road	North	Footpath obstruction - service pole	Install new minimum 1.2m wide extension to footpath on surrounding nature strip	1	50% Council / 50% RMS	Medium	5 - 10 years	\$293
41	17	Ryde Road	North	Footpath obstruction - service pole	Install new minimum 1.2m wide extension to footpath on surrounding nature strip	1	50% Council / 50% RMS	Medium	5 - 10 years	\$293
42	11	Ryde Road	North	Utilities/manhole uneven	Council to contact utility provider for further works to be carried out by utility provider.	1	Council	High	0 - 5 years	Unknown

ID	Closest Street Address	Street Name	Side of road/ Intersection	Issues	Action	Length(m) / Unit	Potential Funding Source	Works Priority	Timeframe	Indicative costing
43	79-83	Gladesville Road	Intersection	Kerb ramp non-standard (steep or not aligned)	Remove existing kerb ramp and install new kerb ramp – upgrade to AS design	1	50% Council / 50% RMS	Low	10 - 25 years	\$1,500
44	16	Joubert Street	East	No kerb ramp	Install new kerb ramp to AS design	1	50% Council / 50% RMS	High	0 - 5 years	\$1,500
45	16	Joubert Street	Intersection	Kerb ramp non-standard (steep or not aligned)	Remove existing kerb ramp and install new kerb ramp – upgrade to AS design	1	50% Council / 50% RMS	Low	10 - 25 years	\$1,500
46	16C	Joubert Street	West	Bus stop: no shelter	Bus stop upgrade to accessible (seat, shelter, lighting)	1	Council	Medium	5 - 10 years	\$13,500
47	16C	Joubert Street	West	Inadequate signage	Provide new sign	1	Council	Medium	5 - 10 years	\$600
48	16	Joubert Street	West	Footpath uneven	Footpath grinding	1	50% Council / 50% RMS	High	0 - 5 years	\$25
49	16	Joubert Street	West	Footpath cavity or cracks	Remove existing path and install new footpath to match existing - minimum 1.2m wide	1	50% Council / 50% RMS	High	0 - 5 years	\$293
50	79-83	Gladesville Road	Intersection	No safe crossing location	To be addressed with reconfiguration of intersection	1	50% Council / 50% RMS	High	0 - 5 years	\$0
51	16	Joubert Street	Intersection	Kerb ramp non-standard (steep or not aligned)	Remove existing kerb ramp and install new kerb ramp – upgrade to AS design	1	50% Council / 50% RMS	Low	10 - 25 years	\$1,500
52	5	Church Street	Intersection	Footpath cavity or cracks	Remove existing path and install new footpath to match existing - minimum 1.2m wide	1	50% Council / 50% RMS	High	0 - 5 years	\$293
53	5	Church Street	Intersection	Kerb ramp lip/step	Remove existing kerb ramp and install new kerb ramp – upgrade to AS design	1	50% Council / 50% RMS	High	0 - 5 years	\$1,500
54	5	Church Street	Intersection	Kerb ramp non-standard (steep or not aligned)	Remove existing kerb ramp and install new kerb ramp – upgrade to AS design	1	50% Council / 50% RMS	Low	10 - 25 years	\$1,500
55	5	Church Street	West	Footpath cavity or cracks	Remove existing path and install new footpath to match existing - minimum 1.2m wide	1	50% Council / 50% RMS	High	0 - 5 years	\$293
56	5	Church Street	West	Footpath cavity or cracks	Remove existing path and install new footpath to match existing - minimum 1.2m wide	1	50% Council / 50% RMS	High	0 - 5 years	\$293
57	19	Reiby Road	East	Bus stop: no shelter	Bus stop upgrade to accessible (seat, shelter, lighting)	1	Council	Medium	5 - 10 years	\$13,500
58	12	Church Street	East	Footpath uneven	Footpath grinding	1	50% Council / 50% RMS	Medium	5 - 10 years	\$25
