Queanbeyan Bicycle and Pedestrian Facilities Plan

Integrated Transport Strategy

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Prepared for – Queanbeyan-Palerang Regional Council – ABN: 95 933 070 982

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Integrated Transport Strategy

Client: Queanbeyan-Palerang Regional Council

ABN: 95 933 070 982

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Quality Information

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Prepared by Nethmei Senarath & Brendan Hogan

Reviewed by Neil Graham

Revision History

Rev	Revision Date	Details	Authorised (Name/Position)
1	22-Nov-2017	First Draft (post Stage 1 Consultation)	Neil Graham, Project Manager
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3	14-Jun-2018	Final Draft (post Stage 2 Consultation and Exhibition)	Neil Graham, Project Manager
4	05-Feb-2019	Revised Final Draft (post Stage 2 Consultation and Exhibition)	Neil Graham, Project Manager
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6	22-Jun-2020	Final	Brendan Hogan Project Manager

Table of Contents

List of Figures

List of Tables

Executive Summary

AECOM has prepared an integrated bicycle and pedestrian facilities plan for Queanbeyan; there are other similar reports for Braidwood and Bungendore as part of an Integrated Transport Strategy (ITS) for Queanbeyan-Palerang Regional Council (QPRC). The facilities plan will help Council to manage priorities and funding for future works.

Key steps in developing this strategy were to:

- Identify a functional network for walking and cycling. This is intended to create a practical network for pedestrians and cyclists, best serving the needs of the local community.
- Identify routes to service different users of the networks using a catchment analysis for seniors, school, shopping and recreation.
- Prioritise routes and works into an action plan and implementation plan.

From a cyclist and pedestrian perspective, the most important features of the road and traffic environment in Queanbeyan appear to be:

- Three key centres; being Queanbeyan CBD, Jerrabomberra and the developing Googong. These require strong regional and local routes connecting them. Kings Highway passes through the centre of the town, forming the main street (Monaro Street).
- Existing pathway facilities are not well signed and continuity and wayfinding is poor.
- A number of major roads carrying high volumes of traffic that create barriers for safe pedestrian and bicycle movements during peak periods.
- On-street parking arrangements vary, but there is typically parallel parking with angled parking on some of the streets within the CBD area. Most of the commercial and retail parking is provided through off-street parking.
- The topography of Queanbeyan presents some challenges with gradients and ease of use of paths.
- Regional road networks have some links that provide adequate sealed shoulder widths to cater for on road cycling but there is not currently continuity to create an entire route.

There are three stages to this project and three stages of consultation:

1. Setting context and identifying issues, as part of Stage 1 consultation in June 2017.
2. Developing a draft action plan for the various means of travel in the region, as part of Stage 2 consultation in December 2017.
3. Finalising the action plan and creating implementation and monitoring plans for public exhibition and comment (Stage 3).

There have been three rounds of consultation on this project that have been considered in developing the Action Plan and Implementation Plan for bicycle and pedestrian facilities in Queanbeyan, as follows:

1. Setting context and identifying issues, as part of Stage 1 consultation.
2. Developing a draft action plan, implementation plan and report for comment as part of Stage 2 consultation.
3. Developing a draft action plan, implementation plan and report for public exhibition and comment (Stage 3).

The action plan, implementation plan and report have now been finalised for Council endorsement, taking account of final comments in Stage 3.

During the community consultation in this project the following issues were raised regarding walking and cycling in Queanbeyan:

- The importance of building and encouraging healthy communities especially through active transport options. For example, bicycle carriages on buses and trains and bicycle racks outside key points of interest within the city centre.
- The importance of safety and security of people who are crossing the road.
- Improved pedestrian and cyclist crossings especially pram ramps and near schools and child care centres.
- Need for surface upgrades including roadways, footpaths and cycle ways, which in many areas are 'poor and uneven'.
- Improved connectivity between different regions especially to and from the city centre including cycling and walking tracks to and from the city centre and along the riverbank.
- Extend the footpath that runs to White Rocks near the river. White Rocks is a popular place for people to swim.
- Widen cycle tracks on Carolyn Jackson Drive, Jerrabomberra.
- Install a pedestrian crossing on Morton Street near Stornaway Road.
- Additional footpaths for children to walk and ride bikes, especially around schools.
- In general the mobility of pedestrians and cyclists are not supported by underpasses or overpasses to reduce conflict with vehicles. This is a particular concern for vulnerable user groups such as people with disabilities, the elderly and children.
- East Queanbeyan seems to missing attention in terms of active travel routes.
- Connections between Greenleigh and Queanbeyan are lacking in terms of safe active travel infrastructure. Greenleigh Estate does not have streetlights or footpaths constructed.
- A high priority requirement for an underpass under the Edwin Land Parkway once the EDE is open. It is currently dangerous for the community to cross over the road from the shopping centre to 'the park'. This will continue to get worse once the road is open and Googong continues to grow.
- Shared path link between Edwin Land Parkway and Candlebark Road on western side of Cooma Street.
- Southbar Road near Karabar shops needs to be a Shared Zone.
- Council should support the proposed Monaro Rail Trail which would be a fantastic commuting and recreational trail from Harman to Jerra and the proposed Tralee.
- Traffic lights on Bungendore Road in Queanbeyan East to assist safe pedestrian and cyclist crossings.
- Working with ACT Government to construct a Molonglo River riverside bikeway to Monaro Highway / Majura Parkway.
- Pedestrian refuge to help pedestrians cross Thurralilly Street on the western side of Yass Road.
- Pathway link on Macqoid Street between Buttle Street and Ellerton Drive underpass.
- A number of safe crossing points are needed across Bungendore Road, especially linking to the Yass Road pedestrian traffic signals adjacent to the Queanbeyan East Primary School, either side of the current roundabout intersection with Ellerton Drive.
- A pathway link to Ellerton Drive Extension (EDE) via the open space corridor between Yarrow Street, Bywong Street and EDE.
- Pedestrian safety crossing Campbell Street.

- There needs to safer cycling paths along Yass Road connecting to Pialligo Avenue, particularly the section under the rail bridge and over the narrow Molonglo River bridge.
- Access to the underpass of Ellerton Drive just south of Bungendore Road is poor from the western side.
- No underpass of Edwin Land Parkway for Jerrabomberra community to cross over this road to the shopping centre.
- No pathway in Plan that link to the Poplars Marketplace Development, South Jerrabomberra, the Regional Sports Precinct and the high school and Poplars Business Park.
- The Plan has mapped out actions which appear to be a filling the gaps approach, rather than projecting inspiring, dramatic and accelerated changes to the bike and walkway system.
- There are no changes in the Plan on how anyone can safely cross Kings Highway / Bungendore Road and it needs to be addressed as a priority, in consultation with Roads and Marine Services.
- Safety issues for pedestrians and cyclists on Yass Road, Bungendore Road and Ellerton Drive have not been adequately addressed. There is a need for good connections for bike/shared routes from the future Ellerton Road Extension to East and South Queanbeyan (e.g. connections to Greenleigh, along Bywong Creek down to the Queanbeyan River Suspension bridge).
- Pedestrian and cycle access and safety along Atkinson Street and Morisset Street between Macquoid Street and Waniassa Street, but especially across Bungendore Road.
- There are no changes to pedestrian links in Queanbeyan East in the Plan, even though it is highlighted as an area with poor pedestrian access. Queanbeyan East active travel routes need to be prioritised. The current and planned network of bicycle paths/lanes, footpaths and safe road crossings is inadequate, especially in the vicinity of Queanbeyan East Primary School.
- The streets surrounding Queanbeyan East Primary School have disjointed footpaths with several industrial driveways (e.g. the pedestrian crossings on Thurralilly Street and Mulloon Street do not link well to existing footpaths). The Mulloon Street crossing is poorly marked and the footpath on the southern side of the crossing is sporadic and difficult for parents with prams and scooters to negotiate.
- The walkway from Mulloon Street to Kings Highway along Burra Street is poorly maintained.

The following issues were noted with respect to the QPRC cycling network:

- Widen cycle tracks on Carolyn Jackson Drive, Jerrabomberra.
- There needs to safer cycling paths along Yass Road connecting to Pialligo Avenue, particularly the section under the rail bridge and over the narrow Molonglo River bridge.
- No bicycle facilities within the CBD (with the exception of some short term bicycle parking).
- Existing off-road bicycle network does not uniformly meet relevant standards.
- Existing on-road bicycle network is discontinuous and limited.
- Existing bicycle facilities do not adequately connect to form an overall network of facilities appropriate to the needs of various cyclist user groups.
- Limited wayfinding signage and infrastructure.
- A lack of end of trip facilities (parking, showers / lockers) at key destinations and land uses throughout QPRC.
- A number of significant barriers to cycling, including high volume and speed arterial roads, major signalised and roundabout intersections, with bicycle facilities that terminate on approach to the intersections to accommodate additional turning lanes and/or pinch points to control approaching vehicle speeds.

