



# Upper Lachlan Shire Council



Pedestrian Access and Mobility  
Plan (PAMP) and Bike Plan



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# 1.0 Executive summary

The Upper Lachlan Shire is located on the top of the Great Dividing Range, within the Southern Tablelands of New South Wales. The Shire covers 7,102km<sup>2</sup> and is well known for its wool and potato production, with tourism emerging as relatively new industry. The Shire is home to 7,193 (2011 ABS) people over ten main towns and villages; Bigga, Binda, Collector, Crookwell, Dalton, Grabben Gullen, Gunning, Laggan, Taralga and Tuena. Crookwell is a main urban centre of the Shire which is home to 2,507 of its residents.

The Shire has a high car dependency, with public transport limited to the Gunning rail service and the Crookwell Bus Service (restricted to around Crookwell, and from Crookwell to Goulburn). School bus services operate across the major urban areas of the Shire.

Upper Lachlan has a higher percentage of people walking to work in comparison with Regional NSW and Australia, however a lower percentage of people cycling to work than the averages for regional NSW and Australia.

The Shire has a modest network of footpaths across its larger towns and villages, servicing a number of key services and destinations. The majority of the existing pathway network within the Shire is ageing, however a number of recent pathway developments in the towns of Gunning and Crookwell are providing safe and attractive places for walkers and cyclists. The supporting infrastructure for the pathway network is also evolving, with the recent addition of seating and amenities in some locations. The opportunity exists for Council to enhance the existing network through an ongoing program of footpath maintenance and upgrades, development of new connections to key destinations, as well as supporting facilities such as signage and seating.

The Upper Lachlan Shire Pedestrian Access Mobility Plan and Bike Plan (the Plan), sets Council's strategic direction and framework to establish a pedestrian and bicycle friendly environment within the Local Government Area over the next 5 to 10 years. The Plan builds on the Upper Lachlan Shire Council PAMP and Bike Plan (2005), which proposed a number of actions designed to encourage and support walking and cycling in the Shire.

The PAMP and Bike Plan have been written as a combined document so as to address both the walking and cycling needs of a wide range of users including school children, seniors, recreational users, commuters, people with a disability or limited mobility, as well as visitors to the Shire. The purpose of the PAMP is to ensure thorough planning for pedestrians occurs via a comprehensive strategic action plan to develop subsequent policies and develop facilities. The purpose of developing the Bike Plan is for Council to deliver cycling infrastructure in a coordinated and strategic manner.

The PAMP and Bike Plan will assist Council in securing funding for the implementation of walking and cycling infrastructure, such as the NSW Government's Walking Communities Program, Priority Cycleways, Cycling Towns and Connecting Centre programs.

The Plan will guide Council in its application for grant funding, allocation of annual funds for maintenance and capital projects, as well as providing a sound communication tool to the community in its priorities for walking and cycling.

# 1.1 Upper Lachlan walking and cycling environment and opportunities

A number of infrastructure and behaviour change opportunities and recommendations have been made to improve connections within each town and to provide more opportunities to walk and cycle as part of every day activity. Given the limited funds available to resource the Plan, it has targeted improvements to those with the greatest benefit and community support across the Shire.

## Strategic directions

To achieve the objectives of the Upper Lachlan PAMP and Bike Plan, a number of strategic recommendations have been identified. They are:

Fund the maintenance of the existing network	Conserve existing participation and encourage growth in participation	Increase accessibility within towns and villages
Activate, rejuvenate and utilise the Upper Lachlan Shire Access Committee	Council staff as leaders/walking and cycling ambassadors	Development of supporting walking and cycling infrastructure
Re-develop nature strips/drainage to enable footpath construction in Collector	School education programs and skill development	Awareness and promotion of the network
Encouragement of tourism opportunities, programmed walks and rides, and events	Paths linking key destinations	Development of an accessible services guide
Condition new developments for walking and cycling infrastructure.		

These strategic directions are outlined further on page 61 of this Plan.





# 2.0 Introduction

The Upper Lachlan PAMP and Bike Plan aims to provide a framework for the development and coordination of pedestrian and cycling facilities to meet the needs of the community. The Plan identifies opportunities to improve the existing network and encourage more people to walk and cycle as part of an active and healthy lifestyle.

In order to ensure that the pedestrian and cycle network is relevant for the each town and village, a thorough process has been undertaken in order to understand the community's needs:

- Understanding the community and stakeholders needs
- Identifying and mapping key destinations
- Understanding travel behaviours and use patterns
- Understanding the types of pedestrians and cyclists
- Audit of the existing network including its legibility, condition, gaps in the network and associated infrastructure such as signage and supporting facilities
- Barriers to pedestrians and cyclists

The PAMP and Bike Plan addresses the towns of Bigga, Binda, Collector, Crookwell, Dalton, Grabben Gullen, Gunning, Laggan, Taralga and Tuena. Due to the spatial distribution of each town across the Shire, towns have been assessed on an individual basis, rather than the Shire as a whole.



## 2.1 Vision

The vision for the Plan is:

*'To provide a network of safe and accessible pathways and their supporting infrastructure for both pedestrians and cyclists, linking key destinations within towns, as well as providing residents and visitors with opportunities for recreation and exercise.'*

The development of the PAMP and Bike Plan for the Upper Lachlan Shire has been built on a sound understanding of the local community and their preferences, the local environment including the key services and destinations, as well as the existing pedestrian and cycling network.

## 2.2 Objectives of the Plan

The key objectives for the PAMP and Bike Plan are to:

- Enhance and improve the pedestrian and cycling network through infrastructure provision that addresses the needs and abilities of all types of pedestrians and cyclists
- Collective infrastructure and behavioural initiatives that remove impediments to walking and cycling, particularly for the youth and aged
- Identify opportunities for the provision of end-of-trip facilities
- Complement existing and proposed tourist attractions throughout the Shire and adjoining local government areas
- Identify strategies that raise awareness of the merits/benefits of active transport in the Upper Lachlan Shire
- Prioritise improvements which can be realistically implemented with potential sources of funding identified - a progressive level of investment
- Ensure pedestrian and cycling facilities are managed and maintained to high quality standards and in accordance with Council's asset management plans and service level benchmarks.



# 3.0 Participation trends

Understanding participation trends at a national and state level can assist in the future planning of infrastructure, supporting facilities, and programs.

## 3.1 Walking participation

### Walking for recreation/exercise

As can be seen from the Australian data for walking for recreation/exercise, there is little difference in trends between 2005-06 and 2011-12. However, the latest survey in 2013-14 reveals a significant decrease in the percentage of people walking for recreation or exercise.

Table 1. Walking for recreation/exercise

	Participation (% Aus.)			
	2005-06	2009-10	2011-12	2013-14
<b>By gender</b>				
Males	16.5	15.6	16.5	13.6
Females	32.8	30.0	30.4	24.7
<b>By age</b>				
15 to 17	6.8	6.3	6.3	-
18 to 24	10.8	10.4	10.8	-
25 to 34	20.7	15.8	16.3	-
35 to 44	25.7	23.7	23.5	-
45 to 54	30.7	30.2	31.0	-
55 to 64	34.8	34.4	36.3	-
65+	29.1	26.7	27.5	-
Total	24.7	22.9	23.6	19.2

### Walking for transport

The table below displays information collected in the 2006 and 2011 Australian Censuses for walking as a method of journey to work. Analysis of the data shows that the Upper Lachlan Shire has a higher percentage of people walking to work in comparison with Regional NSW and Australia. However, the percentage of those walking to work has fallen between 2006 and 2011, indicating a preference to use other methods of transport (in particular driving).

Table 2. Walking for transport

Upper Lachlan LGA		Regional NSW		Australia	
2006	2011	2006	2011	2006	2011
5.5	4.7	4.7	4.1	4.0	3.7

As time pressures increase in people's lives, walking for transport can be a great way to exercise and keep fit whilst travelling to a destination.

### Children walking to school

According to the National Heart Foundation, the number of children walking to school has halved over the last 40 years.<sup>1</sup> The Short Report of the NSW Health Schools Physical Activity and Nutrition Survey (SPANS) conducted in 2004 shows an even greater decrease in both walking and cycling for students in Years 8 and 10 (see below).

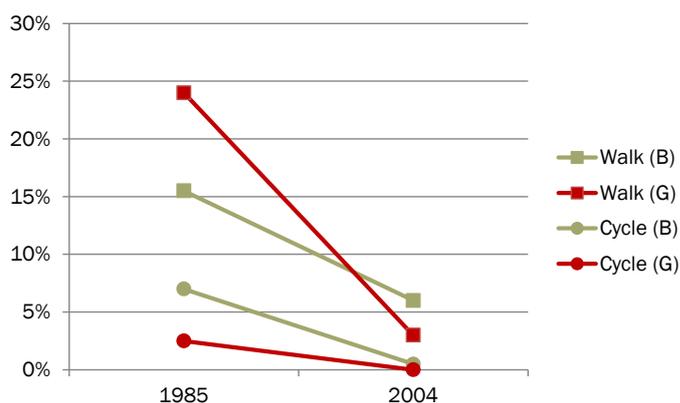


Figure 1. Rates of Year 8 children walking to school in 1985 and 2004 (SPANS)

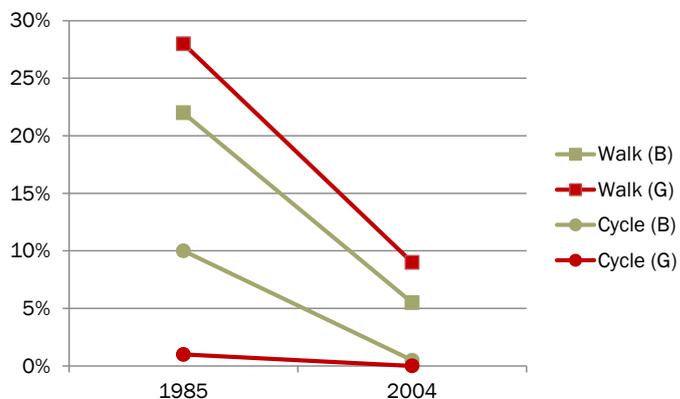


Figure 2. Rates of Year 10 children walking to school in 1985 and 2004 (SPANS)

It is likely that these rates are influenced by an increase in the distances present for children to travel to school (in particular high school), which may necessitate other modes of transport including driving and public transport. However, notwithstanding these possibilities the figures are concerning and show the major downward trend of active transport among school students. Lifelong transport habits can be formed in childhood and encouraging walking and cycling among students of all ages should be a major consideration for all policy and plan makers.

<sup>1</sup> Move it: Australia's healthy transport options (National Heart Foundation Australia, 2014)

## 3.2 Cycling participation

The National Cycle Strategy aims to double participation rates in cycling by Australians between 2011 and 2016. To measure this performance, a biennial National Cycling Participation Survey is conducted.

Between 2011 and 2015, cycling participation rates have been fairly constant at a state level, however, changes can be seen in regional NSW<sup>1</sup>. Rates decreased significantly in 2013 and have returned to being similar to 2011 levels in 2015.

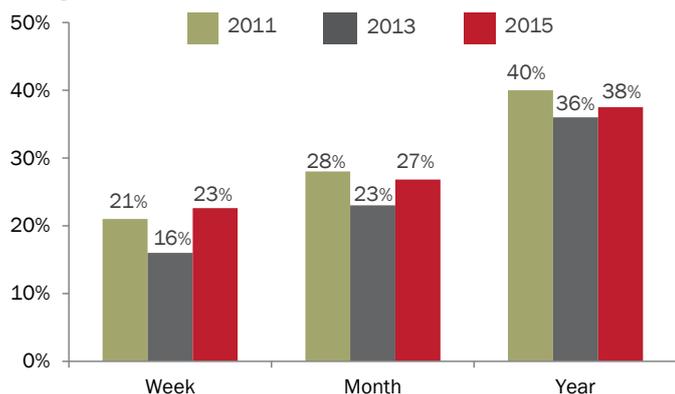


Figure 3. Cycling participation rates in regional NSW by frequency of participation between 2011 and 2015

### Participation by gender

Consistent with national trends, males in regional NSW are more likely to cycle than females (see figure below). The rate of female cycling has increased on 2011 and 2013 levels.

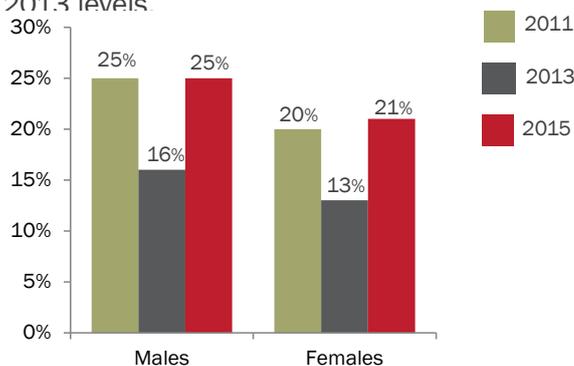


Figure 4. Cycling participation in regional NSW by gender

### Participation by age

Trends also show that cycling participation rates are much higher among the youth and then decrease as people get older. Considering the activity of cycling is low impact, in theory, participation rates should increase in those aged over 50 years who tend to look for low impact physical activities.

Cycling participation in regional NSW among almost all age groups has increased significantly. The only age group where cycling decreased in popularity was in 18 to 29 year olds.

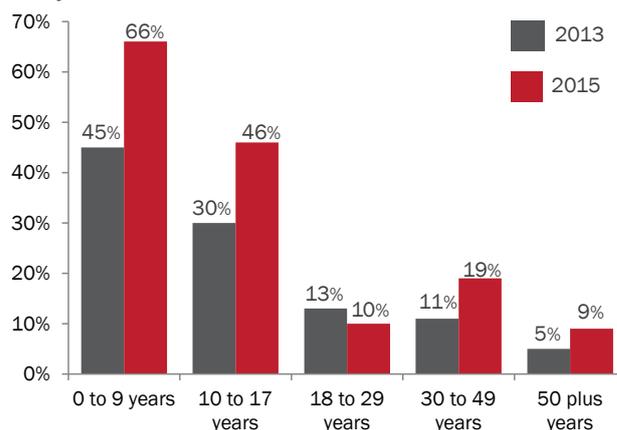


Figure 5. Cycling participation in regional NSW by age cohort for 2013 and 2015

### Cycling for transport

The ABS Census collects information on what mode of transport respondents use to travel to work. This information provides an indication on the popularity of cycling for transport in given areas. In Upper Lachlan, the level of people cycling to work on the day of the Census in 2011 was quite low at 0.3%. This figure is lower than the averages for regional NSW and Australia and opportunities exist for encouraging cycling as a viable method of transport in the Upper Lachlan Shire.

Table 3. Cycling for transport

Upper Lachlan LGA		Regional NSW		Australia	
2006	2011	2006	2011	2006	2011
0.7	0.3	0.8	0.7	1.0	1.0

<sup>1</sup> Anywhere in NSW, excluding the Sydney metropolitan area

## Bicycle ownership

The number of bicycles per household in regional NSW tells a similar story to cycling participation comparisons. Roughly 29% of respondents have access to three or more working bicycles, much higher than NSW and Australia.

Table 4. Bicycle ownership

Number of bicycles per household	Regional NSW	NSW	Aust
none	43%	50%	46%
one	16%	15%	16%
two	11%	12%	15%
three or more	29%	23%	24%

### Why should Council invest in walking and cycling?

While walking and cycling trends at a National, State and Regional level indicate a decrease in participation, (or remain steady) it is evident that at a local level there is great interest in walking and cycling for exercise, recreation and transport.

Council currently has over 17km of pathways within the Shire, including 15km of footpaths and 2km of shared paths with an approximate asset value of \$1.631 Million.

Due to the age and quality of the existing network, many residents have indicated that they would walk and cycle more often given a range of improvements, including:

- More footpaths and shared paths
- Direct links to key destinations
- Improved path maintenance
- Wider road shoulders for cycling
- Safer transition from road to path
- Improved accessibility for older residents and those with mobility issues.

Participation barriers are summarised on the following page, with the community engagement outcomes outlined in Section 4.0 of this Plan.

## 3.3 Participation barriers

### Cycling

Understanding why people choose not to cycle for recreation or transportation purposes helps Council and other organisations to develop strategies and programs to eliminate and overcome the perceived barriers.

#### **Safety**

The perception that our roads are too dangerous is a major barrier to cycling. Research has found that ‘visibility’ is a major contributor to crashes involving a bicycle. This includes both bicycle riders not being seen by a driver at all or in time, or by vehicles not being seen by the bicycle rider at all or on time.<sup>1</sup>

#### **Negative image of cyclists**

There is no debating that there is an ongoing dispute between cyclists, particularly road cyclists, and motor vehicle drivers about who has the right to the road. Many motor vehicle drivers, some of which are recreation or commuter cyclists themselves, believe that cars and cyclists do not mix on the road, especially during peak traffic times.

#### **Boredom, lack of motivation**

Some non-cyclists find cycling boring or feel that there is nothing interesting to look at or worth cycling to in their area. This is especially true for recreation cyclists. Rural cyclists often reported that they would cycle more if they lived in a city like Melbourne or Sydney, where there are numerous places of interest to visit and a variety of routes to key destinations, unlike rural towns, where the number of destinations and routes are limited.<sup>2</sup>

#### **Infrastructure**

A lack of cycling infrastructure, particularly off-road cycle paths, is a major barrier to cycling. On-road bike lanes often do not provide the type of protection for cyclists that they were intended to. Intersections and especially roundabouts pose problems for cyclists in urban areas. Infrastructure such as night lighting, benches, water bubblers and distance indicators are simple supportive embellishments that can make a ride more comfortable and enjoyable for cyclists.

#### **Weather and seasonal considerations**

In winter, it is often dark in the morning and evenings when people ride between work and home, which can impact upon their decision to ride or not. Additionally, the weather can play a large role in people’s preference to ride, with hot summers and periods of rain impacting a riders’ level of comfort and subsequent travel mode preferences.

#### **Convenience**

The journey to and from work for many people often involves a number of stops at different destinations. The convenience of the private motor vehicle is hard to overlook when choosing between the car or bicycle as the preferred mode of transportation for a trip.

#### **End-of-trip facilities**

Many workplaces continue not to have comfortable end-of-trip facilities, such as showers, ironing facilities, changing areas, lockers and/or secure bicycle storage areas. The absence of these types of facilities, especially private showers and change areas, is a common reason for people, particularly women, choosing not to cycle to work or other destinations.

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<sup>1</sup> *Cycling Safety Action Plan 2014-2016*

<sup>2</sup> *Victorian Department of Transport (Walking and Cycling Branch) 2009, Encouraging Walking and Cycling: Focus Group (Final Report)*



# 4.0 Community engagement summary

## Community engagement

A comprehensive community engagement strategy was adopted during the development of the Plan to gain an understanding of walking and cycling within the Upper Lachlan Shire community. Community and stakeholder engagement has underpinned the development of this Plan.

A range of tools were used to engage target groups, stakeholders and the general community, ensuring all interested people had an opportunity to comment during the development of the Plan.

Engagement with the general community and stakeholders involved the following key methods:

1. Community and stakeholder workshops
  - Crookwell
  - Gunning
2. Community and stakeholder survey online and hard copy surveys
  - Council received 98 community surveys.
3. Upper Lachlan Access Committee meetings
4. Interviews with schools (primary and secondary schools) and young people.

### Key issues - walking

Below is a summary of the key issues related to pedestrians and walking that arose from the community engagement process.

#### Path surface and maintenance

A consistent issue raised across the Upper Lachlan Shire was the quality of the existing path surfaces. Issues raised include uneven surfaces, cracked and lifting path sections and trip hazards.

Maintenance was also raised as a common issue, with respondents listing a lack of maintenance on the existing path network.

#### Number of footpaths

Across the Shire, a lack of footpaths linking key destinations was highlighted as a key issue. Areas with shops, sporting facilities and schools were the main areas raised as requiring footpath linkages.

This was particularly raised by residents from Collector, who currently have no paths.

#### Accessibility of shops

In the areas of Crookwell, Taralga and Gunning, residents are concerned with the difficulty in accessing shops and services within the main street. There are currently three main issues associated with access to shops; the large step up from the road to the footpath; the steps into individual shops, with very limited number of shops with a ramp; and narrow doorways often preventing those with mobility devices and prams from entering.

It needs to be noted that access into businesses including steps and ramps are the responsibility of the individual shop owner and do not form part of this plan.

#### Provision of lighting

The lack of path lighting was identified as a barrier to walking in Crookwell, Gunning and Collector.

#### Kerb ramps

There is a mismatch between the provision of kerb ramps and disabled car parking spaces within the main retail precinct of some towns. Additionally, the kerb ramp is often located in the wrong spot i.e. behind where the vehicle is parked, resulting in the ramp not being usable by those who need it.

Across the Shire, there is an inconsistent provision of kerb ramps on existing paths, with some non-compliant and some non-existent.

#### Road width and condition

In Collector where there are no existing paths, the narrow roads and steep road-side drains create an issue for residents (especially school children) as they are forced to walk on the roads.

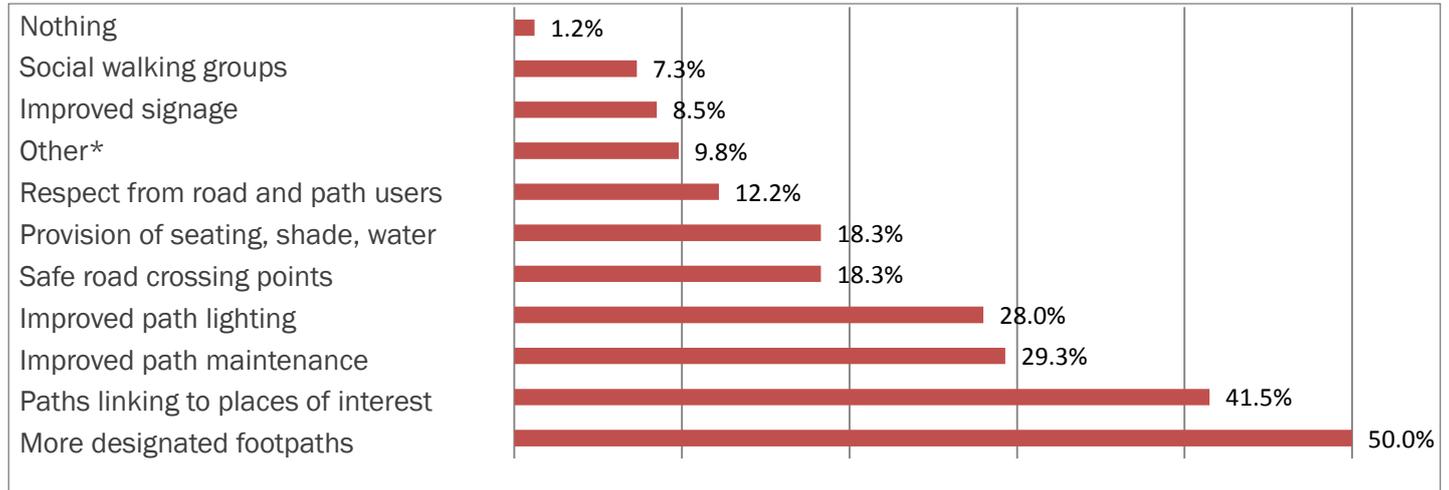
#### Road crossing points

Concerns were raised about the safety of crossing the street, with limited designated crossing points within the Shire.

## Improvements that would encourage the community to walk more often

In addition to the key issues raised by respondents in the survey, residents were asked what improvements would encourage them to walk more often. The results are shown in the table below.

Table 5. Improvements that would encourage walking



Examples of Other\* include:

- Improved road and kerb maintenance
- Wider streets
- Reduced speed limits within villages
- Install enclosed road-side drainage to increase the amount of flat, walkable surfaces.

## *Key issues - cycling*

Below is a summary of the key issues related to cycling that arose from the community engagement process.

### **Designated area for families to ride**

It was identified by the community that they would like to see designated paths and areas for families to ride their bikes together in a safe, off-road environment. This includes areas for young riders to develop their skills, as well as a network of off-road shared paths or circuit without the pressures of vehicles.

### **Number of shared paths or cycle paths**

There are few paths within the Shire that allow for cyclists; either shared paths or specific cycle paths.

Under New South Wales road rules, children under 12 years of age can ride on a footpath, as well as an adult supervising a cyclist under 12.

### **Bicycle parking**

Residents identified the need for the provision of bicycle parking such as bicycle racks in key locations. Main street's and retail precincts, as well as sporting facilities were raised as requiring bicycle storage.

### **Shared paths connecting key destinations**

A common issue identified was the lack of paths that connect key destinations within a number of towns. Common destinations include schools, shops and main streets and sporting facilities.

### **Road condition, verge width and vehicle speed**

Survey respondents noted that the poor condition of many roads (between towns) as well as the high speed of vehicles makes it unsafe for cyclists to ride on the road.

Subsequently, the limited road verge as well as the condition of the road verge prohibits cyclists from riding within the road shoulder. Riders are then forced to ride on the road.