59	19	Reiby Road	East	Driveway crossover cracked/uneven	Consultation with land owner to repave the driveway	1	Council	Low	10 - 25 years	\$347
60	5	The Avenue	Intersection	No kerb ramp	Install new kerb ramp to AS design	1	50% Council / 50% RMS	High	0 - 5 years	\$1,500
61	10	Nemba Street	East	Stairs only	Investigate providing a DDA compliant ramp or alternative route	1	Council	Low	10 - 25 years	Unknown
62	6	Reiby Road	East	No kerb ramp	Install new kerb ramp to AS design	1	50% Council / 50% RMS	High	0 - 5 years	\$1,500
63	10	Nemba Street	North	Footpath cavity or cracks	Remove existing path and install new footpath to match existing - minimum 1.2m wide	1	50% Council / 50% RMS	Low	10 - 25 years	\$293

ID	Closest Street Address	Street Name	Side of road/ Intersection	Issues	Action	Length(m) / Unit	Potential Funding Source	Works Priority	Timeframe	Indicative costing
64	10	Nemba Street	West	Footpath cavity or cracks	Remove existing path and install new footpath to match existing - minimum 1.2m wide	1	50% Council / 50% RMS	Low	10 - 25 years	\$293
65	1	Reiby Road	West	Footpath cavity or cracks	Remove existing path and install new footpath to match existing - minimum 1.2m wide	1	50% Council / 50% RMS	Low	10 - 25 years	\$293
66	1	Reiby Road	East	Footpath uneven	Footpath grinding	1	50% Council / 50% RMS	Medium	5 - 10 years	\$25
67	1	Reiby Road	West	Footpath uneven	Footpath grinding	1	50% Council / 50% RMS	Medium	5 - 10 years	\$25
68	1	Reiby Road	East	Poor lighting	Investigate current lighting and provide lights as necessary	1	Council	Medium	5 - 10 years	\$5,000
69	26	Joubert Street	East	Inadequate signage	Provide new sign	1	Council	Medium	5 - 10 years	\$600
70	1A	Figtree Road	Intersection	Kerb ramp non-standard (steep or not aligned)	Remove existing kerb ramp and install new kerb ramp – upgrade to AS design	1	50% Council / 50% RMS	Low	10 - 25 years	\$1,500
71	2	Avenue Road	Intersection	No kerb ramp	Install new kerb ramp to AS design	1	50% Council / 50% RMS	High	0 - 5 years	\$1,500
72	20	Joubert Street	West	Driveway crossover cracked/uneven	Consultation with land owner to repave the driveway	1	Council	Low	10 - 25 years	\$347
73	18	Joubert Street	West	Poor lighting	Investigate current lighting and provide lights as necessary	1	Council	Medium	5 - 10 years	\$5,000
74	77	Gladesville Road	Intersection	No safe crossing location	To be addressed with reconfiguration of intersection	1	50% Council / 50% RMS	High	0 - 5 years	\$0
75	79-83	Gladesville Road	Intersection	No safe crossing location	To be addressed with reconfiguration of intersection	1	50% Council / 50% RMS	High	0 - 5 years	\$0
76	79-83	Gladesville Road	West	No kerb ramp	Install new kerb ramp to AS design	1	50% Council / 50% RMS	High	0 - 5 years	\$1,500
77	79-83	Gladesville Road	East	No kerb ramp	Install new kerb ramp to AS design	1	50% Council / 50% RMS	High	0 - 5 years	\$1,500
78	79-83	Gladesville Road	West	No kerb ramp	Install new kerb ramp to AS design	1	50% Council / 50% RMS	High	0 - 5 years	\$1,500
79	79-83	Gladesville Road	East	No kerb ramp	Install new kerb ramp to AS design	1	50% Council / 50% RMS	High	0 - 5 years	\$1,500
80	1	Ryde Road	North	Footpath cavity or cracks	Remove existing path and install new footpath to match existing - minimum 1.2m wide	1	50% Council / 50% RMS	High	0 - 5 years	\$293
81	7	Ryde Road	North	Bus stop: not paved to kerb	Consider removing bus stop in conjunction with wider Village Centre bus strategy	1	Council	Low	10 - 25 years	\$0