- These factors all contribute to the low levels of commuter cycling in QPRC. However, it is noted that recreational cycling (for example road cycling or riding with family members on recreational trails) is popular, and reflects the potential for cycling to become a more significant commuter mode of transport in QPRC.

The proposed walk and cycle network master plan for Queanbeyan endeavours to address these and other identified issues where appropriate and is shown in Figure 1. It is important to note that:

- This a strategic network, rather than an itemisation of every route that might ultimately be desired.
- Proposed link types are for master planning purposed and more detailed investigation my results is a different type of facility being more suitable to that location accounting for constraints, services or future development.
- The bicycle and pedestrian facilities plan has a definite timeframe. The networks shown are based on a timescale of about 10 years. It is assumed that the plan will be reviewed every five years.
- Changes in land uses can have large impacts on walking and cycling needs, but not all land use changes that will occur can be predicted and incorporated into the networks.

The proposed works plan for bicycle and pedestrian facilities in Queanbeyan is shown in Figure 2 for high priority works (1 – 4 year time frame). This shows how the works proposed in the path program combine with existing paths, plus the proposed street crossing points and existing crossing places, to create an overall network. In this sense, “existing” also includes those paths that have committed funding (where known).

The estimated cost of works considered high priority (to be built in next 5 years) for Queanbeyan is $2.3M. The priority works includes:

- 4.9 km of new footpaths
- 11.6 km of new shared paths
- 10.2 km of marked mixed use streets
- 1.1 km of new cycle lanes
- five new pedestrian refuges.

In addition, a budget of $6,750 per year is proposed for a kerb ramp replacement program and bicycle parking in Queanbeyan.

A summary of projects and costs is included in Appendix A.

Construction of any works identified in this project will be subject to the availability of funding.