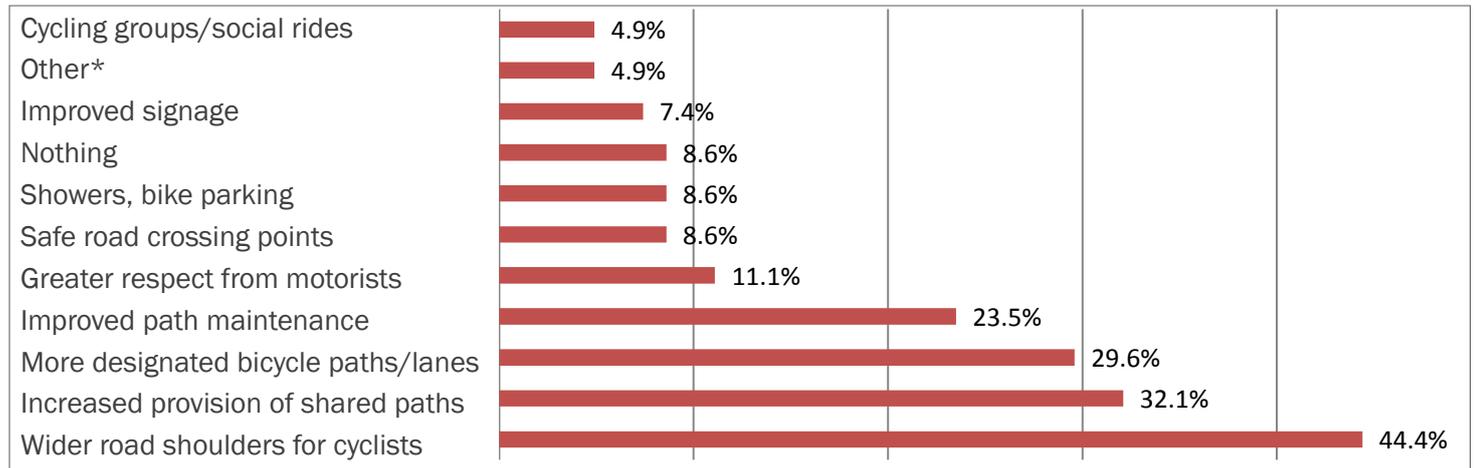
### **Signage and promotion**

Signage providing information to local residents and visitors on where to ride was identified as a gap in the existing bicycle network.

## Improvements that would encourage the community to take up or cycle more often

In addition to the key issues raised by respondents in the survey, residents were asked what improvements would encourage them to take up cycling or cycle more often. The results are shown in the table below.

Table 6. Improvements that would encourage cycling



Examples of Other\* include:

- Improved road maintenance
- Improved road lighting.



# 5.0 Analysis of the existing situation

A detailed walking and cycling environment audit process was undertaken in the development of the Plan. The outcomes of the audit have shown a range of needs for the network. Three major areas needing improvement have been identified, and these translate into three key outcome areas for the Plan:

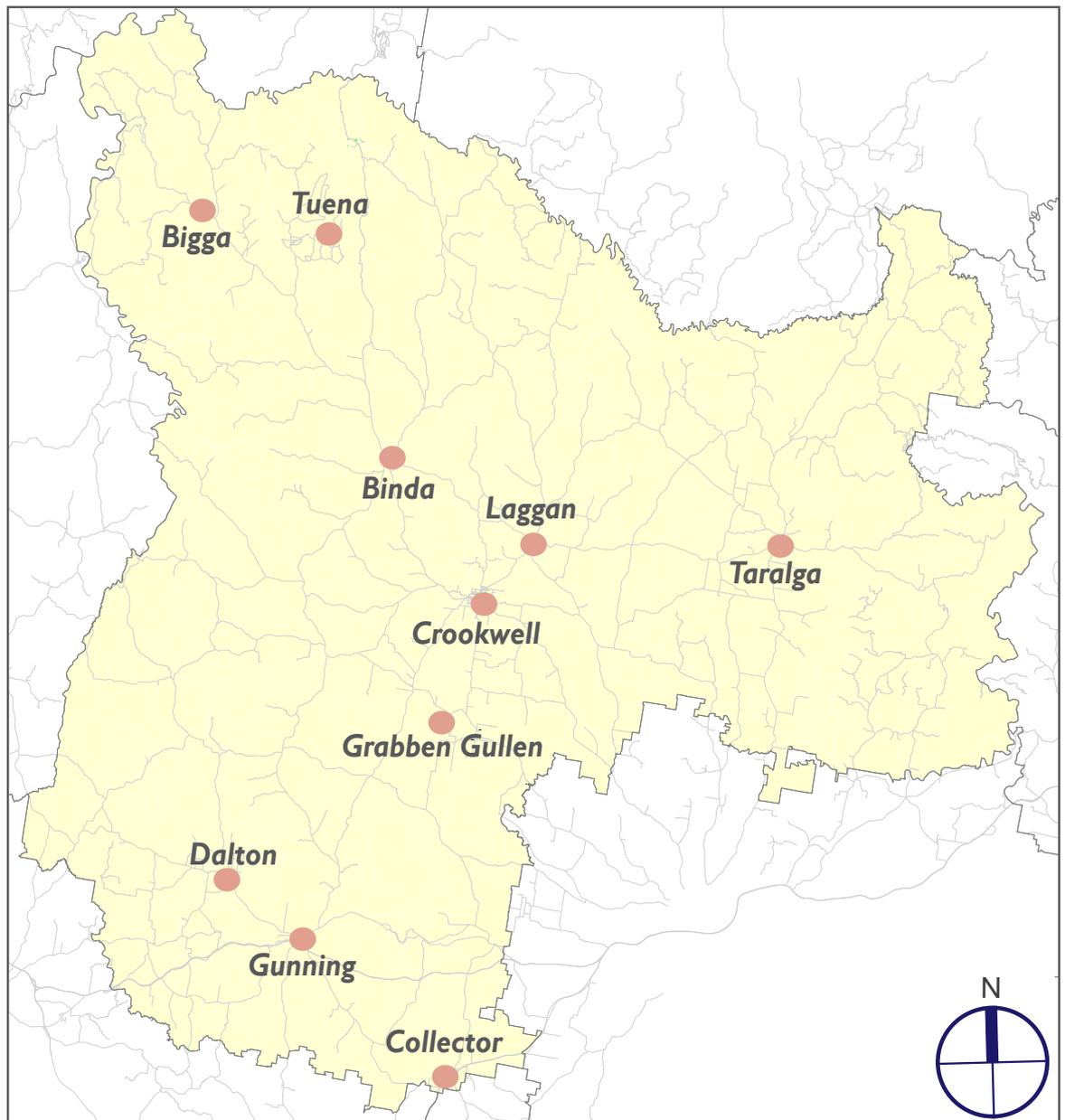
- Pathway maintenance, improvements and new infrastructure - Plan, deliver and maintain a well-connected pedestrian and cycle network
- Supporting Facilities - Provide supporting facilities including signage, line marking, lighting and the provision of end-of-trip facilities
- Behaviour Change Program - Encourage and promote the benefits of walking and cycling.

The outcome areas are described in more detail within the following sections.

The analysis of the existing walking and cycling networks, as well as future networks are provided in the following order:

- Bigga
- Binda
- Collector
- Crookwell
- Dalton
- Grabben Gullen
- Gunning
- Laggan
- Taralga
- Tuena.

## Upper Lachlan Shire Council Area - Villages



# Walking and cycling user groups

Walking and cycling can be types of active transport as well as recreation and physical activity that can be enjoyed and participated in by all ages and abilities. The reasons why participants choose to walk and cycle varies among types of users, as does the needs of each user group.

Each group has their own characteristics and requirements. Identifying the different types of users, allows Council to plan their pedestrian and cycle network accordingly and ensure the network meets the needs of more than one type of user.

The main groups of pedestrians and cyclists (or user groups) in Upper Lachlan can be categorised as follows:

Table 7. Walking and cycling user groups

Type of user	Characteristics	Environment
Primary school children	Cognitive skills may not be fully developed, little knowledge of road rules, require supervision	Off-road shared path or footpath, very low volume residential street
Secondary school children	Skill level varies, developing confidence	Generally use on-road facilities for cycling or off-road footpaths and shared paths for walking where available
Recreation	Experience, age and skills vary greatly	Desire off-road footpaths or shared paths and quiet streets, avoid heavily trafficked routes, more experienced cyclists will prefer to use road system for long journeys
Commuter	Vary in ages and fitness, come highly skilled and able to handle a variety of traffic conditions	Some commuter walkers and cyclists prefer paths or low-stress roads and are willing to take longer to get to destination. Others (mostly commuter cyclists) want quick trips regardless of traffic conditions, primarily require space to ride and smooth riding surface, speed maintenance
Non-cyclists and potential cyclists	Do not currently ride, however have the potential to with effective encouragement	This group would generally begin with off-road shared paths, footpaths (where permitted), very low volume residential streets or learn-to-ride circuits (where available)
Utility	Walk or ride for specific purpose (i.e. shopping), short length trips, routes unpredictable	Not on highly trafficked roads, needs include comprehensive end-of-trip facilities and low-stress routes
Touring (cyclists)	Long distance journeys, may be heavily equipped, some travelling in groups	Often route is similar to that of other tourists i.e. roads and long distance paths
Road/sport cyclists	Often in groups, two abreast occupying left lane, needs are similar to commuters	Travel long distances in training on arterials, may include challenging terrain in outer urban or rural areas. Generally do not use off-road routes because of high speed and conflict with other users
Mobility impaired	Mobility scooter, wheelchair, walking stick or frame, vision impairment, prams	Requires a direct-route to key services and destinations via an off-road shared path or footpath, very low volume residential street. Requires smooth surfaces, good lighting and each access from the path to the street (i.e. compliant kerb ramps). End-of-trip facilities such as seating are important.

The needs of each of the identified user groups have been considered in the walking and cycling audit for each town and village.

The identified needs and subsequent projects recommended for each town and village have been prioritised against projects across the Shire and are documented in section 6.0 of this report.

# 5.1 Bigga's existing walking and cycling network

## Current situation

Bigga had a total population of 296 people in 2011, with a median age of 49. Approximately 4.7% of the population are aged 19 and under, with 24.5% aged 65 and over.

The average motor vehicle per dwelling is 2.1, with 70.2% of households having 2 or more vehicles.

It's reported that 44.1% of Bigga's population travel to work by car, truck or motorbike/scooter, with 8.2% walking to work.

The key destinations for pedestrians and cyclists in Bigga include:

- Bigga Memorial Park
- Bigga War Memorial Hall
- Bigga Uniting Church
- Hotel, Post Office and local store
- Bigga Public School
- Bigga Oval, Recreation Ground and Golf Course
- Police station.

Bigga currently has limited footpaths, with the asphalt hardstand areas outside of the shops on Binda Street providing the only formal surface for walking. The asphalt is in need of maintenance and repair.

The Bigga Public School and recreation grounds are on the outskirts of the town centre, with no formal route for pedestrians and cyclists.

The town centre has a condensed footprint that provides an opportunity for future connection of key destinations by pathways.

### Upper Lachlan Shire Council Area



Existing asphalt path along Binda Street, Bigga

Map 1. Bigga's current situation



**Legend**

- Local Store
  - Post Office
  - Hotel
  - Public Toilet
  - Historical Museum/Monument
  - Community Hall
  - Park and Recreation Grounds
  - Education/Child Care
  - Aged Care/Retirement
  - Upper Lachlan Shire Council Offices
  - Cemetery
  - Hospital
  - Church
  - RFS/SES/ Police/Fire Station
  - Existing Shared Path
  - Existing Footpath
  - Existing Recreation Pathway
- ① Bigga Memorial Park
  - ② Bigga Public School
  - ③ Bigga Recreation Ground
  - ④ Bigga Oval
  - ⑤ Bigga Golf Course

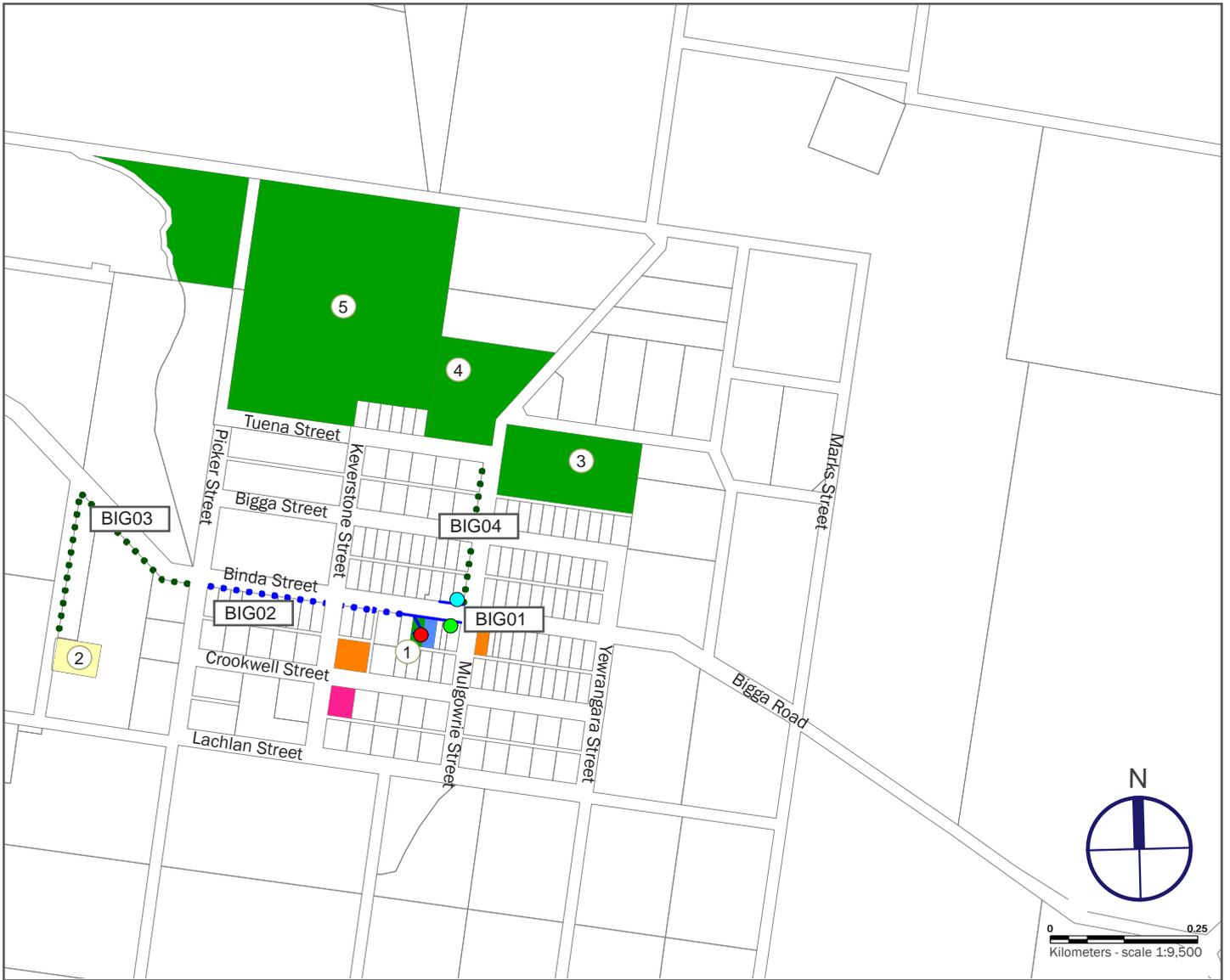
## 5.1.1 Bigga's future walking and cycling network

The proposed future walking and cycling network for Bigga is focussed on improving the connections between key destinations and the main street (Binda Street). These are detailed in the table below and are not representative of their priority, as they are prioritised in Table 18, Section 6.2.

Table 8. Bigga's future walking and cycling network

Reference	Project Type	Road Name	Details
BIG01	Footpath - Upgrade	Binda Street	Resurface the existing asphalt path on Binda Street from Mulgowrie Street to the existing concrete path on the Western side of Bigga Memorial Park.
BIG02	Footpath - New	Binda Street	Construct a new concrete footpath on Binda Street from the existing concrete section on the Western side of Bigga Memorial Park to Picker Street.
BIG03	Recreation Pathway - New	Grabine Road	Construct an off-road recreational pathway within the road reserve on Grabine Road, from Picker Street to the Binda Public School. Pathway to be constructed of de-constructed granite (or similar) to allow pedestrians and cyclist to access the school.
BIG04	Recreation Pathway - New	Mulgowrie Street	Construct an off-road recreational pathway within the road reserve on Mulgowrie Street, from Binda Street to Tuena Street and the Bigga Recreation Ground. Pathway to be constructed of de-constructed granite (or similar) to allow pedestrians and cyclist to access the Recreation Ground, Oval and Golf Course.
BIG05 (not mapped)	Historical Trail - New	TBD	Develop an interpretive trail highlighting the historic places of interest in Bigga, utilising signage and place markers. Route and specific places of interest to be determined.

Map 2. Bigga's proposed walking and cycling network



**Legend**

- Local Store
- Post Office
- Hotel
- Public Toilet
- Historical Museum/Monument
- Community Hall
- Park and Recreation Grounds
- Education/Child Care
- Aged Care/Retirement
- Upper Lachlan Shire Council Offices
- Cemetery
- Hospital
- Church
- RFS/SES/ Police/Fire Station
- Existing Shared Path
- Proposed Shared Path
- Existing Footpath
- Proposed Footpath
- Existing Recreation Pathway
- Proposed Recreation Pathway
- Proposed pedestrian treatment

# 5.2 Binda's existing walking and cycling network

## Current situation

Binda had a total population of 211 people in 2011, with a median age of 50. Approximately 19.8% of the Binda population are aged 19 and under, with 22.5% aged 65 and over.

The average motor vehicle per dwelling is 2, with 74.8% of households having 2 or more vehicles.

It is reported that 60.0% of Binda's population travel to work by car, truck or motorbike/scooter, whilst 3.3% of the population walked to work.

The key destinations for pedestrians and cyclists in Binda include:

- Tennis Courts and playground
- Sports Ground
- St James Anglican Church
- Binda Public School
- Binda Memorial Hall
- Post Office, Hotel and local store
- Public toilets
- Rose Cottage
- Binda Mill.

Binda's current provision of pathways is limited to the pathway that connects the public toilet to the car parking area on Queen Street.

Binda Road and Junction Point Road connect to the heart of Binda on Queens Street. The speed of the vehicles on these busy roads can provide a safety issue for pedestrians wishing to access the shops and services on either side of Queen Street.

The Binda Public School and Church are on the outskirts of the town centre, with no formal route for pedestrians and cyclists.

The town centre has a condensed footprint that provides an opportunity for future connection of key destinations for pedestrians and cyclists.

### Upper Lachlan Shire Council Area

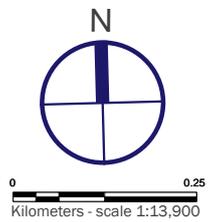
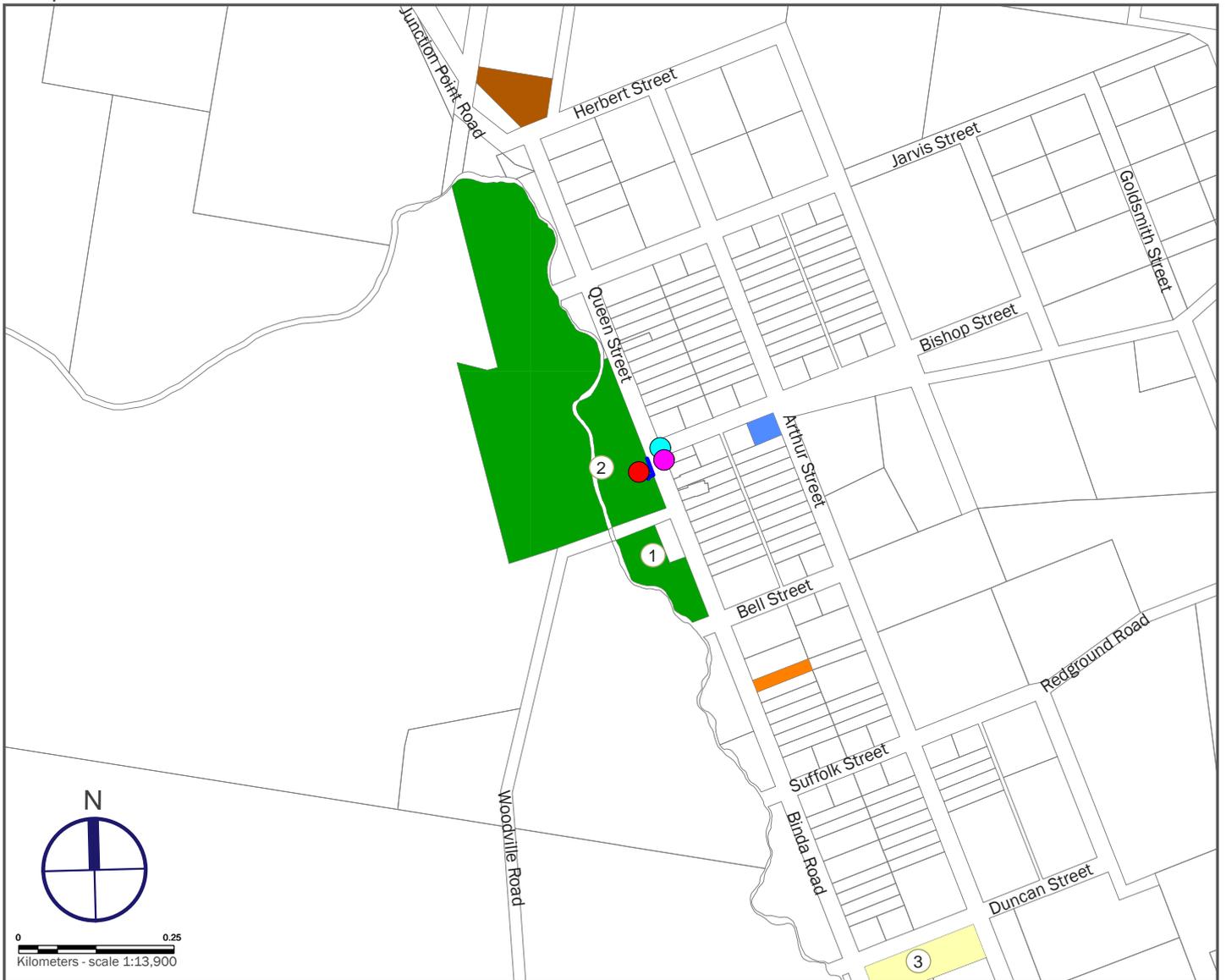


The Post Office and local store on Queen Street, Binda.



Binda's existing footpath provides access to the public toilet

Map 3. Binda's current situation



**Legend**

- Local Store
- Post Office
- Hotel
- Public Toilet
- Historical Museum/Monument
- Community Hall
- Park and Recreation Grounds
- Education/Child Care
- Aged Care/Retirement
- Upper Lachlan Shire Council Offices
- Cemetery
- Hospital
- Church
- RFS/SES/ Police/Fire Station
- Existing Shared Path
- Existing Footpath
- Existing Recreation Pathway
- ① Tennis Courts and playground
- ② Binda Sports Ground
- ③ Binda Public School

## 5.2.1 Binda's future walking and cycling network

The proposed future walking and cycling network for Binda is focussed on improving the connections between key destinations and the main street (Queen Street), as well as providing a safer crossing point for pedestrians on Queen Street. These are detailed in the table below and are not representative of their priority, as they are prioritised in Table 18, Section 6.2.

Table 9. Binda's future walking and cycling network

Reference	Project Type	Road Name	Details
BIN01	Shared Path - New	Queen Street	Construct a new shared path on the Eastern side of Queen Street from Bishop Street to Bell Street.
BIN02	Pedestrian Refuge - New	Queen Street	Construct a new pedestrian refuge on Queen Street South of the Bishop Street intersection, to provide pedestrians with access to both sides of Queen Street. Signage and road markings to be installed to advise motorists on approach (both North and South). This project will be subject to RMS approval.
BIN03	Shared Path - New	Queen Street	Construct a new shared path on the Eastern side of Queen Street from Bell Street to Duncan Street and the entrance of the school.
BIN04 (not mapped)	Historical Trail - New	TBD	Develop an interpretive trail highlighting the historic places of interest in Binda, utilising signage and place markers. Route and specific places of interest to be determined.



## 5.3 Collector's existing walking and cycling network

### Current situation

Collector had a total population of 403 people in 2011, with a median age of 38. Approximately 27.9% of Collector's population are aged 19 and under, with 9.3% aged 65 and over.

The average ownership of motor vehicles per dwelling is 2.2, with 76.7% of households having 2 or more vehicles.

It is reported that 69.8% of Collector residents travel to work by car, truck or motorbike/scooter, with 5.5% walking to work.

The key destinations for pedestrians and cyclists in Collector include:

- Collector Memorial Hall
- Church
- Hotel, Post Office and local store/Cafe
- Collector Public School
- Collector Recreation Ground
- Historical monuments.