82	2	Ryde Road	South	Footpath uneven	Footpath grinding	1	50% Council / 50% RMS	High	0 - 5 years	\$25
83	23	Ryde Road	South	Poor lighting	Investigate current lighting and provide lights as necessary	1	Council	Medium	5 - 10 years	\$5,000
84	47	Gladesville Road	South	Utilities/manhole uneven	Council to contact utility provider for further works to be carried out by utility provider.	1	Council	High	0 - 5 years	Unknown

ID	Closest Street Address	Street Name	Side of road/ Intersection	Issues	Action	Length(m) / Unit	Potential Funding Source	Works Priority	Timeframe	Indicative costing
85	57	Gladesville Road	West	Footpath obstruction - signage pole	Relocate signage to ensure adequate footpath width	1	50% Council / 50% RMS	High	0 - 5 years	\$1,500
86	57	Gladesville Road	East	Footpath obstruction - signage pole	Relocate signage to ensure adequate footpath width	1	50% Council / 50% RMS	High	0 - 5 years	\$1,500
87	3	Howard Place	South	No kerb ramp	Install new kerb ramp to AS design	1	50% Council / 50% RMS	High	0 - 5 years	\$1,500
88	12-14	Matthew Street	East	No kerb ramp	Install new kerb ramp to AS design	1	50% Council / 50% RMS	High	0 - 5 years	\$1,500
89	9	King Street	Intersection	No kerb ramp	Install new kerb ramp to AS design	1	50% Council / 50% RMS	High	0 - 5 years	\$1,500
90	2	Pitt Street	Intersection	No kerb ramp	Install new kerb ramp to AS design	1	50% Council / 50% RMS	High	0 - 5 years	\$1,500
91	6	Pitt Street	East	Footpath obstruction - signage pole	Relocate signage to ensure adequate footpath width	1	50% Council / 50% RMS	High	0 - 5 years	\$1,500
92	10	Pitt Street	West	No kerb ramp	Install new kerb ramp to AS design	1	50% Council / 50% RMS	High	0 - 5 years	\$1,500
93	12	Pitt Street	East	Uneven nature strip	Backfill nature strip to ensure footpath is level with surrounding nature strip	1	50% Council / 50% RMS	High	0 - 5 years	\$139
94	2	Euthella Avenue	Intersection	Footpath obstruction - signage pole	Relocate signage to ensure adequate footpath width	1	50% Council / 50% RMS	High	0 - 5 years	\$1,500
95	24	George Street	North	No kerb ramp	Install new kerb ramp to AS design	1	50% Council / 50% RMS	High	0 - 5 years	\$1,500
96	10	Pitt Street	North	Footpath cavity or cracks	Remove existing path and install new footpath to match existing - minimum 1.2m wide	1	50% Council / 50% RMS	Low	10 - 25 years	\$293
97	7	King Street	South	Footpath obstruction - signage pole	Relocate signage to ensure adequate footpath width	1	50% Council / 50% RMS	High	0 - 5 years	\$1,500
98	1	King Street	North	Footpath obstruction - service pole	Install new minimum 1.2m wide extension to footpath on surrounding nature strip	1	50% Council / 50% RMS	Medium	5 - 10 years	\$293
99	8	Joubert Street	West	Footpath obstruction - service pole	Install new minimum 1.2m wide extension to footpath on surrounding nature strip	1	50% Council / 50% RMS	Medium	5 - 10 years	\$293
100	6	Joubert Street	North	Footpath uneven	Footpath grinding	1	50% Council / 50% RMS	Medium	5 - 10 years	\$25
101	2	Joubert Street	West	Footpath uneven	Footpath grinding	1	50% Council / 50% RMS	Medium	5 - 10 years	\$25
102	2	Joubert Street	South	Poor lighting	Investigate current lighting and provide lights as necessary	1	Council	Medium	5 - 10 years	\$5,000
103	14	Joubert Street	West	Inadequate signage	Provide new sign	1	Council	Medium	5 - 10 years	\$600