Figure 1: Proposed Queanbeyan walk and bicycle network master plan

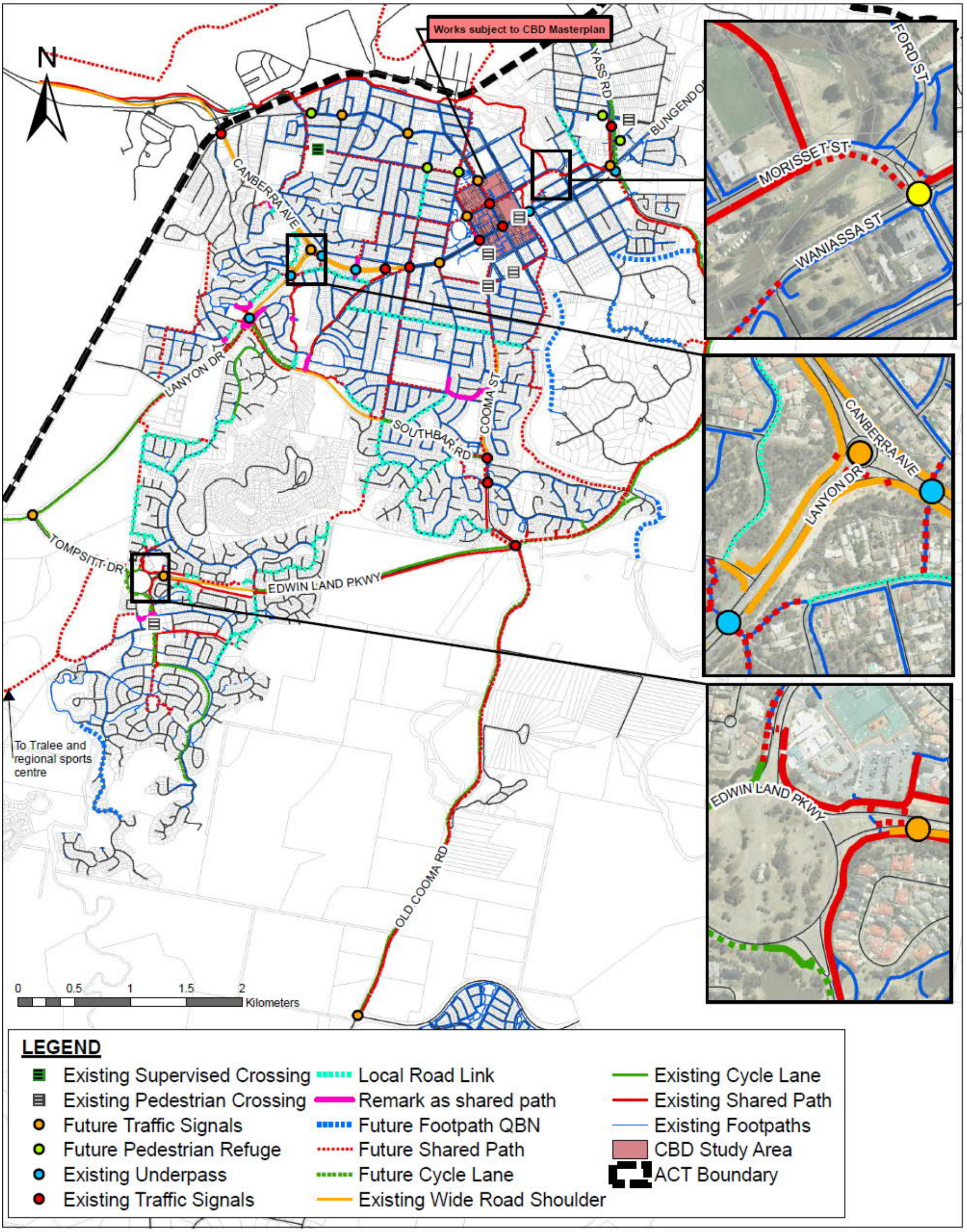
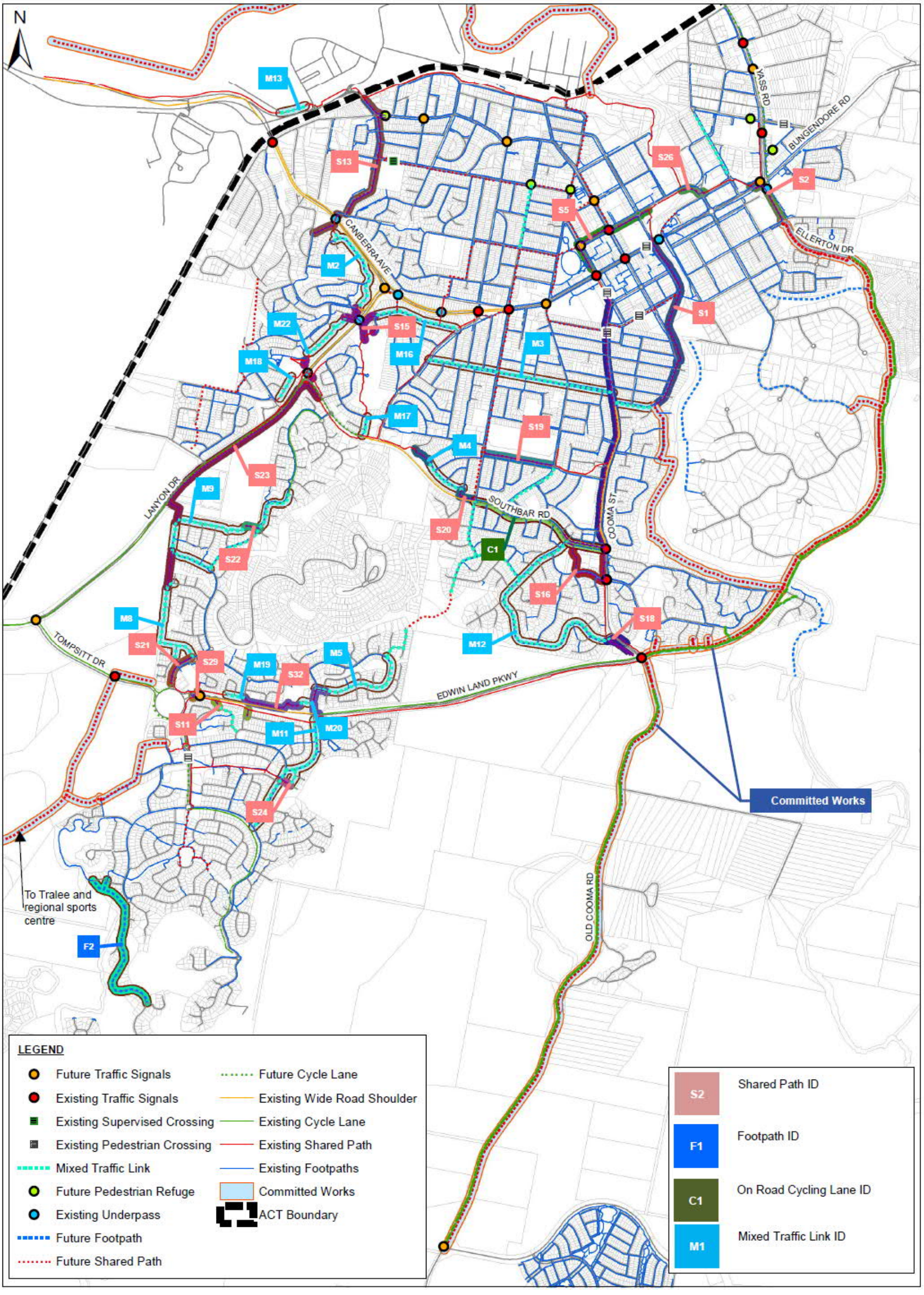