Collector currently has no footpaths. The town has narrow roads with little-to-no road verge and deep open road-side channels for drainage.

Collector has a low median age (compared to Upper Lachlan Shire median of 46) and a low proportion of those aged over 65 (compared to the Upper Lachlan Shire at 21.1%).

The street lighting at Collector is patchy in its provision and requires some maintenance.

The school is currently without a formal drop-off and pick-up area and has no identified crossing point for children and their parents.

Collector has a lack of seating and rest spots for pedestrians and cyclists.

### Upper Lachlan Shire Council Area

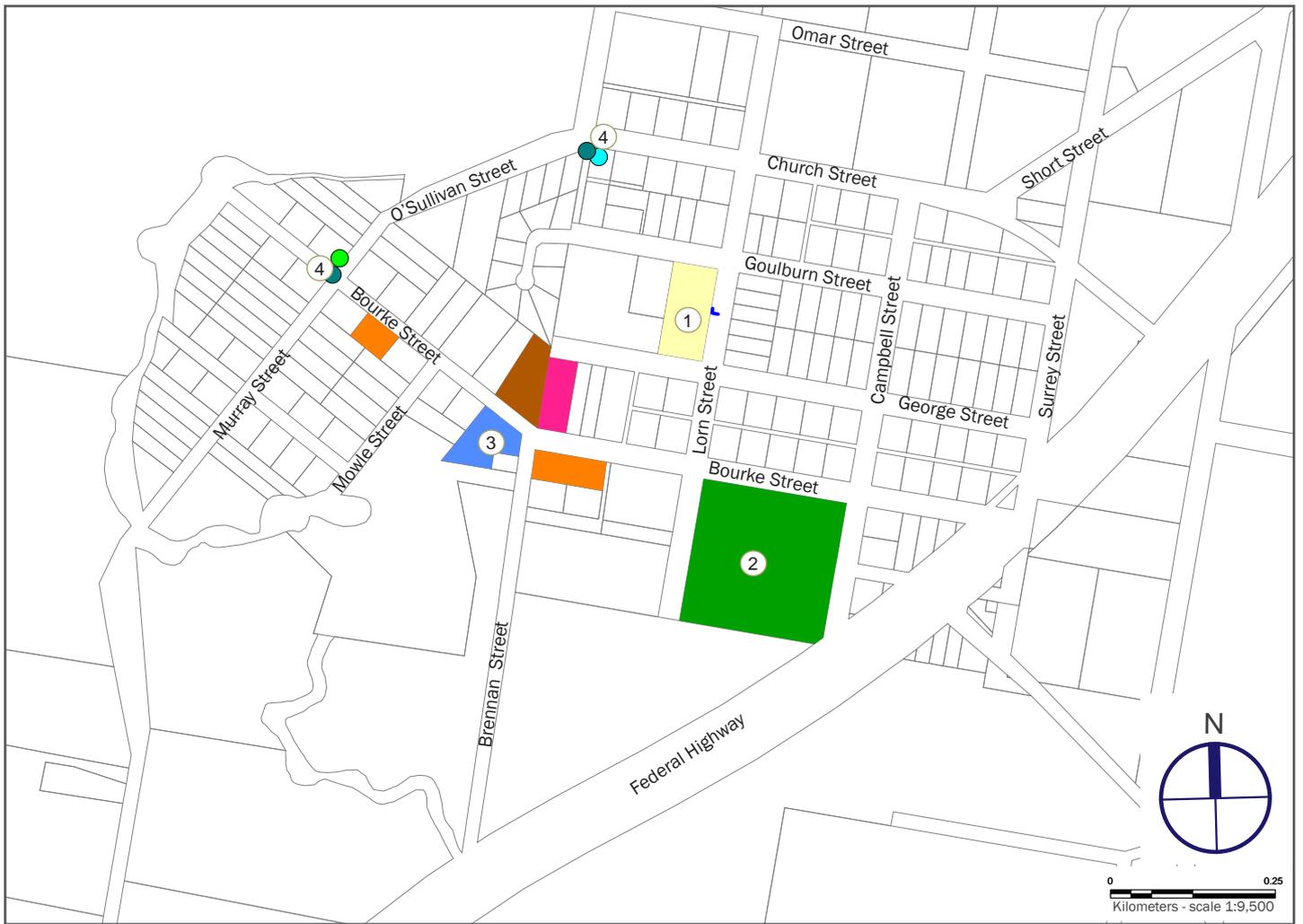


Collector Public School



One of Collector's Historical Monuments

Map 5. Collector's current situation



**Legend**

- Local Store
- Post Office
- Hotel
- Public Toilet
- Historical Museum/Monument
- Community Hall
- Park and Recreation Grounds
- Education/Child Care
- Aged Care/Retirement
- Upper Lachlan Shire Council Offices
- Cemetery
- Hospital
- Church
- RFS/SES/ Police/Fire Station
- Existing Shared Path
- Existing Footpath
- Existing Recreation Pathway
- 1 Collector Public School
- 2 Collector Recreation Ground
- 3 Collector Memorial Hall
- 4 Historical monuments

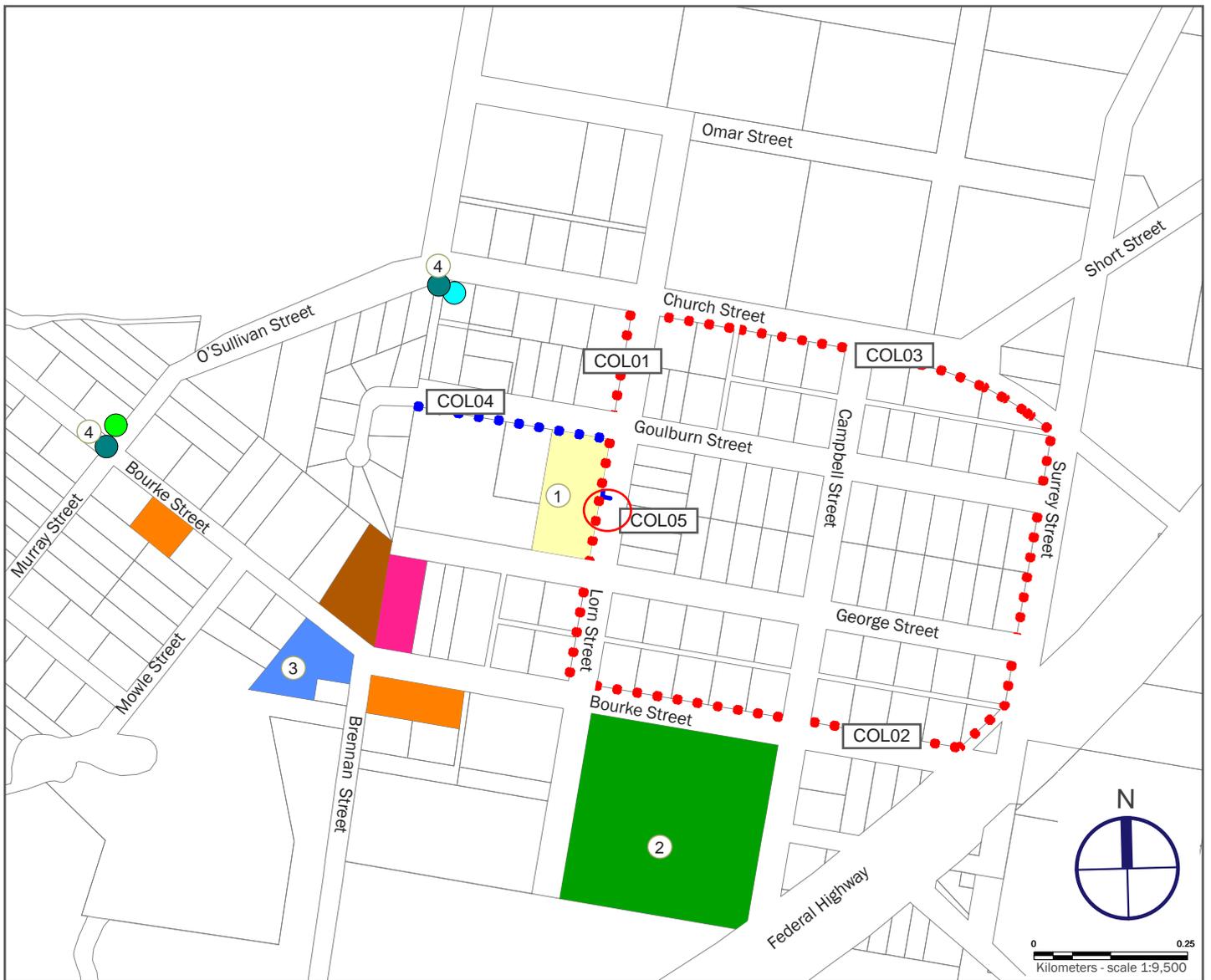
## 5.3.1 Collector's future walking and cycling network

The proposed future walking and cycling network for Collector is focussed on improving the connections between key destinations including the School. These are detailed in the table below and are not representative of their priority, as they are prioritised in Table 18, Section 6.2.

Table 10. Collector's future walking and cycling network

Reference	Project Type	Road Name	Details
COL01	Shared Path - New	Lorn Street	Construct a new shared path on the Western side of Lorn Street from Church Street to Bourke Street.
COL02	Shared Path - New	Bourke Street and Surrey Street	Construct a new shared path on Bourke Street from Lorn Street to Surrey Street, and Surrey Street from Bourke Street to Church Street (utilising the small section of unformed road on Surrey Street).
COL03	Shared Path - New	Church Street	Construct a new shared path on Church Street from Surrey Street to Lorn Street. COL01, COL02 and COL03 will create a town circuit for pedestrians and cyclists.
COL04	Footpath - New	Goulburn Street	Construct a new footpath on Goulburn Street, from Lorn Street to provide access to both the school and the proposed shared path circuit.
COL05	School drop-off and pick-up bay - New	Lorn Street	Design and construct a formal drop-off and pick-up bay at the Collector School to allow the safe access of children to the school. Develop in partnership with the Collector School (and/or the NSW Department of Education).
COL06 (not mapped)	Historical Trail - New	TBD	Develop an interpretive trail highlighting the historic places of interest in Collector, utilising signage and place markers. Route and specific places of interest to be determined.

Map 6. Collector's proposed walking and cycling network



**Legend**

- Local Store
- Post Office
- Hotel
- Public Toilet
- Historical Museum/Monument
- Community Hall
- Park and Recreation Grounds
- Education/Child Care
- Aged Care/Retirement
- Upper Lachlan Shire Council Offices
- Cemetery
- Hospital
- Church
- RFS/SES/ Police/Fire Station
- Existing Shared Path
- Proposed Shared Path
- Existing Footpath
- Proposed Footpath
- Existing Recreation Pathway
- Proposed Recreation Pathway
- Proposed pedestrian treatment

# 5.4 Crookwell's existing walking and cycling network

## Current situation

Crookwell had a total population of 2,507 people in 2011, with a median age of 48. Approximately 23.6% of its population is aged 19 and under, with 26.1% aged 65 and over.

The average motor vehicle ownership per dwelling is 1.9, with 58.9% of households having 2 or more vehicles.

It is reported that 73.3% travel to work by car, truck or motorbike/scooter, with 4.9% walking to work and 0.5% catching a bus.

The key destinations for pedestrians and cyclists in Crookwell include:

- The retail and service precinct on Goulburn Street
- Crookwell Public School
- Crookwell High School
- St Mary's Primary School
- Crookwell Memorial Park and Oval
- Crookwell Memorial Hall
- Crookwell Showground
- Willis Park Dog Off Leash Area
- Golf Course
- Clifton Park Skate Ramp
- Lin Cooper Recreation Area
- Kiamma Park and Creek
- Coleman Park and Swimming Pool (Pat Cullen Reserve)
- Cemetery
- Preschools
- Churches
- Police station
- Upper Lachlan Shire Council Office
- Crookwell Hospital.

## Upper Lachlan Shire Council Area



Crookwell has a good network of footpaths providing access to a number of key destinations. The footpath network is ageing however, with a number of sections in need of maintenance and upgrade.

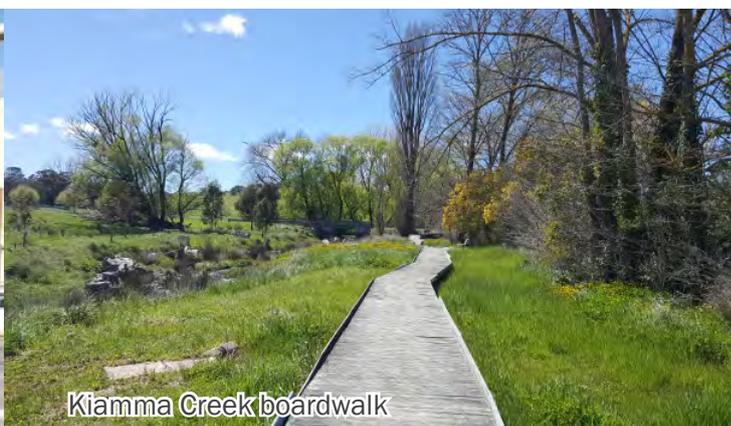
There are a number of missing links in the network and lack of lighting is an issue in some sections.

There is an opportunity to develop a suite of directional signage to promote the existing and proposed pathway network to both residents and visitors.

Accessibility of the footpath from the road is an issue, as is the access to the majority of retail stores for residents with limited mobility due to steps and narrow doorways.

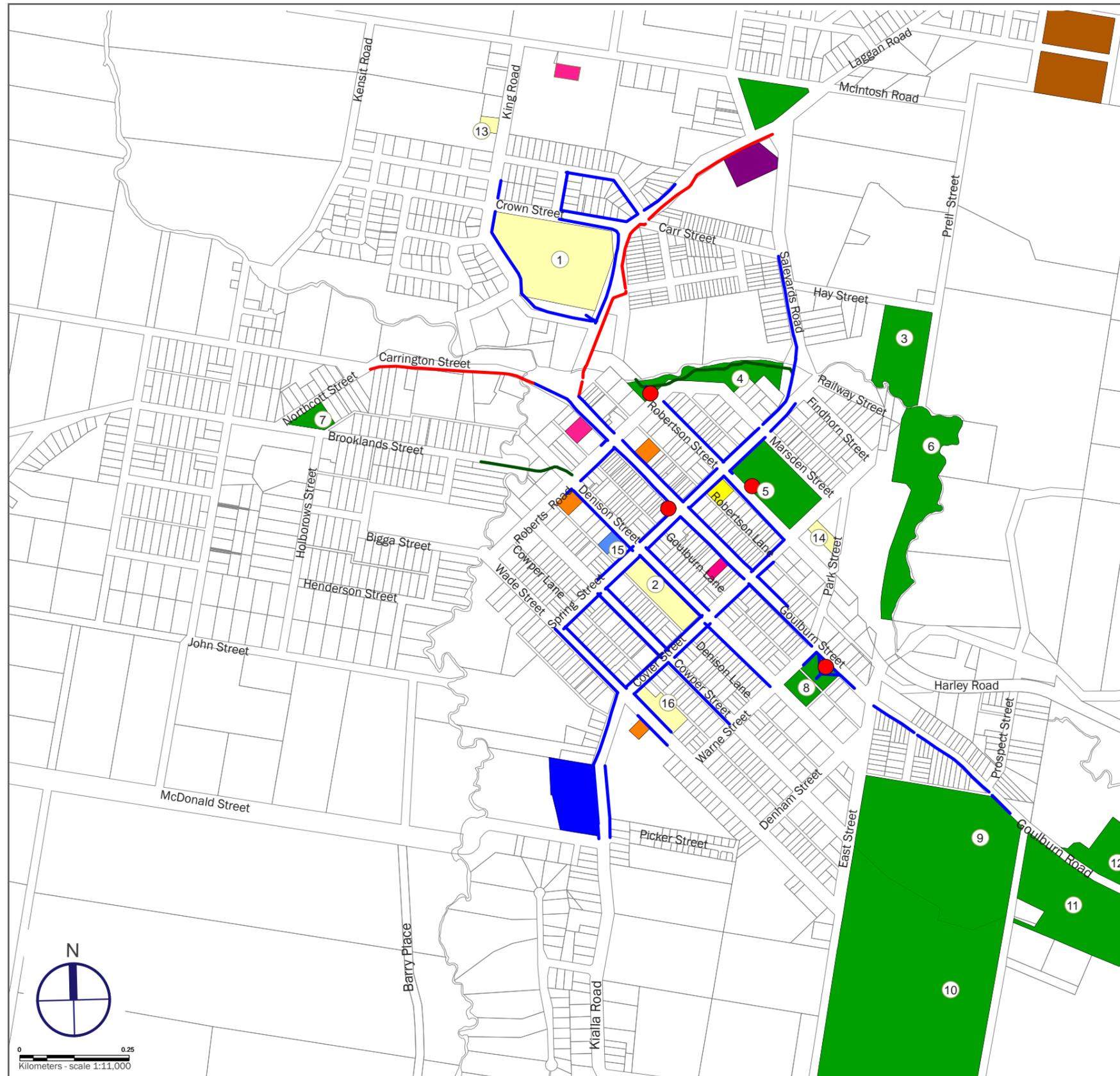


Crookwell pedestrian crossing, Goulburn Street



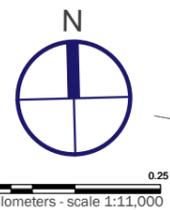
Kiamma Creek boardwalk

Map 7. Crookwell's current situation



**Legend**

- |  |                                     |   |                                  |
|--|-------------------------------------|---|----------------------------------|
| <span style="color: green;">●</span>     | Local Store                         | ① | Crookwell High School            |
| <span style="color: magenta;">●</span>   | Post Office                         | ② | Crookwell Public School          |
| <span style="color: cyan;">●</span>      | Hotel                               | ③ | Willis Park                      |
| <span style="color: red;">●</span>       | Public Toilet                       | ④ | Kiamma Park                      |
| <span style="color: teal;">●</span>      | Historical Museum/Monument          | ⑤ | Crookwell Memorial Park and Oval |
| <span style="color: lightblue;">■</span> | Community Hall                      | ⑥ | Railway Park                     |
| <span style="color: green;">■</span>     | Park and Recreation Grounds         | ⑦ | Apex Park                        |
| <span style="color: yellow;">■</span>    | Education/Child Care                | ⑧ | Coleman Park and Swimming Pool   |
| <span style="color: purple;">■</span>    | Aged Care/Retirement                | ⑨ | Crookwell Showground             |
| <span style="color: orange;">■</span>    | Upper Lachlan Shire Council Offices | ⑩ | Golf Course                      |
| <span style="color: brown;">■</span>     | Cemetery                            | ⑪ | Lin Cooper Recreation Area       |
| <span style="color: blue;">■</span>      | Hospital                            | ⑫ | Joan Todkill Park                |
| <span style="color: orange;">■</span>    | Church                              | ⑬ | Crookwell Early Learning         |
| <span style="color: magenta;">■</span>   | RFS/SES/ Police/Fire Station        | ⑭ | Crookwell Preschool              |
| <span style="color: red;">—</span>       | Existing Shared Path                | ⑮ | Crookwell Library                |
| <span style="color: blue;">—</span>      | Existing Footpath                   | ⑯ | St Mary's Primary School         |
| <span style="color: green;">—</span>     | Existing Recreation Pathway         |   |                                  |



## 5.4.1 Crookwell's future walking and cycling network

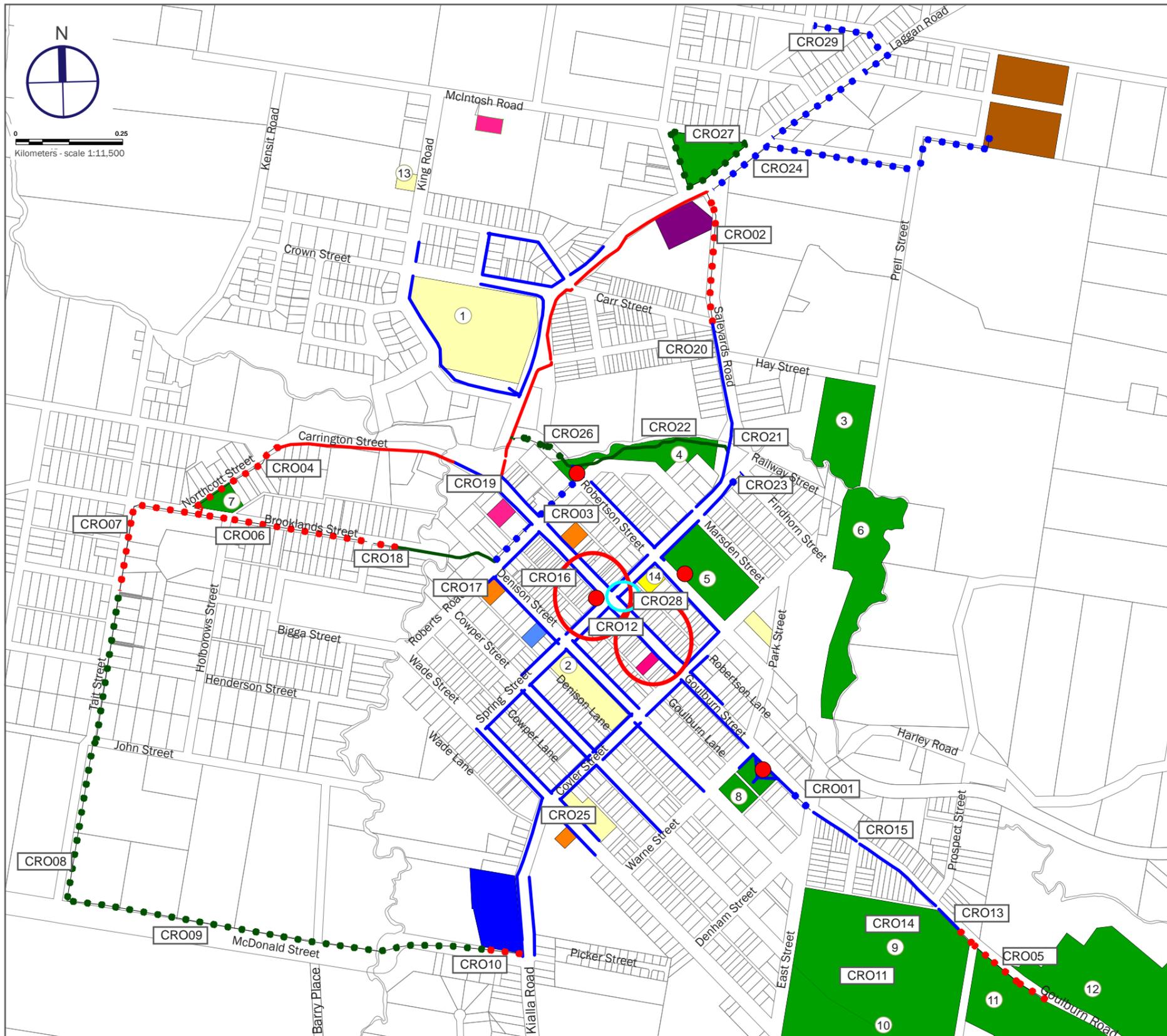
The proposed future walking and cycling network for Crookwell is focussed on improving the connections between key destinations and creating a safe environment for pedestrians and cyclists. These are detailed in the table below and are not representative of their priority, as they are prioritised in Table 18, Section 6.2.

### *Crookwell's future walking and cycling network*

Reference	Project Type	Road Name	Details
CRO01	Footpath - New	Goulburn Street	Develop a new section of concrete footpath on Goulburn Street between East Street and Warne Lane to provide a continuous pedestrian link.
CRO02	Shared Path - New	Saleyards Road	Develop a new concrete shared path on Saleyards Road from Laggan Road to the existing footpath on Saleyards Road to provide a continuous pedestrian link into Crookwell.
CRO03	Footpath - New	Roberts Road	Develop a new concrete footpath on Roberts Road - from Goulburn Street to Robertson Street, and from Goulburn Street to Denison Street. This footpath will provide a missing connection in the existing network.
CRO04	Shared Path - New	Northcott Street	Develop a new concrete shared path on Northcott Street starting from the existing shared path on Carrington Street to Apex Park and then to the corner of Brooklands Street. <i>This recommendation is a carryover from Council's 2005 PAMP.</i>
CRO05	Shared Path - New	Goulburn Street	Develop a new concrete shared path on Goulburn Street from the entrance of Lin Cooper Recreation Reserve, to the existing footpath at the entrance to the showgrounds.
CRO06	Shared Path - New	Denison and Brooklands Streets	Develop a new de-constructed granite shared path from the existing recreational pathway across the Crookwell River, to Brooklands Street and the corner of Northcott Street.
CRO07	Shared Path - New	Brooklands and Tait Street	Develop a new concrete shared path on Brooklands Street from Holborow Street, and on Tait Street to Allamabie Place.
CRO08	Recreational Path - New	Tait Street	Develop a new deconstructed granite recreational path on Tait Street from Allamabie Place to McDonald Street.
CRO09	Recreational Path - New	McDonald Street	Develop a new deconstructed granite recreational path on McDonald Street from Tait Street to the rear entrance to Crookwell Hospital.
CRO10	Shared Path - New	McDonald Street	Develop a new shared path on McDonald Street from the rear entrance to the Crookwell Hospital to Kialla Road.
CRO011	Learn-to-Ride Facility - New	Crookwell Showgrounds or other suitable location	Investigate the feasibility of developing a children's learn-to-ride facility within the Crookwell Showgrounds or other relevant location. Facility to include a cycling track with miniature road signage and obstacles for children to develop their cycling skills in a safe environment.
CRO12	Kerb Ramp - New	Goulburn Street	Develop a number of kerb ramps along the retail precinct on Goulburn Street to enhance accessibility from the road to the footpath.
CRO13	Footpath - Upgrade	Goulburn Street	Replace path surface with concrete from the entrance of the showground, to Showground Lane.
CRO14	Kerb Ramp - Upgrade	Goulburn Street	Upgrade the existing kerb ramp to compliant grade on Goulburn Street at the intersection of Showground Lane.
CRO15	Kerb Ramp - Upgrade	Goulburn Street	Upgrade the existing kerb ramp to compliant grade on Goulburn Street at the intersection with Pleasant Street.
CRO16	Kerb Ramp - New	Denison Street	Install two new kerb ramps on the corners of Denison and Roberts Streets.
CRO17	Signage - New	Roberts Street	Install new promotional signage on Roberts Street at the intersection of Denison Street, advising of the path and bridge to Brooklands Street.