104	16C	Joubert Street	West	Footpath obstruction - service pole	Install new minimum 1.2m wide extension to footpath on surrounding nature strip	1	50% Council / 50% RMS	Medium	5 - 10 years	\$293
105	71-75	Gladesville Road	South	Bus stop: no shelter	Bus stop to be relocated, no further action required	1				\$0

ID	Closest Street Address	Street Name	Side of road/ Intersection	Issues	Action	Length(m) / Unit	Potential Funding Source	Works Priority	Timeframe	Indicative costing
106	58	Gladesville Road	Intersection	Kerb ramp lip/step	Remove existing kerb ramp and install new kerb ramp – upgrade to AS design	1	50% Council / 50% RMS	High	0 - 5 years	\$1,500
107	38-40	Gladesville Road	North	Poor lighting	Investigate current lighting and provide lights as necessary	1	Council	Medium	5 - 10 years	\$5,000
108	30	Gladesville Road	North	Footpath obstruction - service pole	Install new minimum 1.2m wide extension to footpath on surrounding nature strip	1	50% Council / 50% RMS	Medium	5 - 10 years	\$293
109	35	Gladesville Road	Intersection	No kerb ramp	Install new kerb ramp to AS design	1	50% Council / 50% RMS	High	0 - 5 years	\$1,500
110	28	Gladesville Road	North	Poor lighting	Investigate current lighting and provide lights as necessary	1	Council	Medium	5 - 10 years	\$5,000
111	1	Rocher Avenue	North	Poor lighting	Investigate current lighting and provide lights as necessary	1	Council	Medium	5 - 10 years	\$5,000
112	1	Rocher Avenue	Intersection	No safe crossing location	Investigate location and install refuge with kerb ramps	1	50% Council / 50% RMS	Low	10 - 25 years	\$8,000
113	35A	Gladesville Road	South	Narrow path	Investigate footpath widening (1.2m minimum) associated with future Development Applications)	123.5	50% Council / 50% RMS	Low	10 - 25 years	\$19,765
114	42	Gladesville Road	Intersection	Narrow path	Investigate footpath widening (1.2m minimum) associated with future Development Applications)	25.2	50% Council / 50% RMS	Low	10 - 25 years	\$4,027
115	41	Gladesville Road	South	Narrow path	Investigate footpath widening (1.2m minimum) associated with future Development Applications)	117.0	50% Council / 50% RMS	Low	10 - 25 years	\$18,719
116	5	The Avenue	West	No kerb ramp	Install new kerb ramp to AS design	1	50% Council / 50% RMS	High	0 - 5 years	\$1,500
117	45	Ryde Road	West	Footpath cavity or cracks	Remove existing path and install new footpath to match existing - minimum 1.2m wide	12.2	50% Council / 50% RMS	High	0 - 5 years	\$3,587
118	47	Ryde Road	South	Footpath cavity or cracks	Remove existing path and install new footpath to match existing - minimum 1.2m wide	8.0	50% Council / 50% RMS	High	0 - 5 years	\$2,353
119	35	Ryde Road	North	Footpath cavity or cracks	Remove existing path and install new footpath to match existing - minimum 1.2m wide	8.7	Council	High	0 - 5 years	\$2,543
120	16	Joubert Street	West	Footpath cavity or cracks	Remove existing path and install new footpath to match existing - minimum 1.2m wide	9.4	50% Council / 50% RMS	Low	10 - 25 years	\$2,747
121	5	Church Street	East	No path	Install new minimum 1.2m wide footpath to AS	14.9	50% Council / 50% RMS	Low	10 - 25 years	\$5,379
122	19	Reiby Road	West	No path	Install new minimum 1.2m wide footpath to AS	134.5	50% Council / 50% RMS	Medium	5 - 10 years	\$48,411