Reference	Project Type	Road Name	Details
CRO18	Signage - New	Brooklands Street	Install new promotional signage on Brooklands Street at the intersection of Short Street, advising of the path and bridge leading to Roberts Street.
CRO19	Footpath - Upgrade	Goulburn and Carrington Streets	Replace the existing footpath as it is too narrow, too close to the road, and in poor condition. Install railing or bollards on new path for pedestrian safety.
CRO20	Footpath - Upgrade	Saleyards Road	Widen the existing footpath to shared path standards from Carr Street to Marsden Street. These works are currently scheduled for 2018/2019.
CRO21	Signage - New	Spring Street	Install new information signage at the entrance to the Kiamma Creek Boardwalk (Pat Cullen Reserve) at the entrance on Sprint Street.
CRO22	Boardwalk - Upgrade	Pat Cullen Reserve	Repair (or replace) the timber boardwalk including the edge-rails, and widen. These works are currently funded within the 2016/2017 financial year.
CRO23	Footpath - New	Spring Street	Extend the existing footpath on Spring Street to Findhorn Street.
CRO24	Pedestrian Refuge - New	Laggan Road	Install a pedestrian refuge with associated motorist and pedestrian signage to Clifton Park.
CRO25	Kerb Ramp - New	Kialla Road	Install a new kerb ramp on Kialla Road at the intersection of Wade Street.
CRO26	Recreational Pathway - New	Pat Cullen Reserve	Develop a new deconstructed granite recreational path from the end of the existing path at the Kiamma Creek Footbridge, on the Western side of Pat Cullen Reserve, to Laggan Road.
CRO27	Recreational Pathway - New	Clifton Park	Develop a new deconstructed granite recreational path around the extent of Clifton Park.
CRO28	Bus Shelter - New	Spring Street	Install a new bus shelter on the corner of Spring Street and Goulburn Road adjacent to the existing car park.
CRO29	Footpath - New	Laggan Road	Develop a new concrete footpath on Laggan Road - from McIntosh Road to Gordon Road, and from Gordon Road to Soudan Road.

Map 8. Crookwell's proposed walking and cycling network



**Legend**

- Local Store
- Post Office
- Hotel
- Public Toilet
- Historical Museum/Monument
- Community Hall
- Park and Recreation Grounds
- Education/Child Care
- Aged Care/Retirement
- Upper Lachlan Shire Council Offices
- Cemetery
- Hospital
- Church
- RFS/SES/ Police/Fire Station
- Existing Shared Path
- ⋯ Proposed Shared Path
- Existing Footpath
- ⋯ Proposed Footpath
- Existing Recreation Pathway
- ⋯ Proposed Recreation Pathway
- Proposed pedestrian treatment
- Proposed bus shelter



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# 5.5 Dalton's existing walking and cycling network

## Current situation

Dalton had a total population of 108 people in 2011, with a median age of 35. Approximately 22.3% are aged 19 and under, with 16.7% 65 and over.

Average motor vehicle per dwelling is 1.9, with 71.8% of households having 2 or more vehicles. 68.4% travel to work by car, truck or motorbike/scooter. No one reportedly walked to work.

Within the town of Dalton, the key destinations for pedestrians and cyclists include:

- Dalton Public School
- Dalton Uniting Church
- St Matthews Anglican Church
- Hotel
- Post Office
- Historical Monument
- Dalton Recreation Ground
- Fossil Park.

Dalton currently has limited footpaths, with the main street providing small sections of concrete path. Sections exist in front of the Post Office and hotel.

The Dalton Primary School is not connected to the main street.

## Upper Lachlan Shire Council Area



Map 9. Dalton's current situation



**Legend**

- Local Store
- Post Office
- Hotel
- Public Toilet
- Historical Museum/Monument
- Community Hall
- Park and Recreation Grounds
- Education/Child Care
- Aged Care/Retirement
- Upper Lachlan Shire Council Offices
- Cemetery
- Hospital
- Church
- RFS/SES/ Police/Fire Station
- Existing Shared Path
- Existing Footpath
- Existing Recreation Pathway
- 1 Dalton Public School
- 2 Dalton Recreation Ground

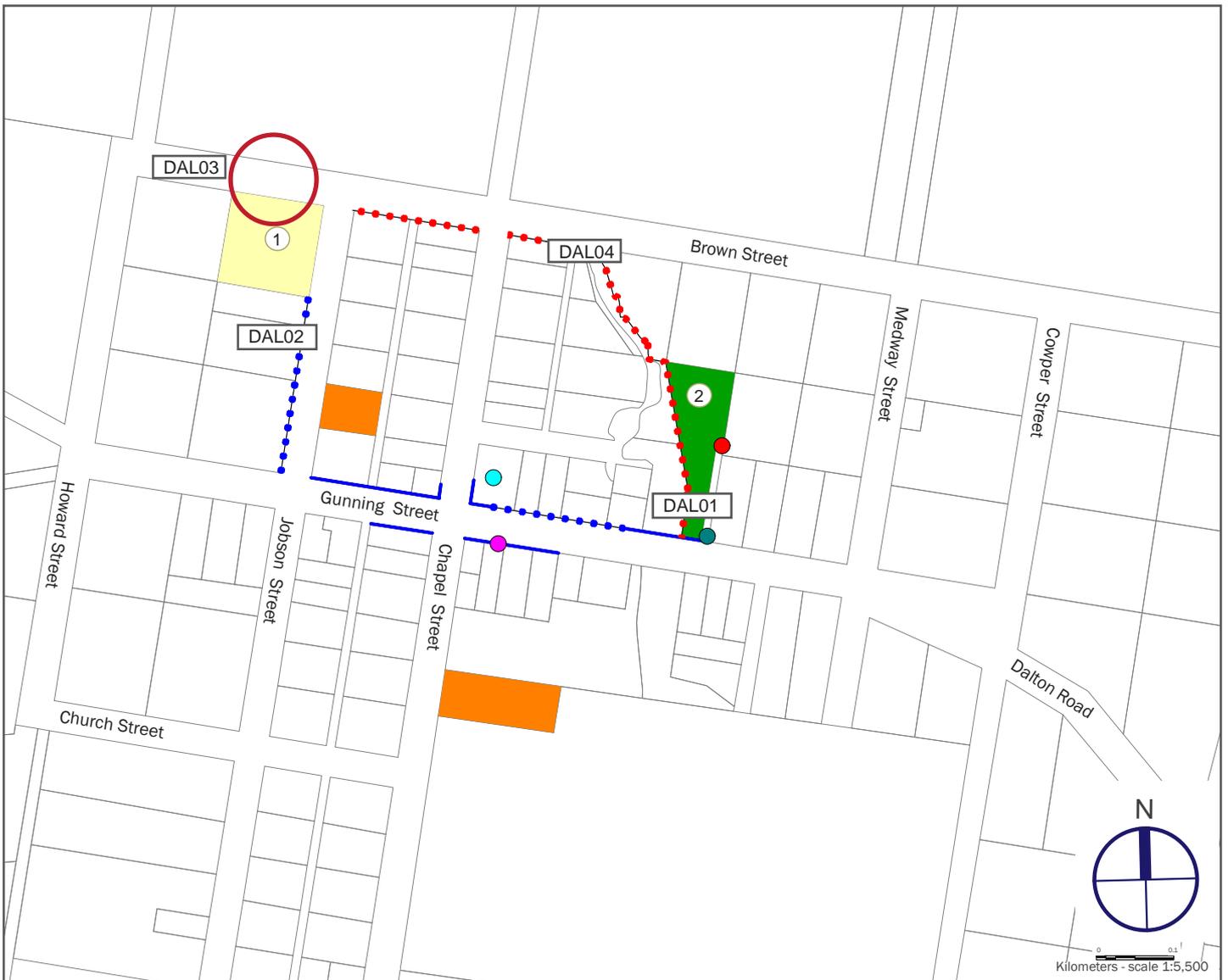
## 5.5.1 Dalton's future walking and cycling network

The proposed future walking and cycling network for Dalton is focussed on filling missing links, as well as improving the connections between the main street and the School. These are detailed in the table below and are not representative of their priority, as they are prioritised in Table 18, Section 6.2.

Table 11. Dalton's future walking and cycling network

Reference	Project Type	Road Name	Details
DAL01	Footpath - New	Church Street	Develop a new concrete footpath on the Northern side of Gunning Street in the vicinity of Chapel Street and Garry cosgrove Bridge over Oolong Creek, to complete the missing link in the existing footpath.
DAL02	Footpath - New	Jobson Street	Develop a new concrete footpath along Jobson Street, from the entrance to the school and Gunning Street. This footpath will provide a connection between the school and the Gunning Street.
DAL03	Pedestrian Refuge - New	Brown Street	Install a pedestrian refuge with associated motorist and pedestrian signage to Brown Street at Dalton Public School.
DAL04	Shared Path - New	Dalton Recreation Ground	Develop a new concrete shared path within the Dalton Recreation Ground.

Map 10. Dalton's proposed walking and cycling network



**Legend**

- Local Store
- Post Office
- Hotel
- Public Toilet
- Historical Museum/Monument
- Community Hall
- Park and Recreation Grounds
- Education/Child Care
- Aged Care/Retirement
- Upper Lachlan Shire Council Offices
- Cemetery
- Hospital
- Church
- RFS/SES/ Police/Fire Station
- Existing Shared Path
- Proposed Shared Path
- Existing Footpath
- Proposed Footpath
- Existing Recreation Pathway
- Proposed Recreation Pathway
- Proposed pedestrian treatment

# 5.6 Grabben Gullen's existing walking and cycling network

## Current situation

Grabben Gullen had a total population of 476 people in 2011, with a median age of 44. Approximately 27.2% are aged 19 and under, with 19.6% aged 65 and over.

The average motor vehicle ownership per dwelling is 2.5, with 74.3% of households having 2 or more vehicles. It is reported that 48.5% of Grabben Gullen's population travel to work by car, truck or motorbike/scooter, with a further 3.8% walking to work.

Within the town of Grabben Gullen, the key destinations for pedestrians and cyclists include:

- Grabben Gullen Hall
- Albion Hotel
- Monument to the Wiradjuri Aboriginal People.

Grabben Gullen currently has no footpaths. The town is traversed by the busy Grabben Gullen and Range Road's, providing a reduced safety environment for pedestrians and cyclists.

There are currently no safe crossing points for pedestrians and cyclists within Grabben Gullen.

## Upper Lachlan Shire Council Area



Grabben Gullen Hall



Grabben Gullen Hotel

Map 11. Grabben Gullen's current situation



**Legend**

- Local Store
- Post Office
- Hotel
- Public Toilet
- Historical Museum/Monument
- Community Hall
- Park and Recreation Grounds
- Education/Child Care
- Aged Care/Retirement
- Upper Lachlan Shire Council Offices
- Cemetery
- Hospital
- Church
- RFS/SES/ Police/Fire Station
- Existing Shared Path
- Existing Footpath
- Existing Recreation Pathway
- 1 Shared school bus stop

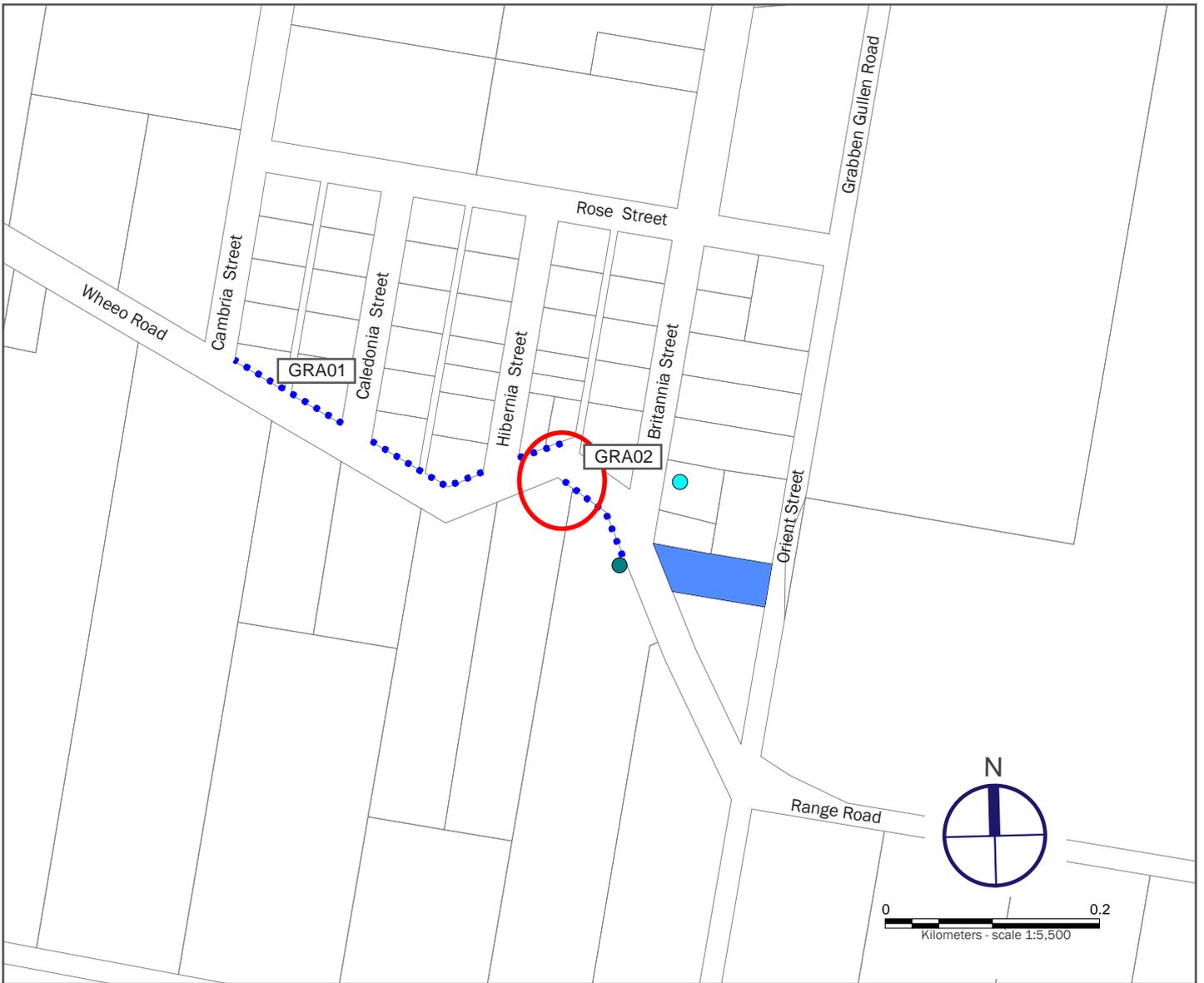
## 5.6.1 Grabben Gullen's future walking and cycling network

The proposed future walking and cycling network for Grabben Gullen is focussed on providing a safe pedestrian environment. These are detailed in the table below and are not representative of their priority, as they are prioritised in Table 18, Section 6.2.

Table 12. Grabben Gullen's future walking and cycling network

Reference	Project Type	Road Name	Details
GRA01	Footpath - New	Camp Street	Develop a new concrete footpath along Camp Street, from Caledonia Street to the newly constructed bus stop.
GRA02	Pedestrian Refuge - New	Camp Street	Construct a new pedestrian refuge on Camp Street to provide a safe pedestrian access point to and from the newly constructed school bus stop. Signage and road markings to be installed to advise motorists on approach (both sides).

Map 12. Grabben Gullen's proposed walking and cycling network



**Legend**

- Local Store
- Post Office
- Hotel
- Public Toilet
- Historical Museum/Monument
- Community Hall
- Park and Recreation Grounds
- Education/Child Care
- Aged Care/Retirement
- Upper Lachlan Shire Council Offices
- Cemetery
- Hospital
- Church
- RFS/SES/ Police/Fire Station
- Existing Shared Path
- Proposed Shared Path
- Existing Footpath
- Proposed Footpath
- Existing Recreation Pathway
- Proposed Recreation Pathway
- Proposed pedestrian treatment

# 5.7 Gunning's existing walking and cycling network

## Current situation

Gunning had a total population of 482 people in 2011, with a median age of 45. Approximately 22.3% of the Gunning population are aged 19 and under, with 15.5% aged 65 and over.

The average motor vehicle ownership per dwelling is 1.8, with 54.3% of households having 2 or more vehicles.

It is reported that 75.7% travel to work by car, truck or motorbike/scooter, with 4.5% of the population walked to work.

Within the town of Gunning, the key destinations for pedestrians and cyclists include:

- Barbour Park
- Endeavour Park and Showgrounds
- Skate Park
- Gunning Public School
- Yass Street retail and service precinct
- Hotels
- Upper Lachlan Shire Council Office
- Church
- Post Office
- Gunning Rail Yard.

Gunning has a reasonable network of existing footpaths, however with a number of missing links to key destinations, and some maintenance and upgrade requirements.

Accessibility in Yass Street is an issue with a considerable step-up from the road to the kerb, as well as limited kerb ramps for the elderly and disabled.

The speed of vehicles through town can be an issue for pedestrians.

Disabled car parking bays are required with associated kerb ramps.

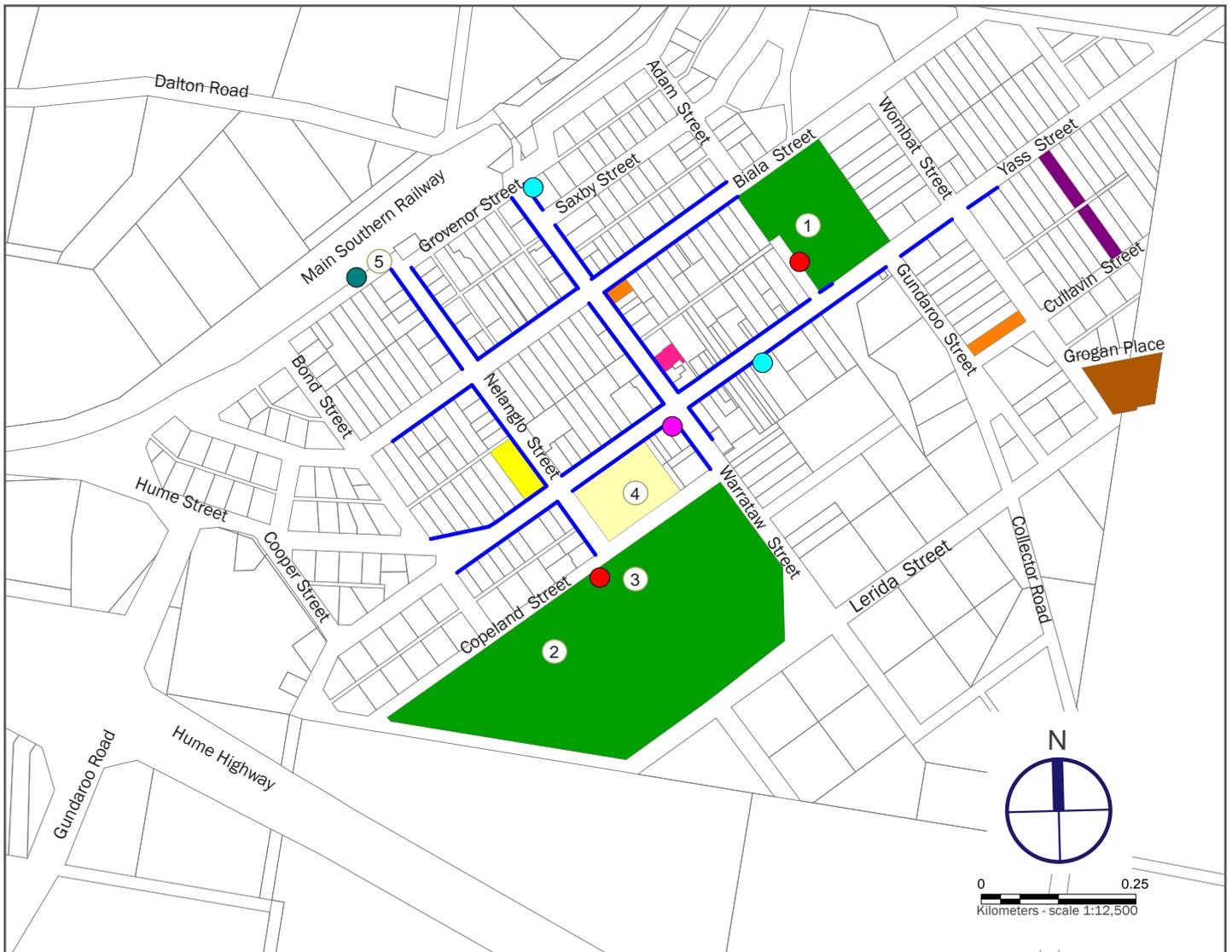
## Upper Lachlan Shire Council Area



Gunning Public School crossing

Yass Street, Gunning

Map 13. Gunning's current situation



**Legend**

- Local Store
- Post Office
- Hotel
- Public Toilet
- Historical Museum/Monument
- Community Hall
- Park and Recreation Grounds
- Education/Child Care
- Aged Care/Retirement
- Upper Lachlan Shire Council Offices
- Cemetery
- Hospital
- Church
- RFS/SES/ Police/Fire Station
- Existing Shared Path
- Existing Footpath
- Existing Recreation Pathway

- ① Barbour Park
- ② Endeavour Park and Showgrounds
- ③ Gunning Skate Park
- ④ Gunning Public School
- ⑤ Gunning Rail Yard

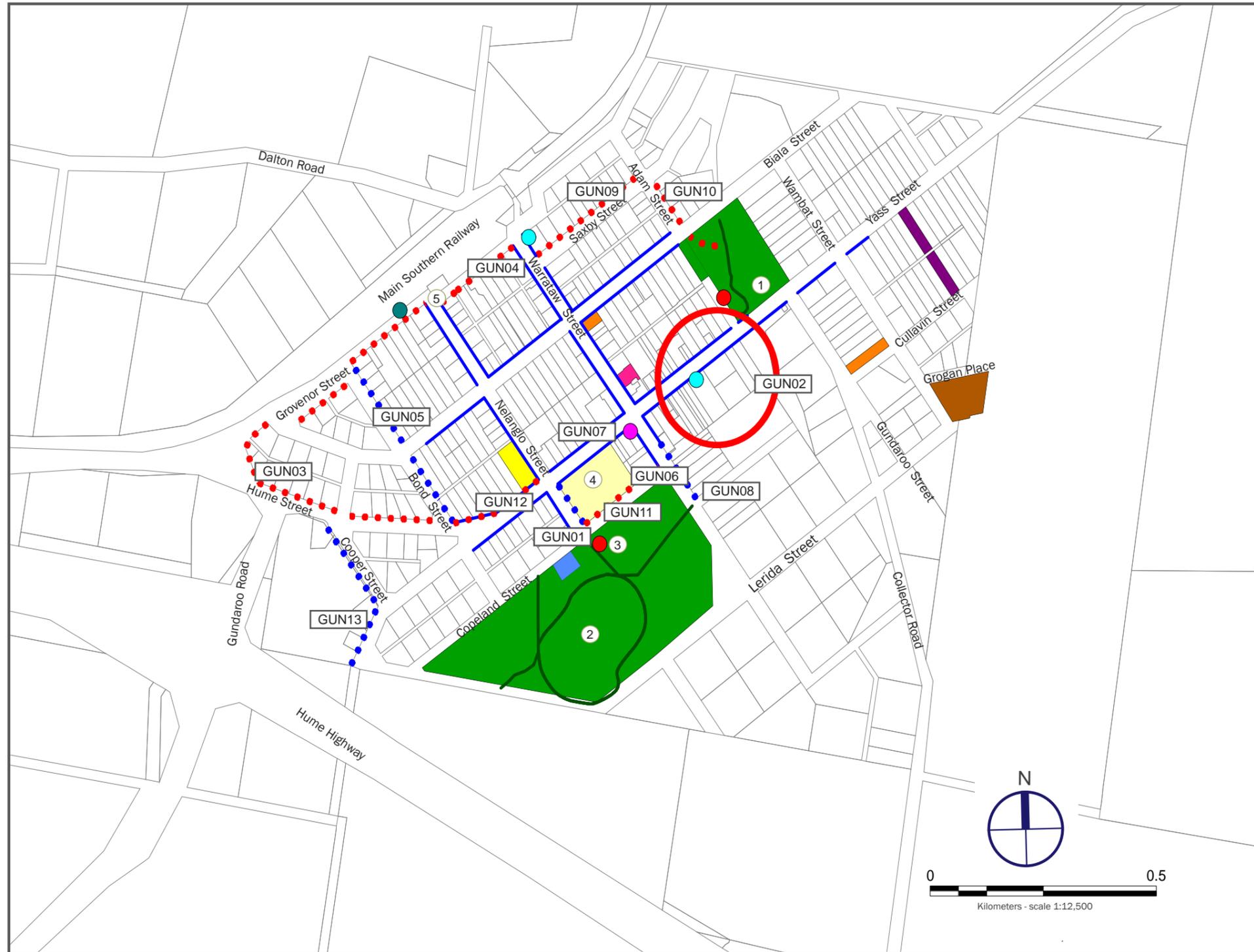
## 5.7.1 Gunning's future walking and cycling network

The proposed future walking and cycling network for Gunning is focussed on providing a safe network of pathways to link key destinations, enhancing pedestrian accessibility to the retail precinct on Yass Street, as well as a greater recreational circuit. These are detailed in the table below and are not representative of their priority, as they are prioritised in Table 18, Section 6.2.

Table 13. Gunning's future walking and cycling network

Reference	Project Type	Road Name	Details
GUN01	Footpath - New	Nelanglo Street	Develop a new concrete footpath on Nelanglo Street from Yass Street to Copeland Street, providing access to the Gunning Showground Precinct and the existing footpath network.
GUN02	Kerb Ramps - New	Yass Street	Develop a number of kerb ramps along the retail precinct on Yass Street to enhance accessibility from the road to the footpath.
GUN03	Shared Path - New	Hume Street	Develop a new concrete shared path on Hume Street from Bond Street to Grovenor Street. Together with GUN04 as well as the existing path on Nelanglo and Warrataw Streets, this shared path will create a recreational circuit for both pedestrians and cyclists.
GUN04	Shared Path - New	Grovenor Street	Develop a new concrete shared path on Grovenor Street from Hume Street to Warrataw Street. Together with GUN03 and GUN04 as well as the existing path on Nelanglo and Warrataw Streets, this shared path will create a recreational circuit for both pedestrians and cyclists.
GUN05	Footpath - New	Bond Street	Develop a new concrete footpath on Bond Street from Yass Street to Grovenor Street.
GUN06	Kerb Ramp - New	Warrataw and Copeland Streets	Develop a kerb ramp on Warrataw Street at the intersection with Copeland Street to enhance accessibility from the road to the footpath.
GUN07	Disabled Carpark and Kerb Ramp - New	Nelanglo Street	Install, line mark and sign a disabled carpark with corresponding kerb ramp to provide disabled access to the Council Offices and the Southern end of town.
GUN08	Footpath - New	Warrataw Street	Develop a new concrete footpath on Warrataw Street from the existing footpath to the intersection with Copeland Street.
GUN09	Shared Path - New	Saxby Street	Develop a new concrete shared path on Saxby Street (and part of Warrataw Street) from Grovenor Street (GUN04) to Adam Street.
GUN10	Shared Path - New	Adam Street	Develop a new concrete shared path on Adam Street from Saxby Street to Barbour Park.
GUN11	Shared Path - New	Yass Street	Replace the existing footpath surface on Yass Street with a new concrete shared path from Nelanglo Street to Bond Street.
GUN12	Shared Path - New	Copeland Street	Develop a new concrete shared path on Copeland Street from Warrataw Street to Nelanglo Street, at the rear of Gunning Public School.
GUN13	Footpath - New	Cooper Street	Develop a new concrete footpath on Cooper Street from Hume Street to Yass Street, to provide a connection to the proposed internal footpaths of the approved development in Western Gunning.

Map 14. Gunning's proposed walking and cycling network



**Legend**

- Local Store
- Post Office
- Hotel
- Public Toilet
- Historical Museum/Monument
- Community Hall
- Park and Recreation Grounds
- Education/Child Care
- Aged Care/Retirement
- Upper Lachlan Shire Council Offices
- Cemetery
- Hospital
- Church
- RFS/SES/ Police/Fire Station
- Existing Shared Path
- Proposed Shared Path
- Existing Footpath
- Proposed Footpath
- Existing Recreation Pathway
- Proposed Recreation Pathway
- Proposed pedestrian treatment

# 5.8 Laggan's existing pedestrian and cycling network

## Current situation

Laggan had a total population of 326 people in 2011, with a median age of 49. Approximately 26.4% of the population are aged 19 and under, with 15.3% aged 65 and over.

The average motor vehicle ownership per dwelling is 2.4, with 78.7% of households having 2 or more vehicles.

It is reported that 50.2% travel to work by car, truck or motorbike/scooter, and a further 2.8% walked to work .

Within the town of Laggan, the key destinations for pedestrians and cyclists include:

- Laggan Memorial Hall
- Laggan Primary School
- Monthly markets
- Church
- Hotel
- Park.

Laggan currently has no formal pathways with the exception of the recent access to the public toilets at the Memorial Hall.

The school is on the outskirts of the town centre, with no formalised route for pedestrians or cyclists.

The school is without a formal drop-off and pick-up area.

## Upper Lachlan Shire Council Area

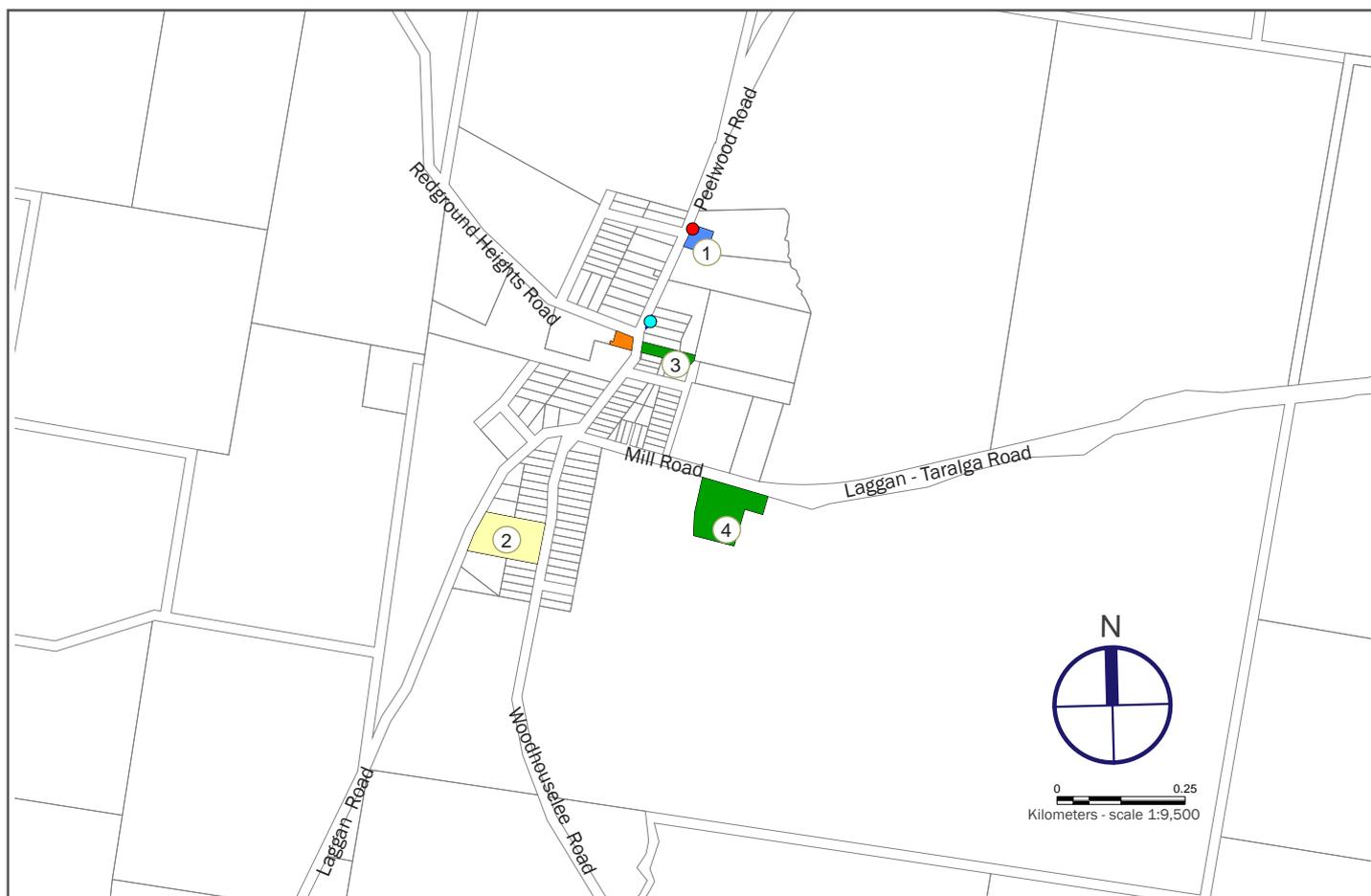


Laggan Hotel



Laggan Memorial Hall

Map 15. Laggan's current situation



**Legend**

- Local Store
- Post Office
- Hotel
- Public Toilet
- Historical Museum/Monument
- Community Hall
- Park and Recreation Grounds
- Education/Child Care
- Aged Care/Retirement
- Upper Lachlan Shire Council Offices
- Cemetery
- Hospital
- Church
- RFS/SES/ Police/Fire Station
- Existing Shared Path
- Existing Footpath
- Existing Recreation Pathway
- 1 Laggan Memorial Hall
- 2 Laggan Primary School
- 3 Laggan Park
- 4 Laggan Cricket

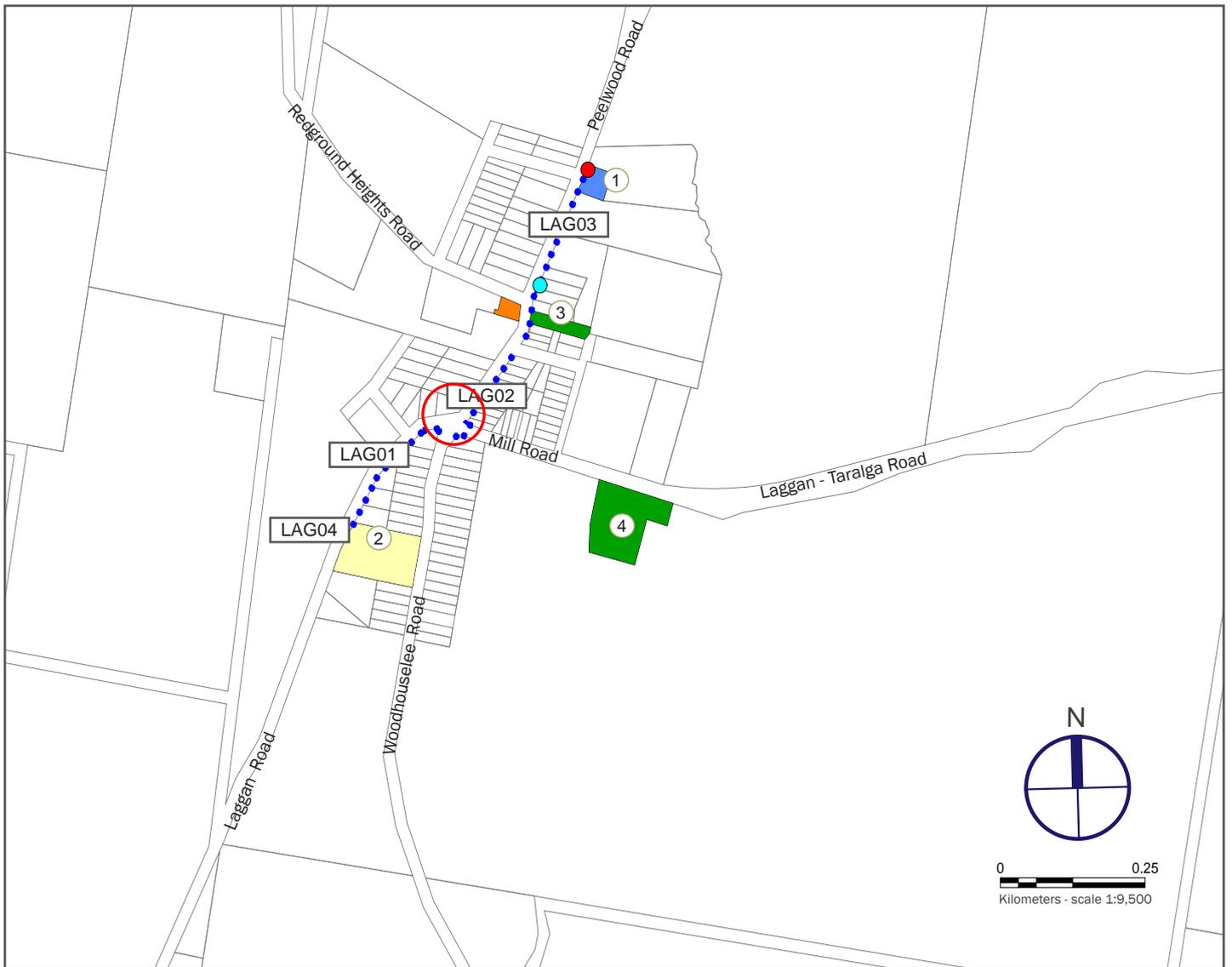
## 5.8.1 Laggan's future walking and cycling network

The proposed future walking and cycling network for Laggan is focussed on providing a continuous pedestrian link within the town centre, as well as improving access to the school. These are detailed in the table below and are not representative of their priority, as they are prioritised in Table 18, Section 6.2.

Table 14. Laggan's future walking and cycling network

Reference	Project Type	Road Name	Details
LAG01	Footpath - New	Laggan Road	Develop a new footpath on Laggan Road from the entrance of the school to the intersection of Laggan-Taralga Road to provide access from the school to the town centre.
LAG02	Pedestrian Refuge - New	Woodhouselee Road	Construct a new pedestrian refuge on Woodhouselee Road, South of the intersection with Laggan-Taralga Road. Refuge to provide a safe crossing point for pedestrians accessing the school or Laggan town.
LAG03	Footpath - New	Peelwood Road	Develop a new footpath on Peelwood Road from the Memorial Hall to LAG01 at the intersection of Laggan-Taralga Road to provide a continuous footpath link within the centre of Laggan.
LAG04	School drop-off and pick-up bay	Laggan Road	Design and construct a formal drop-off and pick-up bay at the entrance to the Laggan Public School to allow safe access for children to the school. Develop in partnership with the Laggan Public School (and/or the NSW Department of Education).

Map 16. Laggan's proposed walking and cycling network



**Legend**

- Local Store
- Post Office
- Hotel
- Public Toilet
- Historical Museum/Monument
- Community Hall
- Park and Recreation Grounds
- Education/Child Care
- Aged Care/Retirement
- Upper Lachlan Shire Council Offices
- Cemetery
- Hospital
- Church
- RFS/SES/ Police/Fire Station
- Existing Shared Path
- Proposed Shared Path
- Existing Footpath
- Proposed Footpath
- Existing Recreation Pathway
- Proposed Recreation Pathway
- Proposed pedestrian treatment

# 5.9 Taralga's existing walking and cycling network

## Current situation

Taralga had a total population of 285 people in 2011, with a median age of 44. Approximately 28.3% of the population are aged 19 and under, and 25.1% are aged 65 and over.

The average motor vehicle ownership per dwelling is 1.8, with 56.3% of households having 2 or more vehicles.

It is reported that 69.2% of Taralga's population travel to work by car, truck or motorbike/scooter, with a further 10.6% who walked to work.

Within the town of Taralga, the key destinations for pedestrians and cyclists include:

- Taralga Public School
- Goodhew Park and Skate Park
- Tennis Courts
- Upper Lachlan Shire Council Office
- Taralga Showgrounds
- Church
- Post Office
- Taralga Memorial Hall
- Taralga Historical Museum
- Gray Park
- Burge Park
- Orchard Street retail and service precinct.

Taralga has a reasonable provision of footpaths along the main street, however has a number of missing links to key destinations. A number of paths require some maintenance and upgrades.

There are issues with accessibility within the main street due to the large step-up from the road to the street, coupled with a lack of ramps for the elderly and disabled.

Additionally, a number of stops are inaccessible, again due to the large steps to enter, as well as narrow door ways unsuitable for mobility scooters and wheelchairs.

## Upper Lachlan Shire Council Area



Footpath at Goodhew Park, Taralga



Footpath at Orchard Street, Taralga

Map 17. Taralga's current situation



**Legend**

- Local Store
- Post Office
- Hotel
- Public Toilet
- Historical Museum/Monument
- Community Hall
- Park and Recreation Grounds
- Education/Child Care
- Aged Care/Retirement
- Upper Lachlan Shire Council Offices
- Cemetery
- Hospital
- Church
- RFS/SES/ Police/Fire Station
- Existing Shared Path
- Existing Footpath
- Existing Recreation Pathway
- 1 Taralga Public School
- 2 Taralga Early Learning Centre
- 3 Goodhew Park and Skate Park
- 4 Taralga Showgrounds
- 5 Tennis Courts
- 6 Gray Park
- 7 Burge Park

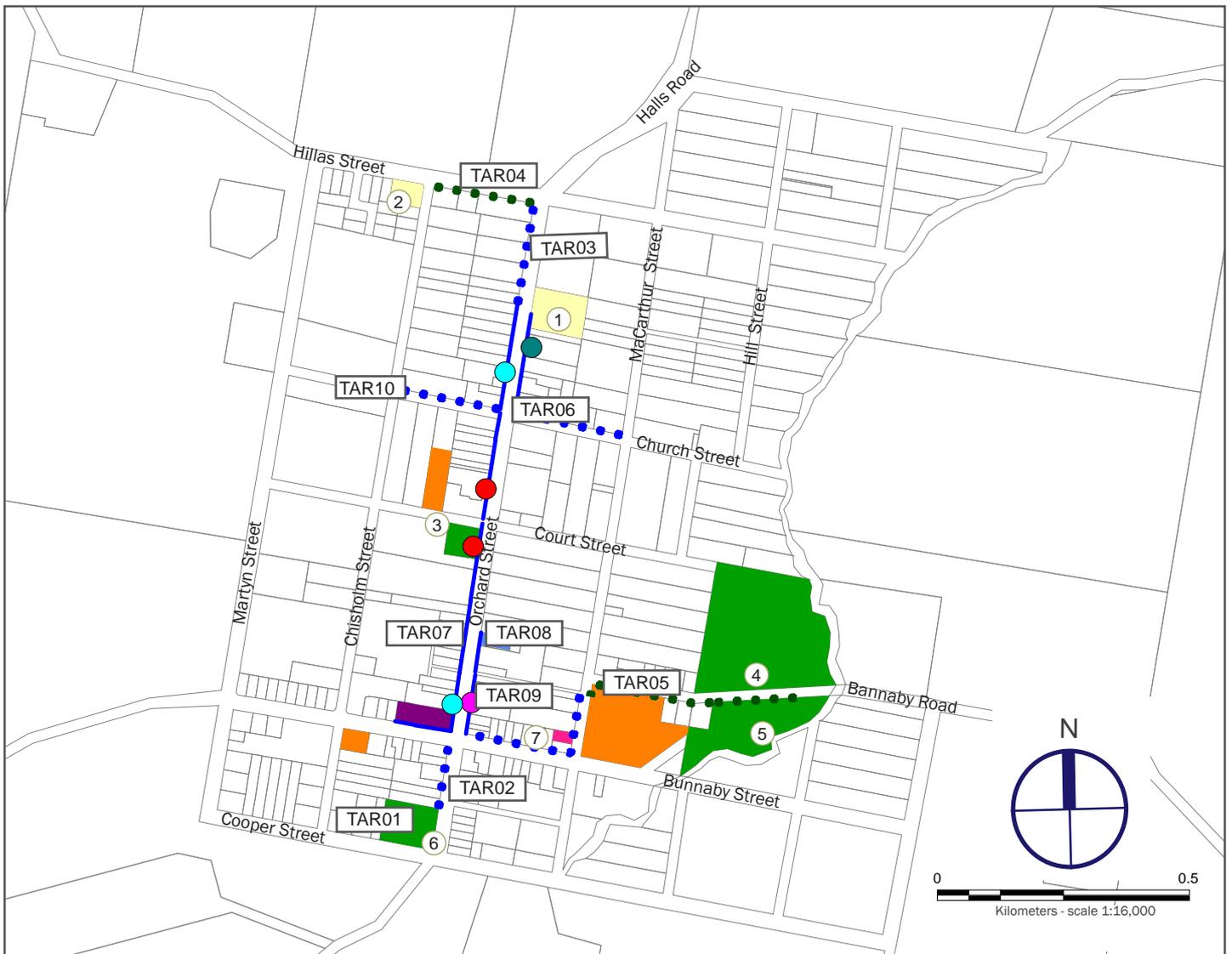
## 5.9.1 Taralga's future walking and cycling network

The proposed future walking and cycling network for Taralga is focussed on improving the connectivity and accessibility within Orchard Street, given there are two distinct activity areas of the main street. These are detailed in the table below and are not representative of their priority, as they are prioritised in Table 18, Section 6.2.

Table 15. Taralga's future walking and cycling network

Reference	Project Type	Road Name	Details
TAR01	Footpath - New	Orchard Street	Develop a new concrete footpath from the end of the existing footpath on Orchard Street to Gray Park.
TAR02	Footpath - New	Bunnaby and MaCarthur Streets	Develop a new concrete footpath on Bunnaby and MaCarthur Streets from Orchard Street to Walsh Street. The footpath will link up to the Recreational Pathway TAR06 providing access to the tennis courts and showgrounds.
TAR03	Footpath - New	Orchard Street	Develop a new concrete footpath on Orchard Street from the school to Hillas Street to connect to TAR05 and the Early Learning Centre.
TAR04	Recreational Pathway - New	Hillas Street	Construct an off-road recreational pathway within the road reserve on Hillas Street from Orchard Street to the Early Learning Centre.
TAR05	Recreational Pathway - New	Walsh Street	Construct an off-road recreational pathway within the road reserve on Walsh Street to provide access to the tennis courts and showgrounds.
TAR06	Disabled car park and kerb ramp	Orchard Street	Install, line-mark and sign a disabled carpark with corresponding kerb ramp to provide disabled access to the Northern end of town.
TAR07	Disabled car park and kerb ramp	Orchard Street	Install, line-mark and sign a disabled carpark with corresponding kerb ramp to provide disabled access to the centre of town.
TAR08	Kerb Ramp - New	Orchard Street	Install a new kerb ramp, the path exists from the footpath to the kerb.
TAR09	Disabled car park and kerb ramp	Orchard Street	Install, line-mark and sign a disabled carpark with corresponding kerb ramp to provide disabled access to the southern end of town.
TAR10	Footpath - New	Church Street	Develop a new concrete footpath on Church Street from MacCarthur Street to Chisolm Street.

Map 18. Taralga's proposed walking and cycling network



**Legend**

- Local Store
- Post Office
- Hotel
- Public Toilet
- Historical Museum/Monument
- Community Hall
- Park and Recreation Grounds
- Education/Child Care
- Aged Care/Retirement
- Upper Lachlan Shire Council Offices
- Cemetery
- Hospital
- Church
- RFS/SES/ Police/Fire Station
- Existing Shared Path
- Proposed Shared Path
- Existing Footpath
- Proposed Footpath
- Existing Recreation Pathway
- Proposed Recreation Pathway
- Proposed pedestrian treatment

# 5.10 Tuena's existing walking and cycling network

## Current situation

Tuena had a total population of 187 people in 2011, with a median age of 52. Approximately 16.7% of Tuena's population are aged 19 and under, and 24.9% are aged 65 and over.

The average motor vehicle ownership per dwelling is 2, with 71.8% of households having 2 or more vehicles.

It is reported that 41.0% of Tuena's residents travel to work by car, truck or motorbike/scooter, with a further 3.3% who walked to work.

Within the town of Tuena, the key destinations for pedestrians and cyclists include:

- Tuena Recreation Ground
- Tuena Community Hall
- School (not-operational)
- Post Office
- Local store
- Hotel
- Church
- Cemetery
- Police Station
- Footbridge.

Tuena currently has no footpaths, and the school is currently not-operational.