123	5	The Avenue	Intersection	No safe crossing location	Investigate location and install refuge with kerb ramps	1	50% Council / 50% RMS	High	0 - 5 years	\$8,000
124	6	Reiby Road	East	No path	Install new minimum 1.2m wide footpath to AS	3.1	50% Council / 50% RMS	High	0 - 5 years	\$1,129
125	12	Reiby Road	West	No path	Install new minimum 1.2m wide footpath to AS	57.9	50% Council / 50% RMS	High	0 - 5 years	\$20,844
126	1	Reiby Road	West	Inadequate signage	Provide new sign	1	50% Council / 50% RMS	Medium	5 - 10 years	\$600

ID	Closest Street Address	Street Name	Side of road/ Intersection	Issues	Action	Length(m) / Unit	Potential Funding Source	Works Priority	Timeframe	Indicative costing
127	4	Reiby Road	South	No path	Install new minimum 1.2m wide footpath to AS	47.8	50% Council / 50% RMS	High	0 - 5 years	\$17,205
128	13	Reiby Road	North	No path	Install new minimum 1.2m wide footpath to AS	118.2	50% Council / 50% RMS	Low	10 - 25 years	\$42,541
129	30	Joubert Street	East	No path	Install new minimum 1.2m wide footpath to AS	58.3	50% Council / 50% RMS	Low	10 - 25 years	\$20,996
130	20	Joubert Street	East	No path	Install new minimum 1.2m wide footpath to AS	189.4	50% Council / 50% RMS	Low	10 - 25 years	\$68,180
131	2	Avenue Road	West	Footpath cavity or cracks	Remove existing path and install new footpath to match existing - minimum 1.2m wide	10.1	50% Council / 50% RMS	Low	10 - 25 years	\$2,969
132	49-57	Gladesville Road	South	Narrow path	Investigate footpath widening (1.2m minimum) associated with future Development Applications)	28.9	50% Council / 50% RMS	Low	10 - 25 years	\$4,619
133	1	Howard Place	West	No path	Investigate introduction of shared zone (signage and line-marking only - no road repaving or resurfacing required)	50.8	50% Council / 50% RMS	High	0 - 5 years	\$5,000
134	10	Nemba Street	Intersection	No safe crossing location	Investigate location and install refuge with kerb ramps	1	50% Council / 50% RMS	High	0 - 5 years	\$8,000
135	10	Pitt Street	East	No kerb ramp	Install new kerb ramp to AS design	1	50% Council / 50% RMS	High	0 - 5 years	\$1,500
136	24	George Street	South	No kerb ramp	Install new kerb ramp to AS design	1	50% Council / 50% RMS	High	0 - 5 years	\$1,500
137	22	George Street	South	No path	Install new minimum 1.2m wide footpath to AS	122.8	50% Council / 50% RMS	High	0 - 5 years	\$44,215
138	7	King Street	North	Narrow path	Investigate footpath widening (1.2m minimum) associated with future Development Applications)	8.3	50% Council / 50% RMS	Low	10 - 25 years	\$1,331
139	7	King Street	South	Uneven nature strip	Backfill nature strip to ensure footpath is level with surrounding nature strip	17.5	50% Council / 50% RMS	High	0 - 5 years	\$2,427
140	10	Nemba Street	North	No path	Install new minimum 1.2m wide footpath to AS	54.1	50% Council / 50% RMS	Low	10 - 25 years	\$19,480
141	50	Gladesville Road	North	Footpath uneven	Footpath grinding	7.9	50% Council / 50% RMS	High	0 - 5 years	\$197
142	44	Gladesville Road	North	Inadequate link from Gladesville Road to Park	Signpost and make link clear to users from both the park and Gladesville Road	56.6	50% Council / 50% RMS	High	0 - 5 years	\$67,973
143	12-14	Matthew Street	West	No kerb ramp	Install new kerb ramp to AS design	1	50% Council / 50% RMS	High	0 - 5 years	\$1,500
144	5	The Avenue	East	No kerb ramp	Install new kerb ramp to AS design	1	50% Council / 50% RMS	High	0 - 5 years	\$1,500