## Upper Lachlan Shire Council Area



Tuena Recreation Ground



Tuena Footbridge

Map 19. Tuena's current situation



**Legend**

- Local Store
- Post Office
- Hotel
- Public Toilet
- Historical Museum/Monument
- Community Hall
- Park and Recreation Grounds
- Education/Child Care
- Aged Care/Retirement
- Upper Lachlan Shire Council Offices
- Cemetery
- Hospital
- Church
- RFS/SES/ Police/Fire Station
- Existing Shared Path
- Existing Footpath
- Existing Recreation Pathway
- ① Tuena Recreation Ground
- ② Tuena Community Hall
- ③ School (not-operational)
- ④ Police Station
- ⑤ Footbridge

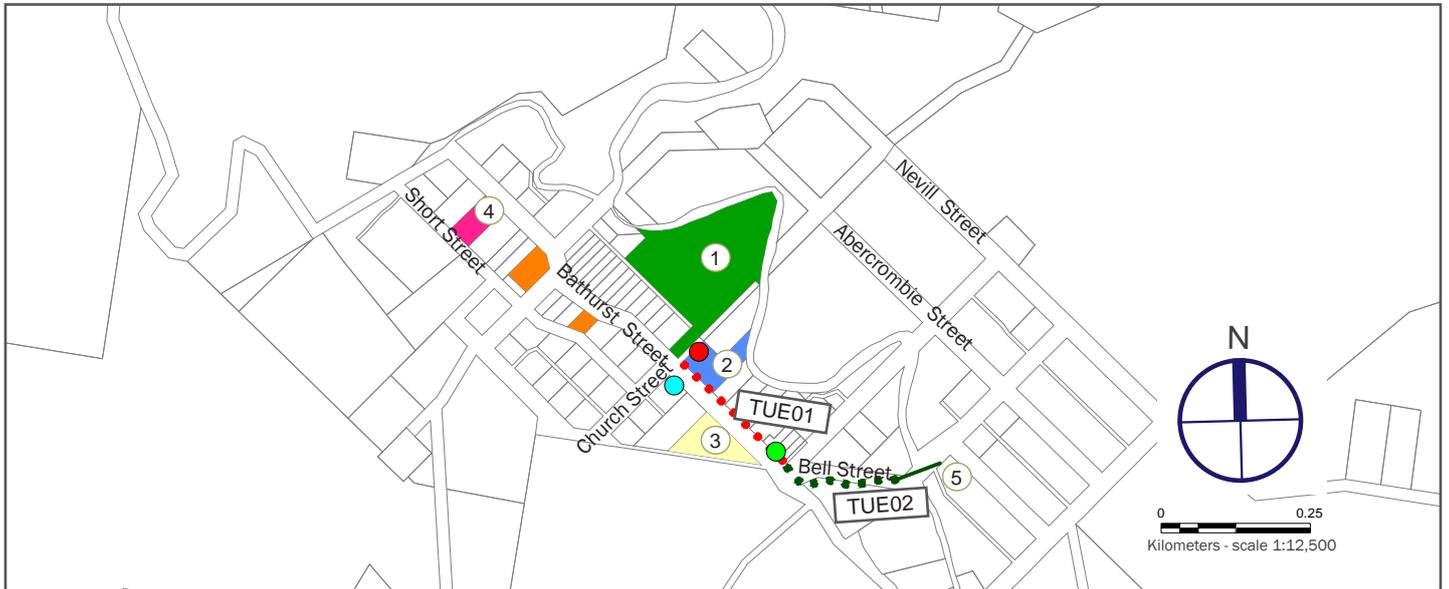
# 5.10.1 Tuena's future walking and cycling network

The proposed future walking and cycling network for Tuena is focussed on improving accessibility to key destinations within the main street, as well as providing a recreational link to the existing footbridge. These are detailed in the table below and are not representative of their priority, as they are prioritised in Table 18, Section 6.2.

Table 16. Tuena's future walking and cycling network

Reference	Project Type	Road Name	Details
TUE01	Shared Path - New	Bathurst Street	Develop a new concrete shared path along Bathurst Street from Church Street (Tuena Hall) to Bell Street for pedestrians and cyclists.
TUE02	Recreation Pathway - New	Bell Street	Develop a new decomposed granite (or similar) recreational path from the end of the proposed shared path (TUE01) to the footbridge to provide pedestrians and cyclists with access to Cook Street and Bathurst Street.

Map 20. Tuena's proposed walking and cycling network



## Legend

- Local Store
- Post Office
- Hotel
- Public Toilet
- Historical Museum/Monument
- Community Hall
- Park and Recreation Grounds
- Education/Child Care
- Aged Care/Retirement
- Upper Lachlan Shire Council Offices
- Cemetery
- Hospital
- Church
- RFS/SES/ Police/Fire Station
- Existing Shared Path
- Proposed Shared Path
- Existing Footpath
- Proposed Footpath
- Existing Recreation Pathway
- Proposed Recreation Pathway
- Proposed pedestrian treatment

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# 6.0 Prioritisation of works

## 6.1 Prioritisation criteria

To assist in the ongoing identification and justification of a prioritised capital works program for pedestrian and cycling infrastructure, a set of capital works assessment criteria have been developed. The criteria will allow Council to standardised the process for prioritising its capital works, while being transparent and equitable in its decision making.

The criteria have been developed based on the issues and opportunities identified throughout the development of the Plan, and are outlined in the Table below.

Each category has been assigned a total score based on its relative priority within the categories i.e. safety is higher than demand.

Table 17. Prioritisation of works criteria

Category	Criteria	Outcome	Score
Access	Improved access	Access is improved for residents to key destinations such as schools, retail, services, open space and transport	/15
	Priority residential area	Communities with limited access to private vehicles and public transport are connected to key destinations	
	Completion of a link	A footpath, shared path or cycleway is complete and provides unbroken access to key destinations	
	Capacity	Increased participation in walking and cycling i.e. increase path width to accommodate demand	
Safety	Identified safety issue	The environment is safe for pedestrians and cyclists. Identified sites of previous crash incidents should be prioritised	/15
Demand	Levels of use	A route is evidently well used (including evidence of use through a desire line)	/10
	Identified community need	A key route/improvement is identified during the community engagement process	
Financial	Funding capacity	Council's capacity to fund capital works projects within a realistic time frame	/10
	Eligible for grants or sponsorship	Projects are part-funded or have the capacity to attract external funding	
	Cost benefit	The cost of developing (and maintaining) infrastructure is comparable to the expected level of use i.e potential demand	

### Scoring

The scoring of the above categories is undertaken considering the allocated criteria and their outcome. Some criteria and their outcome areas may not be relevant to a project and as such scoring is undertaken at a category level, considering the relevant criteria. The scale bar below demonstrates the scores to be allocated based on how each project meets the desired outcomes i.e. a score of one is for projects where the desired outcomes are not achieved, scores of six to ten are for projects that moderately achieve the outcome, and the higher scores up to fifteen are for projects that best achieve the desired outcome.

The difference in the scores for the four category areas reflects the importance of the category and their weighted importance.



## 6.2 Prioritisation and costing of projects

### Maintaining the existing network

Council's existing pathway network provides a sound basis to build upon, in the creation of a more active walking and cycling community. The existing network is ageing and requires ongoing maintenance to ensure the safety and accessibility for all path users.

Council's current investment in pedestrian and cycle facilities is approximately \$1.6 Million. It is recommended that as the first priority of the PAMP and Bike Plan, Council allocate an annual maintenance program for the network of 3% (i.e. approximately \$50,000).

### Estimated costings

The cost estimates provided below have been provided as an indicative rate only. All proposed projects are subject to detailed feasibility and design processes, and are subject to factors such as the location of existing utilities, verge suitability etc.

### Pathways and road crossing treatments

In addition to the allocation of an annual maintenance program, the following table provides details of new and upgraded pathways and road crossing treatments, to be undertaken over the next 10 years.

The scoring of individual projects based on the criteria outlined on the previous page is shown in the Table below. The cost estimate of each project has also been included within the table.

Table 18. Prioritisation and costing of projects

Reference	Road name	Path type	Cost estimate \$	Priority score/50	Village priority ranking
<b>Bigga</b>					
BIG01	Binda Street	Footpath	22,000	30	1
BIG02	Binda Street	Footpath	81,125	29	2
BIG03	Grabine Road	Recreational Path	137,500	26	3
BIG04	Mulgowie Street	Recreational Path	58,850	25	4
BIG05	TBD	Historical Trail	TBD	23	5
<b>Binda</b>					
BIN02	Queen Street	Pedestrian Refuge	25,000	35	1
BIN03	Queen Street	Shared Path	171,875	34	2
BIN01	Queen Street	Shared Path	78,100	33	3
BIN04	TBD	Historical Trail	TBD	23	4
<b>Collector</b>					
COL05	Lorn Street	School drop-off and pick-up bay	100,000	38	1
COL01	Lorn Street	Shared Path	36,850	37	2
COL02	Bourke Street and Surrey Street	Shared Path	72,600	31	3
COL03	Church Street	Shared Path	44,330	31	3
COL04	Goulburn Street	Footpath	27,852	25	5
COL06	TBD	Historical Trail	TBD	23	6

Reference	Road name	Path type	Cost estimate \$	Priority score/50	Village priority ranking
<b>Crookwell</b>					
CR019	Goulburn Street and Carrington Street	Footpath	35,816	42	1
CR022	Pat Cullen Reserve	Boardwalk	16,000	40	2
CR024	Laggan Road	Pedestrian Refuge	25,000	39	3
CR028	Spring Street (Bus Shelter)	Bus Shelter	30,000	39	3
CR004	Northcott Street	Shared Path	28,490	36	5
CR026	Pat Cullen Reserve	Recreational Path	27,900	36	5
CR002	Saleyards Road	Shared Path	33,220	36	5
CR014	Goulburn Street	Kerb Ramp	1,700	35	8
CR015	Goulburn Street	Kerb Ramp	1,700	35	8
CR016	Denison Street	Kerb Ramp	1,700	35	8
CR025	Kialla Road	Kerb Ramp	1,700	35	8
CR012	Goulburn Street	Kerb Ramp	1,700	35	8
CR003	Roberts Road	Footpath	30,228	34	13
CR020	Saleyards Road	Footpath	178,266	34	13
CR005	Goulburn Street	Shared Path	28,160	33	15
CR013	Goulburn Street	Footpath	7,128	33	15
CR011	Crookwell Showgrounds	Learn-to-ride Facility	4,700	32	17
CR001	Goulburn Street	Footpath	7,128	30	18
CR006	Denison and Brooklands Street	Shared Path	69,525	28	19
CR007	Brooklands and Tait Streets	Shared Path	44,440	28	19
CR008	Tait Street	Recreational Path	156,825	28	19
CR009	McDonald Street	Recreational Path	213,525	28	19
CR010	McDonald Street	Shared Path	9,350	28	19
CR017	Roberts Street	Signage	850	26	24
CR018	Brooklands Street	Signage	850	26	24
CR021	Spring Street	Signage	850	26	24
CR023	Spring Street	Footpath	4,620	26	24
CR027	Clifton Park	Recreational Path	104,850	26	24
CR029	Laggan Road	Footpath	61,380	26	24
<b>Dalton</b>					
DAL03	Brown Street	Pedestrian Refuge	25,000	38	1
DAL02	Jobson Street	Footpath	17,160	37	2
DAL04	Dalton Recreation Ground	Shared Path	138,000	33	3
DAL01	Church Street	Footpath	12,980	30	4

Reference	Road name	Path type	Cost estimate \$	Priority score/50	Village priority ranking
<b>Grabben Gullen</b>					
GRA02	Camp Street	Pedestrian Refuge	25,000	37	1
GRA01	Camp Street	Footpath	41,360	32	2
<b>Gunning</b>					
GUN01	Nelanglo Street	Footpath	11,000	36	1
GUN03	Hume Street	Shared Path	46,750	35	2
GUN04	Grovenor Street	Shared Path	66,550	35	2
GUN05	Bond Street	Footpath	65,780	35	2
GUN08	Warrataw Street	Footpath	15,840	35	2
GUN10	Adam Street	Shared Path	7,590	34	6
GUN09	Saxby Street	Shared Path	21,890	32	7
GUN06	Warrataw and Copeland Streets	Kerb Ramp	39,160	32	7
GUN02	Yass Street	Kerb Ramps	3,000	31	9
GUN07	Nelanglo Street	Disabled car park and kerb ramp	3,000	31	9
GUN11	Yass Street	Shared Path	22,000	30	11
GUN12	Copeland Street	Shared Path	23,100	30	11
GUN13	Cooper Street	Footpath	37,290	28	13
<b>Laggan</b>					
LAG01	Laggan Road	Footpath	68,200	42	1
LAG02	Woodhouselee Road	Pedestrian Refuge	15,000	41	2
LAG04	Laggan Road	School drop-off and pick-up bay	25,000	40	3
LAG03	Peelwood Road	Footpath	112,475	34	4
<b>Taralga</b>					
TAR01	Orchard Street	Footpath	27,060	40	1
TAR02	Bunnaby and MaCarthur Streets	Footpath	110,825	40	1
TAR05	Walsh Street	Recreational Path	90,200	40	1
TAR10	Church Street	Footpath	28,512	40	1
TAR03	Orchard Street	Footpath	118,800	37	5
TAR04	Hillas Street	Recreational Path	54,725	36	6
TAR08	Orchard Street	Kerb Ramp	1,700	35	7
TAR09	Orchard Street	Disabled car parking and kerb ramp	3,000	35	7
TAR06	Orchard Street	Disabled car parking and kerb ramp	3,000	34	9
TAR07	Orchard Street	Disabled car parking and kerb ramp	3,000	33	10
<b>Tuena</b>					
TUE01	Bathurst Street	Shared Path	26,730	25	1
TUE02	Bell Street	Recreational Path	23,430	24	2
<b>Total</b>			<b>\$3,317,790.00</b>		



# 7.0 Strategic recommendations

In addition to the specific infrastructure recommendations outlined in Tables 20 and 21, a number of strategic recommendations are outlined in the Table below.

Table 21. Strategic recommendations

Recommendation	Details
Conserve existing participation and encourage growth in participation	<p>Provision of modest and realistic baseline facilities that provide the opportunity to expand and grow with community demand.</p> <p>Focus on maintaining existing participation levels in walking and cycling through maintaining the current network, and encourage growth in participation through promotion of the existing network, development of additional routes including recreational pathways, and installation of supporting infrastructure.</p>
Fund the maintenance of the existing network	Allocate an annual program in Council's financial plan for the maintenance of the existing footpath network to assist in the upkeep of the existing network.
Development of supporting walk and cycle infrastructure	<p>Enhance the existing footpath and shared path network through the development of supporting infrastructure including:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> path (or roadside) lighting</li> <li><input type="checkbox"/> signage.</li> </ul>
Increase accessibility within towns and villages	<p>Allocate an annual access improvement program to increase pedestrian accessibility within towns and villages, including:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> address the mis-alignment of kerb ramps and disabled car parking spaces</li> <li><input type="checkbox"/> install safe road crossing points and associated signage</li> <li><input type="checkbox"/> reduce the step-up from roadside to kerb in identified locations.</li> </ul>
Re-develop road-side drainage in Collector	Re-develop road-side drainage (i.e covered drainage channels) within Collector to allow for the development of pathways for pedestrians.
Paths linking key destinations	Develop a network of new paths as identified within each town and village to connect residents to key destinations. These are prioritised within Table 19.
Development of an accessible services guide	<p>Develop an 'Accessible Services Guide' for retail and services to encourage local businesses to take steps towards enhancing their accessibility to the whole community, including wheelchairs, the elderly and the vision impaired. Guideline to include:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> appropriate gradients for entry to doorway (i.e. no steps, provision of a ramp, doorway widths, self-opening doors)</li> <li><input type="checkbox"/> footpath signage</li> <li><input type="checkbox"/> internal stairs</li> <li><input type="checkbox"/> provision of accessible toilets.</li> </ul> <p>Council to consider allocating a small funding program that could provide 50/50 funding up to a nominated amount (for example \$1,000). Access Committee to lobby local businesses to improve accessibility of their services.</p>
Activate, rejuvenate and utilise the Upper Lachlan Access Committee	<p>Re-invigorate the Access Committee including advertise for new members to represent each town within the Shire. Things to consider:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> clarify the role of the committee</li> <li><input type="checkbox"/> assigning an elected member as committee chair</li> <li><input type="checkbox"/> develop terms of reference</li> <li><input type="checkbox"/> seek their input in new development applications</li> <li><input type="checkbox"/> encourage the committee to lobby local businesses</li> <li><input type="checkbox"/> identify annual priorities to work towards.</li> </ul>
Condition new developments	Condition new subdivisions to provide basic footpath access in line with the PAMP and Bike Plan.



Recommendation	Details
Council staff as leaders/walking and cycling ambassadors	<p>Council employs a large number of staff from the local community and need to look internally in order to help promote walking and cycling in the Shire. This includes:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> staff incentives and events</li> <li><input type="checkbox"/> supporting infrastructure at Council offices and depots such as bicycle racks, showers and irons.</li> </ul>
School education programs and skill development	<p>Encourage, support and partner with schools in regards to walking and cycling:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> walk/ride to school program in conjunction with Roads and Maritime Services</li> <li><input type="checkbox"/> education on road rules for cyclists (including a teacher in-service at the recommended learn-to-ride facility)</li> <li><input type="checkbox"/> promotion of safe routes to each school</li> <li><input type="checkbox"/> awareness to parents on the benefits of walking and cycling</li> <li><input type="checkbox"/> helmet design competition</li> <li><input type="checkbox"/> cycling skills/competency program.</li> </ul>
Awareness and promotion campaign	<p>Develop and distribute promotional material to key community destinations including Council offices and Visitor Information Centres, including:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> mapped pedestrian and cyclists routes</li> <li><input type="checkbox"/> key destinations and sites to visit</li> <li><input type="checkbox"/> disabled access points around the towns</li> <li><input type="checkbox"/> distances of key paths and rest points, highlighting supporting facilities available</li> </ul> <p>Promote the brochure on Council's website and distribute to local business, accommodation and attractions.</p>
Encouragement of tourism opportunities, programmed walks and rides, and events.	<p>Promote walking and cycling through hosting and supporting community-wide events and regular programs. Encourage tourism opportunities that link walking and cycling with local attractions, business and industry.</p> <p>Promote the requirement for cycling club events and racing calendars to be submitted to Council for consent, consistent with the NSW Guidelines for Bicycle Road Races 2004.</p>



# 8.0 Implementation plan

## 8.1 Resources

Resources are crucial to the successful implementation of the Plan. The following resource initiatives can assist in the successful implementation of the Plan and will provide a foundation for walking and cycling in the Upper Lachlan Shire.

### Internal Working Group

The Internal Working Group is a Council group responsible for the day-to-day delivery of the PAMP and Bike Plan. The group should consist of key officers responsible for implementing the many elements of the Plan, including:

- Director of Works and Operations
- Manager of Works
- Assets and Risks Coordinator
- Director of Environment and Planning (DCP issues only).

The group will ideally meet every three months to discuss and report the progress of delivery of the Plan and discuss any relevant issues or opportunities for walking and cycling.

The Internal Working Group will then report to Council's Traffic Committee and subsequently Council's Operational Plan/Strategic Plan.

### Implementation funding

Human resources alone will not allow the effective implementation of the PAMP and Bike Plan.

Council needs to commit to the allocation of funds in its future budgets to ensure the development and maintenance of appropriate infrastructure as recommended in this Plan.

Some possible funding opportunities (internal and external) are outlined on the following page, but it should be noted that they are not exhaustive and further opportunities may present themselves in the future.

## 8.2 Key partnerships

A number of stakeholders are key to the successful implementation of the Plan. These include:

Table 22. Key partnerships

Stakeholder	Relationship
Local Government Road Safety Program	The program is a primary avenue for delivering Council's commitment to road safety
Roads and Maritime Services	Funding opportunities, partnership, advocacy and program support
Bicycle NSW	Funding and advocacy for cycling
Police Service	Promotion and regulation of road rules, reporting of crash data, education
Local business	Local business can promote existing pedestrian and cycle routes to locals and visitors
Local schools	Partner with local schools in the provision of education and awareness campaigns. Schools should be encouraging their students to walk and cycle to school and practice safe practices in regards to walking and cycling to school including the wearing of helmets and awareness of road rules
Cyclists, pedestrians and other path users	Users of Council's footpaths and shared paths are key in the successful delivery of the Plan, through obeying signage and being aware and courteous of other path users
Local media	To communicate positive messages to the community in regards to promote walking and cycling, safe cycling practices and road safety
The community	The general community can play a role in encouraging positive attitudes towards pedestrians and cyclists, as well as generally obeying road rules
Crookwell Business Chamber	Promotion of existing walking and cycling routes, associated infrastructure and events



## 8.3 Funding opportunities

Funding for Council's walking and cycling initiatives can come from within Council, external funding bodies or a combination of both. Included below is a brief summary of existing and potential funding sources.

### Internal funding

There may be areas within Council's existing budget where funds can be sourced to help implement some of the actions within this Plan.

Contributions or funds towards the pedestrian and bicycle network may come from projects such as:

- Footpath construction program
- Open space programs
- Major local road projects
- Council road maintenance and upgrade programs
- Section 94 and/or 94A contributions.

### State and Federal Government funding programs

Funding is available for a variety of community based and cycling/safety programs/projects across a range of State and Federal Departments, including:

- Transport for NSW/Roads and Maritime Services
  - Active Transport (Walking and Cycling) Program
  - Local Government Road Safety Program
  - NSW Bike Week event funding.
- Australian Government
  - Regional Development Fund (RDAF)
- Department of Communities - Sport and Recreation
  - Sport and Recreation Participation Program: provides funding to not-for-profit organisations and local councils for projects designed to increase regular and ongoing participation in sport, recreation or structured physical activity
- Department of Education
- Department of Health.

### Other

#### **Public/private partnerships:**

- Where there are opportunities for private investment in public infrastructure.

#### **Community fund raising:**

- Where funds are raised for an identified service or project.

## 8.4 Promotion plan

Promotion of walking and cycling can increase participation by raising awareness of their multiple benefits, such as a cheap and healthy alternative to car travel. Additionally, promotion activities can have a positive effect on behavioural aspects of interactions between pedestrians and cyclists and non-cyclists.

Some of the key outcomes of community and stakeholder consultation included:

- The need for education to improve awareness and respect between cyclists and motorists
- The need for documenting and making available to the community, a guide to walking and cycling in the Shire
- The need for Council to promote walking and cycling in the Shire for tourism benefits.

### Marketing

Council should promote walking and cycling within the Shire through the ongoing publication of brochures/guides that map walking and cycling routes, list key destinations and end-of-trip facilities within the Shire. Such initiatives have been successfully implemented in other locations, where maps of popular walking and cycling routes have been created linking population centres with tourist destinations. Maps provide details of tourist spots, water and food stops, lookouts, emergency spares and caution points. Walk/ride length, estimated travel time and a difficulty rating have also been assigned to each route to encourage greater awareness and information for walking and cycling.<sup>1</sup>

Council should continue to participate in and promote NSW Bike Week, through facilitating local events and workshops on topics such as bike maintenance and safe riding habits, in conjunction with local bike retailers.

### Education campaign

As walking and cycling participation continues to increase, a focus on education campaigns will be needed, such as to support the growth in safe cycling and safe driving around cyclists.

Knowledge and awareness of cycling among cyclists and non-cyclists is key to:

- Elevating the status of cycling as a major transport mode
- Encouraging safe and courteous behaviour on shared paths
- Improving confidence among new cyclists
- Encouraging safer driver and cyclist behaviours on roads.

The following bicycle education programs are recommended to increase the knowledge and awareness that will address the above outcomes:

- Cycle skills training
- Local Discovery Rides
- Driver awareness education.

### Cycle skills training

Improving cycling skills can improve cyclist safety by boosting confidence of riders and their ability to safely ride in a range of environments.

Improving the skills of new cyclists can provide the confidence needed to participate in cycling on a regular basis. The provision of regular, free cycle training is recommended. The training would benefit cyclists of a range of skill levels covering topics such as:

- Road rules
- Commuter cycling
- Children's basic training
- Adult beginner/refresher training
- Basic bicycle training
- Shared path etiquette and safety.

### Local Discovery Rides

Bicycle NSW conducts regular discovery rides to enable local residents to discover local riding facilities and routes within their community. The rides provide a number of benefits and are valuable as:

- Local bicycle leaders guide the tours resulting in great local knowledge
- The rides show participants the best routes to key attractions including local shops, schools, business centres and community attractions
- The rides help participants to feel safer riding in their community and encourage greater cycling participation.

Local Discovery Rides will be particularly beneficial for community members who are not sure where they can cycle in the Upper Lachlan Shire.

### Driver awareness education

The vulnerability of cyclists (both on and off the road) can be forgotten by drivers who benefit from the protection and comfort offered by their motor vehicle.

Driver awareness of cyclists and cycling issues can be elevated through:

- Council's road safety campaign
- Council support of relevant campaigns such as the Amy Gillett Foundation "a metre matters" campaign
- Implementation of warning and other signage as well as line marking on on-road cycling routes.

<sup>1</sup> How to Prepare a Bike Plan, NSW, 2010.



# Appendix one

## Definitions

Term	Definition
Active transport	Active transport includes non-motorised forms of transport involving physical activity, such as walking and cycling. It also includes the use of public transport as many of these trips include walking or cycling which can increase levels of physical activity (Villanueva et al, 2008).
End-of-trip facilities	End of trip facilities are designated places that support walkers and cyclists in using alternate ways to travel rather than driving and include secure bicycle parking, water, and access to toilets and amenities.
Kerb ramp	A kerb ramp is a solid ramp graded down from the top surface of a footpath to the surface of a street or road to assist pedestrians and cyclists in safe access.
Recreation pathway	A recreation pathway is a designated path for use primarily by people in their leisure time, rather than by commuters, and often links places of interest including parks and tourist destinations.
Pedestrian and cycling network	A cycling or pedestrian network is the combination of a number of individual paths that as a whole provide a connection to key destinations within a place, for recreation and transport.
Pedestrian treatment	Pedestrian treatments include a number of infrastructure solutions that allow a pedestrian to safely cross a road or street, including pedestrian crossings and pedestrian refuges.
Learn-to-ride facility	A learn-to-ride facility is an off-road facility that models a real road environment and seeks to teach the fundamentals of safe bicycle riding.
Footpath	A footpath is a formed and hardened pathway for the sole use by pedestrians.
Shared path	A path designed for many users including cyclists, people with prams and wheelchairs as well as pedestrians. The term shared path is used to describe a path that allows both cyclists and pedestrians.
Mobility impaired	A person who is unable to walk, or who is able to walk only short distances, because of loss of the use of one or both legs or other severe medical or physical handicap.



# Appendix two

Document review

# Document review

A thorough literature review has been undertaken to set the scene for walking and cycling in the Upper Lachlan Shire. The review aims to assess current standards and practice for walking and cycling, the legislative framework within which they sit and new innovations for active transport. A brief summary of each relevant document is provided in the Literature Review Table below.

Table 23. Literature Review Table

Ref	Document	Summary
National context		
N1	Walking, Riding and Access to Public Transport - Supporting Active Travel in Australian Communities (2013)	Proposes a hierarchy for urban roads, which prioritises pedestrians and cyclists over private vehicles. The majority of urban roads are suitable to accommodate pedestrians on footpaths and cyclists on wide bicycle lanes on road or on shared paths
N2	Creating Places for People - An Urban Design Protocol for Australian Cities	The Urban Design Protocol is a joint development of numerous community and industry organisations, States, Territories, local governments and the Australian Government. To create a liveable place, the protocol provides the “walkable” principle, which involves “places that are enjoyable and easy to walk and bicycle around”
N3	National Cycling Strategy 2011-2016	The <i>National Cycling Strategy</i> sets out a number of actions to achieve its vision of doubling cycling participation in Australia over the five years of the Strategy
N4	Cycling Aspects of Austroads Guides	The <i>Cycling Aspects of Austroads Guides</i> is a one-stop document, which covers all the relevant cycling design guidelines for Australian roads. The document includes design criteria for on and off-road facilities, intersections, rail crossings and end-of-trip facilities
State/regional context		
S1	NSW Long Term Transport Master Plan, 2012	The <i>NSW Long Term Transport Master Plan</i> is an extensive transport planning document, which sets the direction for planning of all forms of transport including walking and cycling. The Plan describes a coordinated approach to transport planning in NSW, which is integrated with land use planning to develop likely attractors and activity generators
S2	NSW Bike Plan (2010)	The NSW Bike Plan is a visionary document that aims to make NSW “one of the world’s best places to ride a bike.” The Plan contains a number of actions and initiatives to support cycling in NSW
S3	Cycling Safety Action Plan 2014-2016	The <i>Cycling Safety Action Plan</i> acknowledges that safety is a major barrier to cycling in NSW. It attempts to address this issue by developing a number of actions to improve cycling safety through improved infrastructure, improved use of safety equipment, safe and compliant behaviours and safer bicycles
S4	Planning Guidelines for Walking and Cycling (2004)	The Guidelines were developed in 2004 to assist land-use planners and other professionals to incorporate walking and cycling into their relevant planning processes. Of particular relevance to the Upper Lachlan Shire PAMP and Bike Plan are the suggested bicycle parking provision rates for different land-use types. These could be included in Council’s DCP to encourage cycling
S5	Transport for NSW Disability Action Plan 2012-2017	The <i>Disability Action Plan</i> highlights the importance of a well designed pedestrian environment, which offers safe and comfortable travel for people with limited mobility or other disability. There is a heavy focus on providing good access to public transport as part of the disability action plan
S6	Development & Active Living - Designing Projects for Active Living (2010)	The <i>Development and Active Living</i> document is targeted at Strategic Planners preparing Development Control Plans (DCPs), land use and transport strategies and other policy documents. The guide contains a number of considerations to be included in the Development Application (DA) process to address five principles of active living. This resource is a valuable asset, which should be considered for use by the Upper Lachlan Shire Council to integrate into the DCP

Ref	Document	Summary
S7	NSW Guidelines for Bicycle Road Races 2004	The guidelines outline the process for obtaining approval to conduct bicycle racing on roads and highways within New South Wales. These guidelines address bicycle racing and the bicycle component of multi sport races only, and do not address non-competitive bicycle rides such as charity and promotional rides.
Local context		
L1	Upper Lachlan Shire Local Environmental Plan 2010	Council's Local Environmental Plan outlines the essential services required to be provided within a development. The provision of footpaths and associated infrastructure will be considered in future LEP reviews.
L2	Section 94A Development Contributions Plan 2012  Upper Lachlan Development Contributions Plan 2007, 2010	Council's scope of service delivery includes roads and public works, planning, building control and preservation, parks and environmental conservation, community services, recreation and culture, and employment access.  Council's future capital works program for delivery of facilities and services, and the administration of development contributions, is in accordance with Council's statement of intent.  The Plan is largely silent on the provision of pedestrian and cycling network infrastructure within the road and public works network.
L3	Upper Lachlan Strategy Vision 2020, 2009	The Upper Lachlan Shire Strategy Vision 2020 was developed to guide the ongoing sustainable management of land decisions to 2020. The Strategy identifies the previous PAMP and Bike Plan and highlights the need to integrate cyclist and pedestrian linkages and facilities into future road network plans.
L4	Social and Community Plan 2013-2018	The <i>Social and Community Plan</i> is based on the guiding principles of social justice and sustainability, with the community heavily involved in its development. The Plan identifies the interests of a number of target groups. Public transport is raised for a number of target groups, however is largely silent on active transport such as walking and cycling
L5	Upper Lachlan Shire Council Pedestrian Access Mobility Plan (PAMP) and Bike Plan 2005	The Plan focuses on pedestrian and cycling infrastructure by providing guidelines for design and recommends a number of improvements to the existing network. The current Plan will build upon the strategies and recommendations made in the previous PAMP and Bike Plan
L6	Upper Lachlan Ageing Strategy 2013	Relevant to the PAMP and Bike Plan, the strategy identifies outdoor spaces, buildings and infrastructure as a priority area; with well maintained pavements, free of obstructions and reserved for pedestrians; non-slip pavements, that are wide enough for wheelchairs and provide dropped curbs to road level; pedestrian crossings are sufficient in number and safe for people with different levels and types of disability; cycle paths are separate from pavements and other pedestrian walkways; buildings are well-signed outside and inside, with sufficient seating and toilets, accessible elevators, ramps, railings and stairs, and non-slip floors.
L7	Footpath Usage Policy 2007	The Policy stipulates Council's requirements for the use of footpaths for outdoor dining, commercial and other activities by businesses and organisations. Relevant objectives of the Policy to the PAMP and Bike Plan are: To allow pedestrians ease of access along footpaths; To provide for the safe movement of pedestrians; and To facilitate businesses to improve disabled access.



# Appendix three

## Facility trends

# Path classification and design standards

This section addresses the classification of different cycling path types and the design standards required for each path type. In the event of any inconsistencies between the standards identified in this document and Council's engineering guidelines, the standards identified in Council's engineering guidelines prevail.

## Type of bicycle facility required

The type of bicycle facility required will depend on a number of factors, including the hierarchy of the route and the type of cyclist likely to use such a route. However, the most important factor to consider for urban cycling routes is the characteristics of adjacent motor vehicle traffic. Austroads and RMS suggest that guidelines for deciding on the type of facility required should be based on the speed of traffic and the number of vehicles present on adjacent roads. The guide is shown visually below and is based on best-practice studies from the Netherlands and other sources.

The guide suggests that generally 40km/hr streets will be suitable for mixed traffic (except where there is a very high amount of traffic). 50-60km/hr streets are often suitable for bicycle lanes/shoulders (depending on the traffic level). Streets that are 80km/hr or higher will usually require separated paths<sup>1</sup>. These principles are intended as a guide only and it may not be possible to include the recommended facility in every situation.

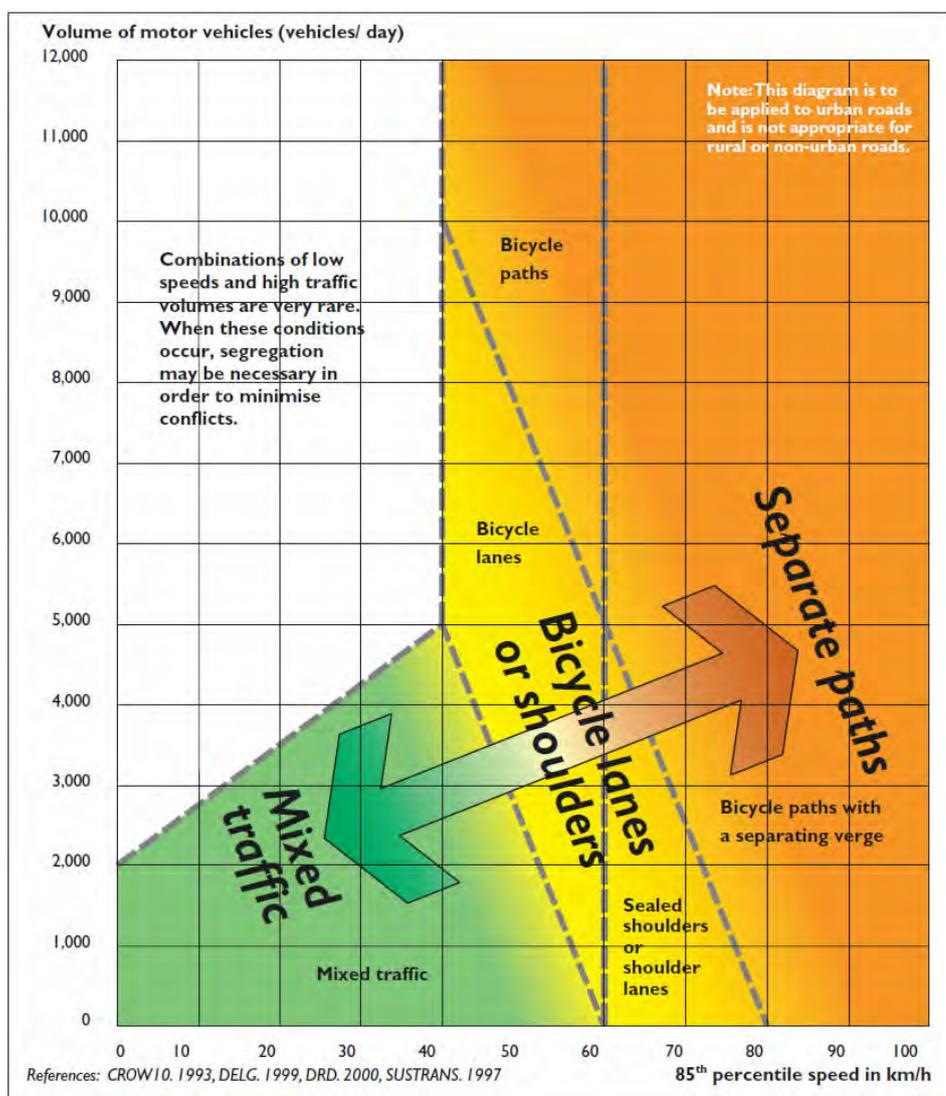


Figure 14. Type of bicycle facility required

<sup>1</sup> Austroads. (2014). *Cycling Aspects of Austroads Guides; Roads and Maritime Services. (2005). NSW Bicycle Guidelines.*

## On-road facilities

### Bicycle lane (exclusive bicycle lane or bicycle shoulder lane)

On-road facilities provide visually separated operating space for the use of cyclists on roads. They are used to define bicycle routes where the prevailing road speed and traffic volume requires a degree of separation. Both exclusive bicycle lanes and bicycle shoulder lanes share the same recommended path widths and these are provided in the table below. Bicycle lanes should be provided on both sides of the road where possible.

Exclusive bicycle lanes are generally preferred to shoulder lanes in urban areas, with a higher volume of traffic, while shoulder lanes are preferred in rural areas where there are lower volumes of traffic. Aside from the speed of motor traffic, designers should also consider the number of cyclists, the volume of large vehicles, the ability to make space available and physical and budgetary constraints when deciding an appropriate lane width.

Table 24. Recommended bicycle lane dimensions<sup>1</sup>

Road posted speed limit (km/hr)	Lane width (m)		
	60	80	100
Desirable	1.5	2.0	2.5
Acceptable range	1.2 - 2.5	1.8 - 2.7	2.0 - 3.0

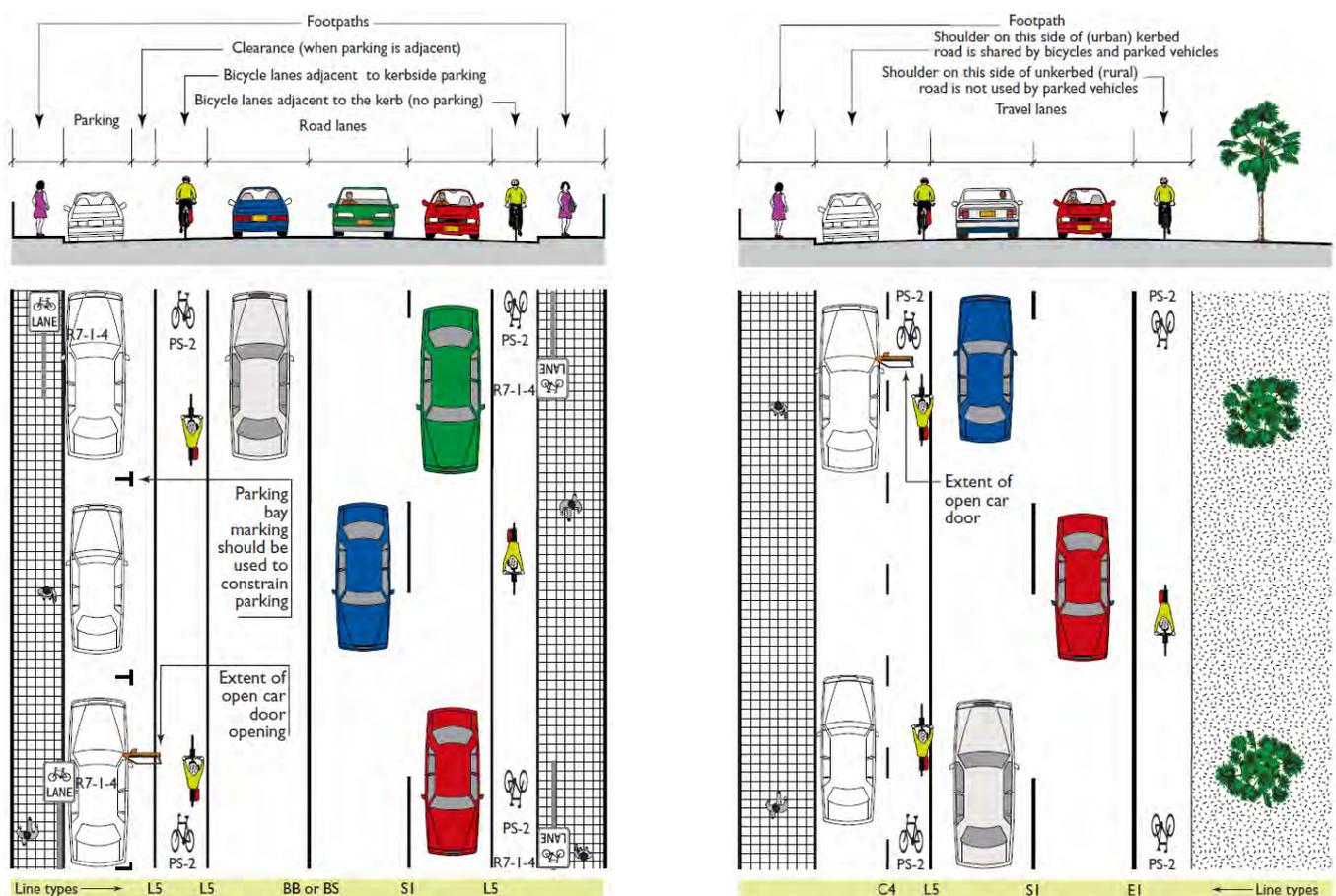


Figure 15. Exclusive bicycle lane (RMS - NSW bicycle guidelines)

## Mixed traffic street (wide kerbside lanes or tight profile)

Mixed traffic streets are often common in urban areas with low traffic speeds and volumes. Mixed traffic streets can be wide kerbside lanes which provide room for motorists to safely pass cyclists. It is preferable to only include wide kerbside lanes in traffic speeds of up to 60km/hr. Roads, which contain higher traffic speeds should generally include bicycle lanes for on-road cycling. Where this is not possible, roads up to 80km/hr may be used for wide kerbside lanes, with a preferred lane width of 4.5m.<sup>1</sup>

Mixed traffic streets can also be provided in a narrow cross section road (tight profile). These are generally provided for in low speed, low traffic environments. In the narrow cross section roads the speed limit should be 50km/h or less with no room for motorists to overtake cyclists. Lanes with a critical width of 3.3 - 3.7m should not be used in mixed traffic situations as they encourage dangerous overtaking by motorists. RMS recommends PS-2 pavement symbols for mixed traffic streets to be placed every 50m-75m and before and after intersections.<sup>2</sup>

Table 25. Recommended mixed traffic street dimensions<sup>3</sup>

Profile and road posted speed limit (km/hr)	Lane width (m)	
	Narrow (50km/hr)	Wide (60km/hr)
Desirable	2.7	4.2
Acceptable range	2.5 - 3.3	3.7 - 4.5



Figure 16. Wide kerbside lane (City of Newcastle)

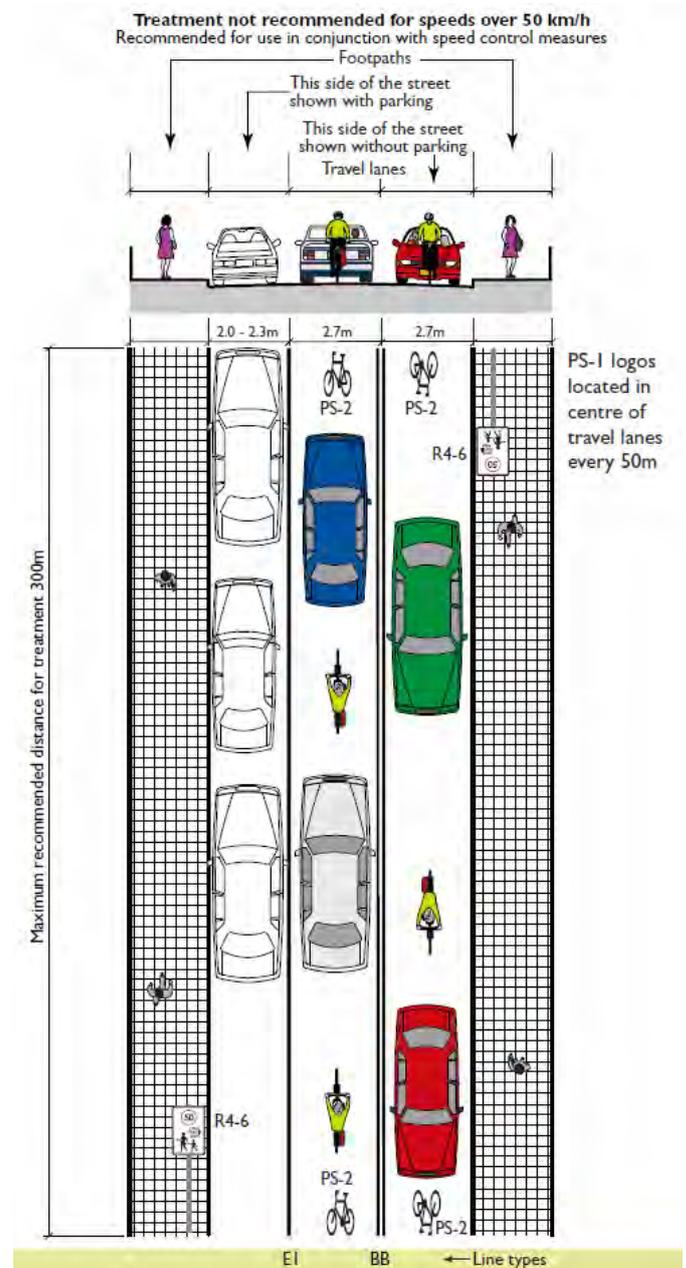


Figure 17. Mixed traffic - tight profile (RMS - NSW bicycle guidelines)

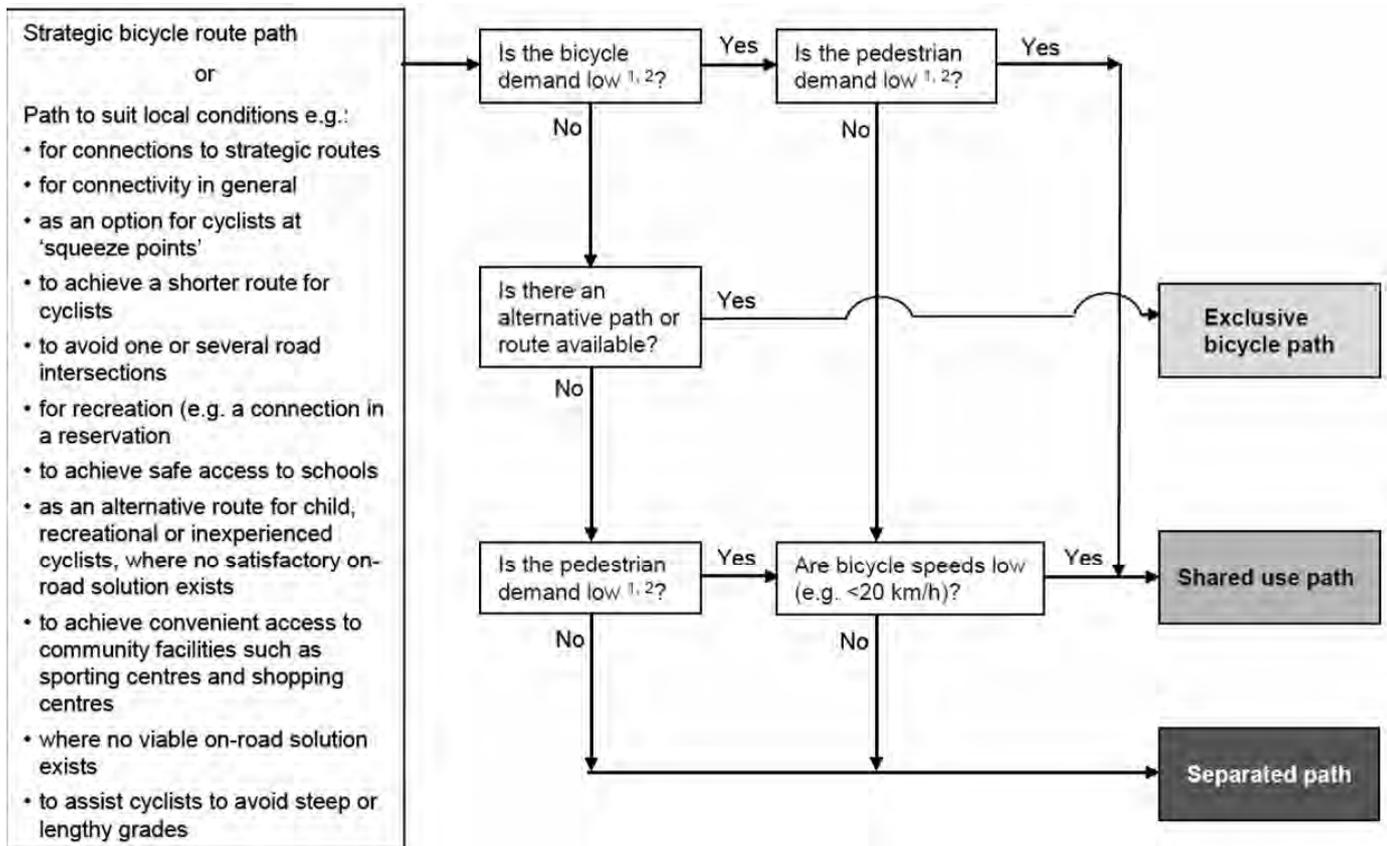
- 1 Austroads. (2014). *Cycling Aspects of Austroads Guides*.
- 2 Roads and Maritime Services. (2005). *NSW Bicycle Guidelines*
- 3 Austroads. (2014). *Cycling Aspects of Austroads Guides; Roads and Maritime Services. (2005). NSW Bicycle Guidelines*

## Off-road facilities

Off-road cycling facilities provide routes that are separated from motor vehicle traffic. These can take the form of:

- Exclusive bicycle paths
- Shared paths
- Separated paths.

The diagram below from Austroads suggests where off-road cycling facilities are appropriate and delivers a method for selecting the appropriate path type. The majority of routes in Upper Lachlan are expected to be suitable for shared path use. The level of demand for each route should be assessed separately. However, generally speaking the demand for each path from pedestrians and cyclists is expected to be moderate enough to allow shared path implementation with minimal conflict between users.



1 The level of demand can be assessed generally on the basis of the peak periods of a typical day as follows:

- a. Low demand: Infrequent use of path (say less than 10 users per hour)
- b. High demand: Regular use in both directions of travel (say more than 50 users per hour).

2 These path volumes are suggested in order to limit the incidence of conflict between users, and are significantly lower than the capacity of the principal path types.

Source: Austroads (2009f) Figure 2.1.

Figure 18. Selection guide for off road bicycle route types (Austroads - Cycling Aspects of Austroads Guides)

## Shared path

A path designed for many users including cyclists, people with prams and wheelchairs as well as pedestrians. The term shared path is used to describe a path that allows both cyclists and pedestrians. Austroads suggests that shared paths are appropriate where:

- ❑ Demand exists for both a pedestrian path and a bicycle path but where the intensity of use is not expected to be sufficiently great to provide separate facilities
- ❑ An existing low-use path can be satisfactorily modified (e.g. by appropriate width and signage) to provide for cyclists.<sup>1</sup>

Shared paths can be provided for in a road reserve with physical separation from motor vehicle traffic by a median strip, verge or kerb. They can also be provided outside the road reserve in locations such as parks, drainage easements or reserves. Where the shared path is on a regional route, consideration should be given to prioritising the route over low volume side streets.<sup>2</sup> The recommended shared path dimensions are provided in the table below. Although the minimum recommended width is 2.5m it is noted that a lesser width (2.0m - 2.5m) may be adopted in certain circumstances, where volumes and speeds remain low.

Table 26. Recommended shared path dimensions<sup>3</sup>

Path type	Path width (m)		
	Local access path	Commuter path	Recreational path
Desirable	2.5	3.0	3.5
Acceptable range	2.5* - 3.0	2.5* - 4.0	3.0* - 4.0

\* A lesser width should only be adopted where cyclist volumes and operational speeds will remain low.

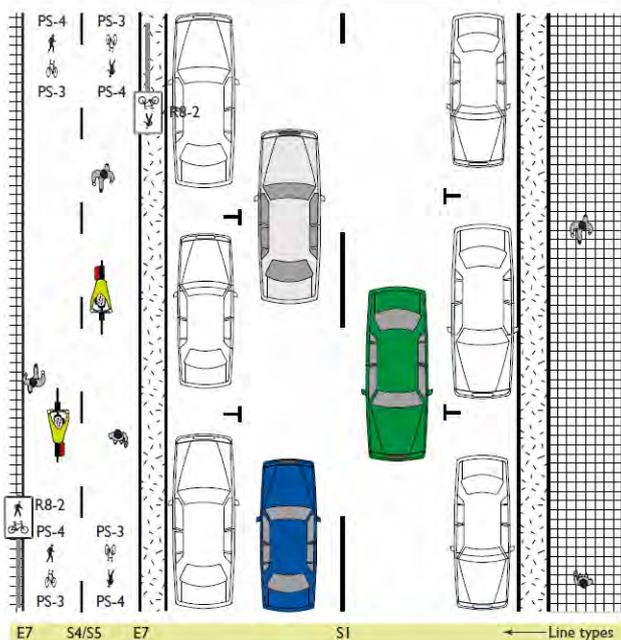
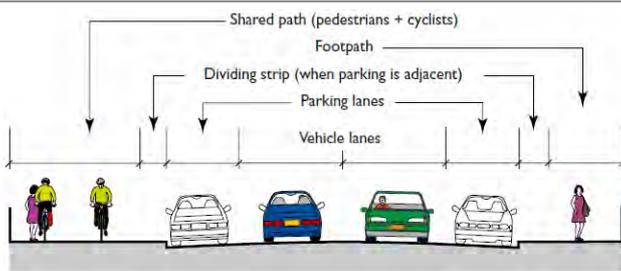


Figure 19. Shared path in a road reserve (RMS - NSW bicycle guidelines)

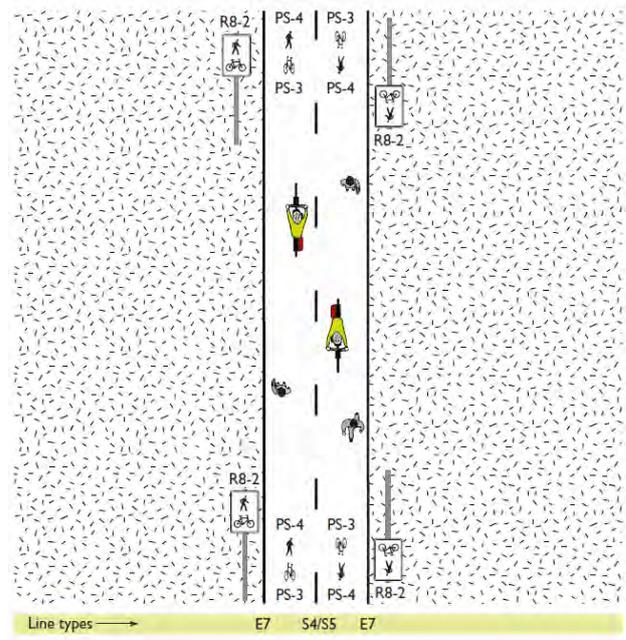


Figure 20. Shared path in a non-road reserve (RMS - NSW bicycle guidelines)

- 1 Austroads. (2014). *Cycling Aspects of Austroads Guides*.
- 2 Roads and Maritime Services. (2005). *NSW Bicycle Guidelines*.
- 3 Austroads. (2014). *Cycling Aspects of Austroads Guides*.

# Lighting

Lighting should be provided on paths where there are large number of users in periods of darkness. The type of lighting used will depend on a number of factors including the number of users expected on the path, the proximity of residential or other sensitive uses and the presence of wildlife nearby. For all new lighting installations in the Upper Lachlan Shire, reference should be made to AS 1158.3.1-2005 for design standards<sup>1</sup>.



## *Glow in the dark paths*

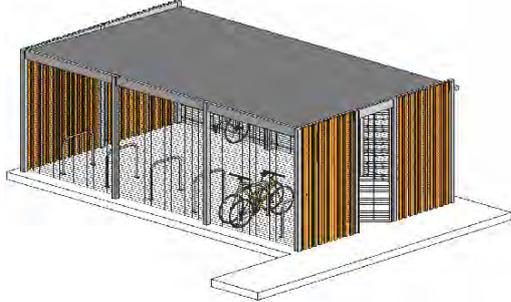
A new technology is allowing the provision of glow in the dark paths as an alternative to street lights. These paths negate the need for electricity, and are thought to reduce the impact on native fauna. The footpath contains minerals which absorb ultraviolet light during the day so a soft glow is emitted at night. The paths have recently been developed in Gosford and Canberra.



# End-of-trip facilities

Bicycle parking should be provided for cyclists in key destinations. Approximately 25% of respondents to the community survey cited that a lack of end-of-trip facilities discouraged them from cycling. Bicycle parking facilities should be provided within 100m of common commuting or recreational destinations. These include schools, shopping centres, parks and work places. The exact location of parking facilities at each destination is vital and convenience is the most important factor to consider when choosing a location. The classification of bicycle parking facilities is provided below along with examples of best practice.

Table 19. Classification of bicycle parking facilities<sup>1</sup>

Security level	Description	Safety features	Typical applications	Best practice example
A	Individual locker with a high security locking mechanism	Highly visible, publicly accessible, well lit and close to the modal change point	Busy transport hubs	
B	A secure room or structure, protected from the weather, containing bicycle parking devices that allow users to lock the bicycle frame and both wheels	Direct surveillance may be necessary to reduce the level of theft among users (e.g. CCTV). Should be located as close to the entrance/exit as possible and in well lit areas where passive surveillance is likely	Destination parking (nearby to where a cyclist works, lives or studies), all day parking (workplace, school, university), transport hubs, multi-dwelling developments	
C	Bicycle rails or racks to which both the bicycle frame and wheels can be locked	Located in well lit areas where passive surveillance is likely. Facilities should be located as close as practicable to the user's destination	Short term parking only e.g. retail, libraries, gyms, parks	

It is expected that security level C will be the most commonly required bicycle parking facility in the Upper Lachlan Shire. The design of this type of facility typically matches that seen in the best practice example above. However, artistic designs are encouraged and involving the community in these designs is also beneficial as a great way to encourage community involvement in creating a sense of place in the Shire. This practice of community design of bicycle parking has been successfully implemented in other towns and could also be successful in the Upper Lachlan Shire, where more bicycle parking is required.

# Cycling and shared path crossings

All of the existing cycling/shared path crossings in the Upper Lachlan Shire are unsignalised crossings. Unsignalised crossings on low volume streets (less than 3000 vpd) requires no refuge and a straight crossing of the road using kerb ramps and a suitable terminal treatment is sufficient. In some cases it may be suitable to provide cyclist (and pedestrian in the case of shared paths) priority. Where a significant path that has an important network role crosses low-volume local streets, vehicle priority can provide an inferior riding experience. In this case an opportunity exists to provide cyclist/pedestrian priority, while simultaneously providing a traffic control device. An example of the preferred treatment can be seen below and involves a raised path crossing in conjunction with give way sign controls to regulate road traffic.

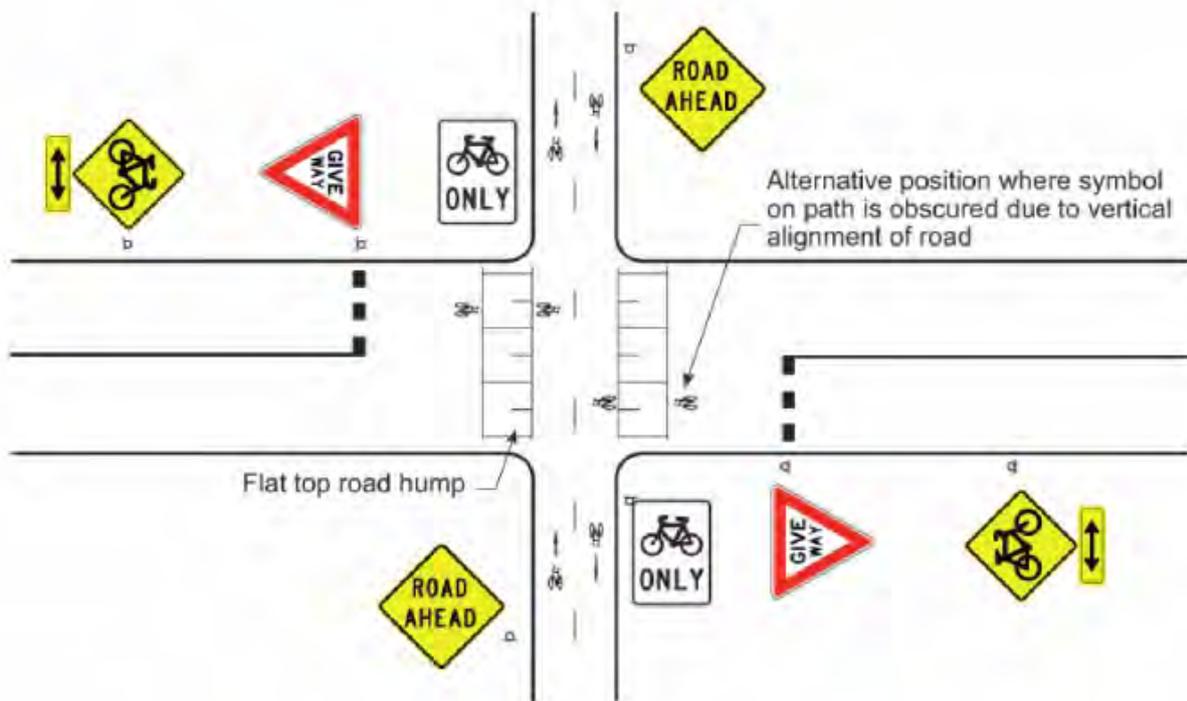


Figure 21. Cycling and shared path crossings

# Pedestrian crossings

Part 4 of the *Austrroads Guide to Road Design* provides guidance on the design of intersections and crossings. The type of crossing used depends on the specific conditions present within a street. There are no signalised crossing options in the Upper Lachlan Shire, therefore the best practice research here focuses on non-signalised crossing options.

The Austrroads guidelines state that pedestrian zebra crossings are usually only suitable in low-speed environments (less than or equal to 50km/hr) on local residential streets, collector roads where speeds are constrained, in shopping centre car parks and multi-level car parks. The zebra type crossing should also be considered at arterial road roundabouts with high pedestrian usage.

Safety issues with pedestrian zebra crossings can arise as pedestrians assume right of way on the crossing and take less caution than at other crossing points. However, it is clear that pedestrian zebra crossings still provide an important role, particularly for less mobile pedestrians who take longer to cross the road.

Another important consideration for pedestrian crossings is visibility. Sight distance can be improved through footpath extensions and lighting for night time. Where visibility is poor, consideration should be given to providing flashing yellow lights at a zebra crossing.

Alternatives to pedestrian zebra crossings include traffic islands and pedestrian refuges. There are a range of designs of these types of crossings.

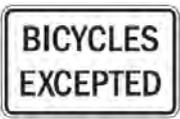


# Signage

## On-road signs

The following tables identify the signage types to be utilised within the bicycle network and provides a hierarchy of on-road signs based on the application within the network.

Table 20. On-road signage

Sign name	Sign number	Sign	Application
<b>Regulatory signs</b>			
Bicycle Lane	R7-1-4		To be used at the beginning of an exclusive bicycle lane and at extra locations with spacing of the signs not more than 500m.
AHEAD	R7-2		Optional advance notice of a bicycle lane to be used where required.
END	R7-4		To be used at the end of a bicycle lane.
BICYCLES EXCEPTED	R9-3		To be used in conjunction with other regulatory signs where the use of bicycles is permitted contrary to the regulatory requirement, e.g. NO ENTRY, No Right (or Left) Turn.
<b>Warning/guidance signs</b>			
Bicycle Warning	W6-7		Used to warn motorists of the presence of bicycles on the road where cyclists may be at risk. These can also be supplemented with NEXT x km (W8-17-1) plates or NEXT x m (W8-17-2) plates.
WATCH FOR Bicycles	G9-57		To be used at road narrowings or other squeeze points where bicycles may potentially come into conflict with motor traffic.
ALL BICYCLES	G9-60		To be used at any point where it is required to direct cyclists from the road to a particular route or path.

# Off-road signs

Table 21. Off-road signs

Sign name	Sign number	Sign	Application
<b>Regulatory signs</b>			
GIVE WAY	R1-2		To be used on a bicycle path or shared path where they meet a road crossing. A give-way line may also be used to reinforce the need to give way to road traffic. A smaller sign is used on paths than those used on roads (see AS1742.9-2000).
Bicycle path ONLY	R8-1		Used on a path designated to cyclists only.
Shared path	R8-2		To be used to designate a path for pedestrians and cyclists.
Separated path	R8-3		To be used to designate a route where cyclists and pedestrians travel on separate paths.
<b>Warning/guidance signs</b>			
Pedestrian warning	W6-1		To be used where any path is about to cross a path used by the relevant user group, e.g. a pedestrian warning sign would be used on a shared path where it is about to cross a pedestrian footpath.
Bicycle warning	W6-7		
Bicycle/pedestrian warning	W6-9		
ROAD AHEAD	W6-8		Used to inform cyclists travelling along an off-road path that the path is about to cross or end at a road and the presence of the road is not obvious.

## Shared path behavioural signage

Shared paths carry the benefits of being able to serve two user groups: pedestrians and cyclists. However, conflicts between these two groups can occur, particularly on high use paths. Behavioural signage is an effective way of managing these conflicts and educating users of paths to be aware of other users.

The Department of Transport and Main Roads in Queensland has developed a suggested hierarchy for the implementation of signage on shared paths, which is provided below.

Table 22. Shared path behavioural signage hierarchy<sup>1</sup>

Level	Level of usage	Recommended installation
Level 1	Basic requirement of all shared paths. Low use and few reported conflicts	Path centre line and pavement symbols. See MUTCD* Part 9 for path line marking recommendations
Level 2	Moderate path use and number of reported conflicts	As for Level 1 plus group signs (Figure (e) or (g), right) at key locations and sign columns (Figure (f), right) at min 500m spacings
Level 3	High path use and number of reported conflicts	As for Level 2 plus additional single or grouped behavioural signs according to the type and level of reported and observed conflicts

\*Manual of Uniform Traffic Control Devices

It is intended that this hierarchy be implemented from the bottom-up. That is, Level 1 signage should be adopted on the shared path to begin with. Some time after these have been implemented, observations or feedback from users should be sought to ascertain the number of conflicts present. If necessary, Level 2 signage should then be used and Level 3 measures if required thereafter.



(a) Keep Left sign (G9-259-1)



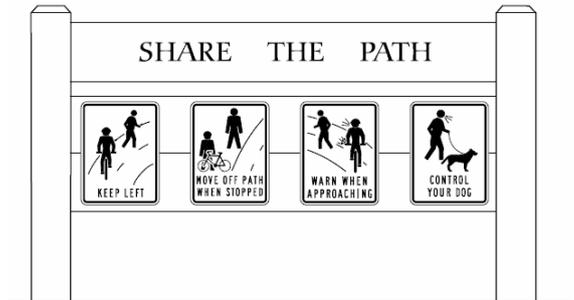
(b) Warn When Approaching sign (G9-259-2)



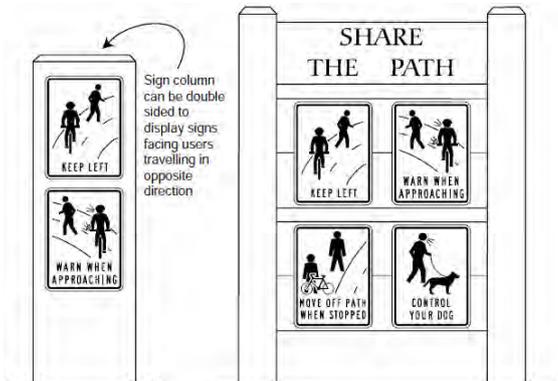
(c) Move Off Path When Stopped sign (G9-259-3)



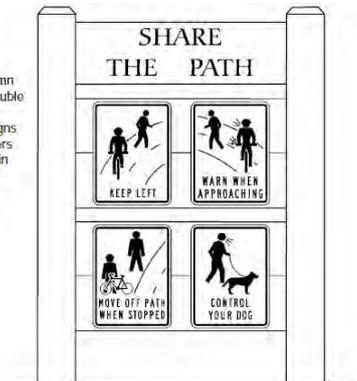
(d) Control Your Dog sign (G9-259-4)



(e) Preferred group sign for path entry or major path access points.



(f) Level 2 sign column



(g) Alternate layout of group sign for where space is limited

<sup>1</sup> Department of Transport and Main Roads (QLD). A guide to signing cycle networks, 2009.

Figure 21. Shared path behavioural signage

## *Directional signage*

Pedestrian and bicycle network signage is an important function that improves connectivity and coherence for walkers and cyclists. Directional signage for walking and cycling should be totally separate from the road system signage to avoid conflict or confusion. Australian Standard AS1742.9 Manual of Uniform Traffic Control Devices should be used for guidance on directional signage. The Standards provide requirements and recommendations on the colour and reflectorization of signs, legend size, directional indication, layout design and the location of signs.

The NSW Bicycle Guidelines (RMS 2005) also set out desired directional signage for cycling. The system for directional signage should be closed, meaning if a location is displayed on a sign it should be displayed on every sign thereafter until the destination has been reached. Destinations to include on directional signage include:

- Cities
- Towns
- Regional centres
- Identifiable precincts
- Important recreational destinations (e.g. major parks, waterways).

Reference should be made to the NSW Bicycle Guidelines for more detailed information on the implementation of directional signage. This information includes an appropriate measuring system, the selection of appropriate destinations and visibility of signage.

An extract of the RMS guidelines is provided on the following page displaying recommended examples of signs to be used. One important tool that is not displayed in these examples is the use of a brown coloured sign for directions to tourist facilities or points of tourist interest (a recommendation of the Australian Standard AS1742.9 Manual of Uniform Traffic Control Devices).

## *Alternate signage*

In addition to a network of uniform directional signage, opportunity exists for the installation of localised signage showcasing local artworks and creative forms. The use of alternate signage can enhance the formal signage network through way-finding and providing an interesting visual place marker, useful for both locals and visitors to an area.

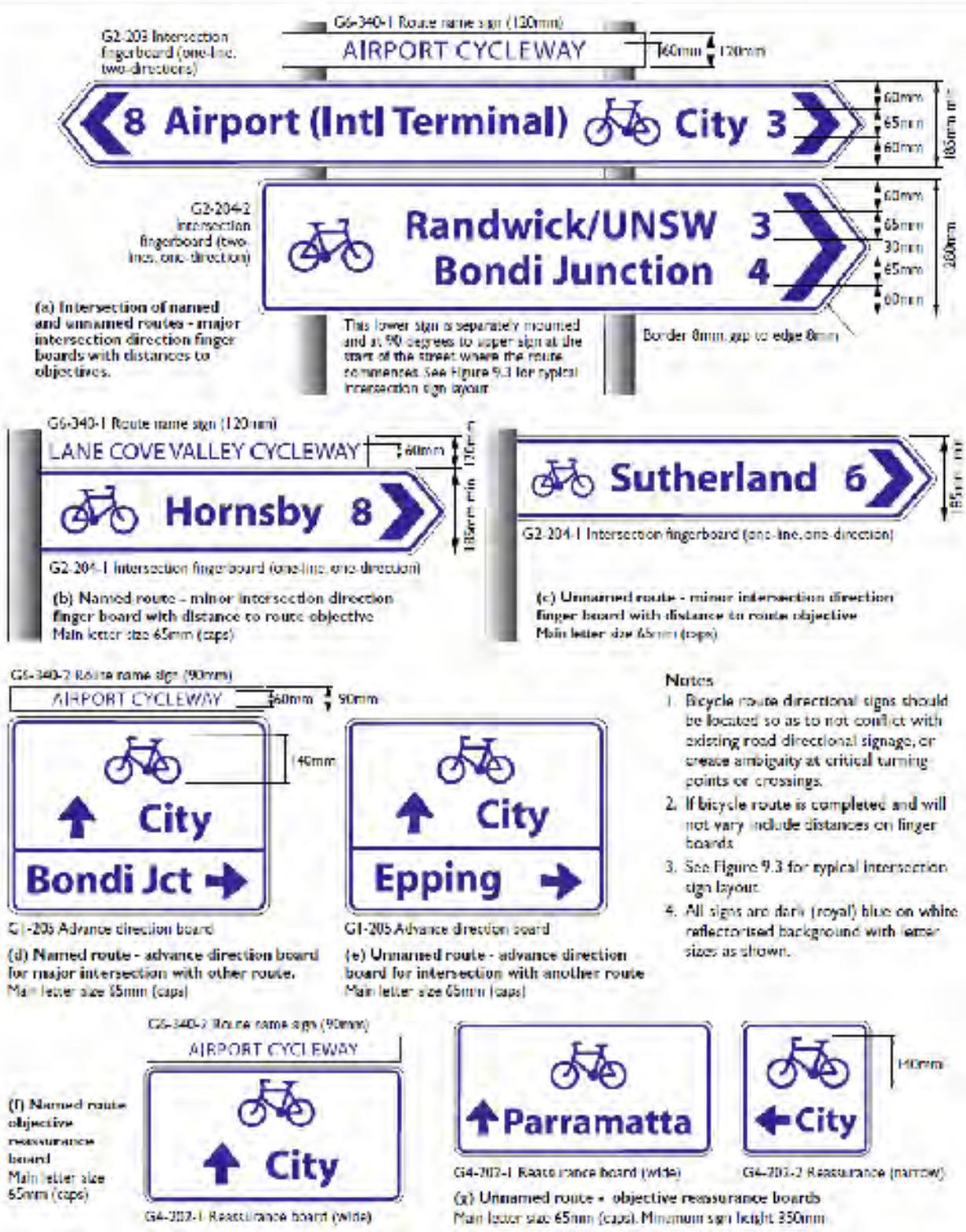


Figure 22. Bicycle network route directional signage (RMS, NSW Bicycle Guidelines, 2005)



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open space  
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