Figure 2: Proposed works plan for Queanbeyan – high priority



1.0 Introduction

1.1 Background

Queanbeyan-Palerang Regional Council (QPRC) has commissioned AECOM Pty Ltd (AECOM) to prepare an Integrated Transport Strategy (ITS) in order to plan for the transport needs of the growing population of Queanbeyan, Bungendore and Braidwood. To meet Council's requirement for the project, AECOM has prepared an integrated bicycle and pedestrian facilities plan for Queanbeyan; there are other similar reports for Bungendore and Braidwood.

The facilities plan will help Council to manage priorities and funding to address the study objectives listed below.

1.2 Study Objectives

The objective of preparing this report is to review and update the bicycle and pedestrian plans developed by Geocon in 2010. More specific objectives are:

1. Facilitate improvements in pedestrian and cycle connectivity and ensure the safe crossing of roads.
2. Facilitate improvements in the level of personal mobility and safety for all members of the community, in particular vulnerable road users, enhancing pedestrian and bicycle infrastructure and facilities.
3. Facilitate the integration of the pedestrian and bicycle network with other transport services.
4. Create an attractive alternative to car travel by providing active transport (walk/bike) links to community facilities including schools, churches, transport interchange, local shops, swimming pools, and sport and recreation facilities.
5. Ensure that pedestrian and bicycle facilities remain appropriate and relevant to the surrounding land use and user groups.
6. Provide a plan showing existing pathways and proposed new pathways.
7. Create an action plan map showing:
    a. existing paths and active transport facilities,
    b. new pedestrian and bicycle routes, and
    c. treatment (e.g., existing sealed road shoulder, shared concrete path).

1.3 Process

There are three key stages to this project:

1. Setting objectives and data collection. This included:
    a. Technical Analysis – AECOM utilised the geographical and spatial capabilities of GIS modelling software in order to undertake an analysis of the available transport data for Queanbeyan. The analysis consisted of analysing traffic volumes, crash statistics, existing facilities and existing and planned paths.
    b. Site Visits – In conjunction with the community consultation workshops Queanbeyan was visited on a number of occasions throughout the project.
    c. Community Consultation – Residents of Queanbeyan were invited to a drop-in information session where they were able to identify issues and opportunities associated with the pedestrian or cyclist networks.
2. Draft action plan and draft report. This has included the development of routes, works priorities and estimated implementation costs. This was reviewed as part of a second round of community consultation.

3. Final action plan and report. The plan and report was finalised following the second round of community consultation.

Key steps in developing this strategy were to:

- Identify a functional network for walking and cycling. This is intended to create a practical network for pedestrians and cyclists, best serving the needs of the local community.
- Identify routes to service different users of the networks using a catchment analysis for seniors, school, shopping and recreation.
- Prioritise routes and works into an action plan.

The final outcome of this element of the project is the development of a strategy plan for walking and cycling in Queanbeyan, as represented by the action plan and implementation later in this report.

Figure 3 shows the key tasks undertaken for completing the bicycle and pedestrian facilities plan

1.4 Study Area

The study area for Queanbeyan is shown in Figure 4.

1.5 Structure of Report

The structure of this report is as follows:

- Section 2 outlines the characteristics of the study area, including land use, transport movements and crashes
- Section 3 summarises the outcomes of stakeholder and community consultation carried out to date
- Section 4 outlines details of relevant policies, programmes and planning principles
- Section 5 presents the pedestrian and bicycle network master plan and a catchment analysis for key user groups
- Section 6 describes the bicycle and pedestrian route priority strategy and implementation plan, including estimated costing of works
- Section 7 outlines the implementation and monitoring of the bicycle and pedestrian facilities plan.

Appendix A provides a schedule of works of projects that form part of the plan.

Figure 3: Key tasks for completing a bicycle and pedestrian facilities plan

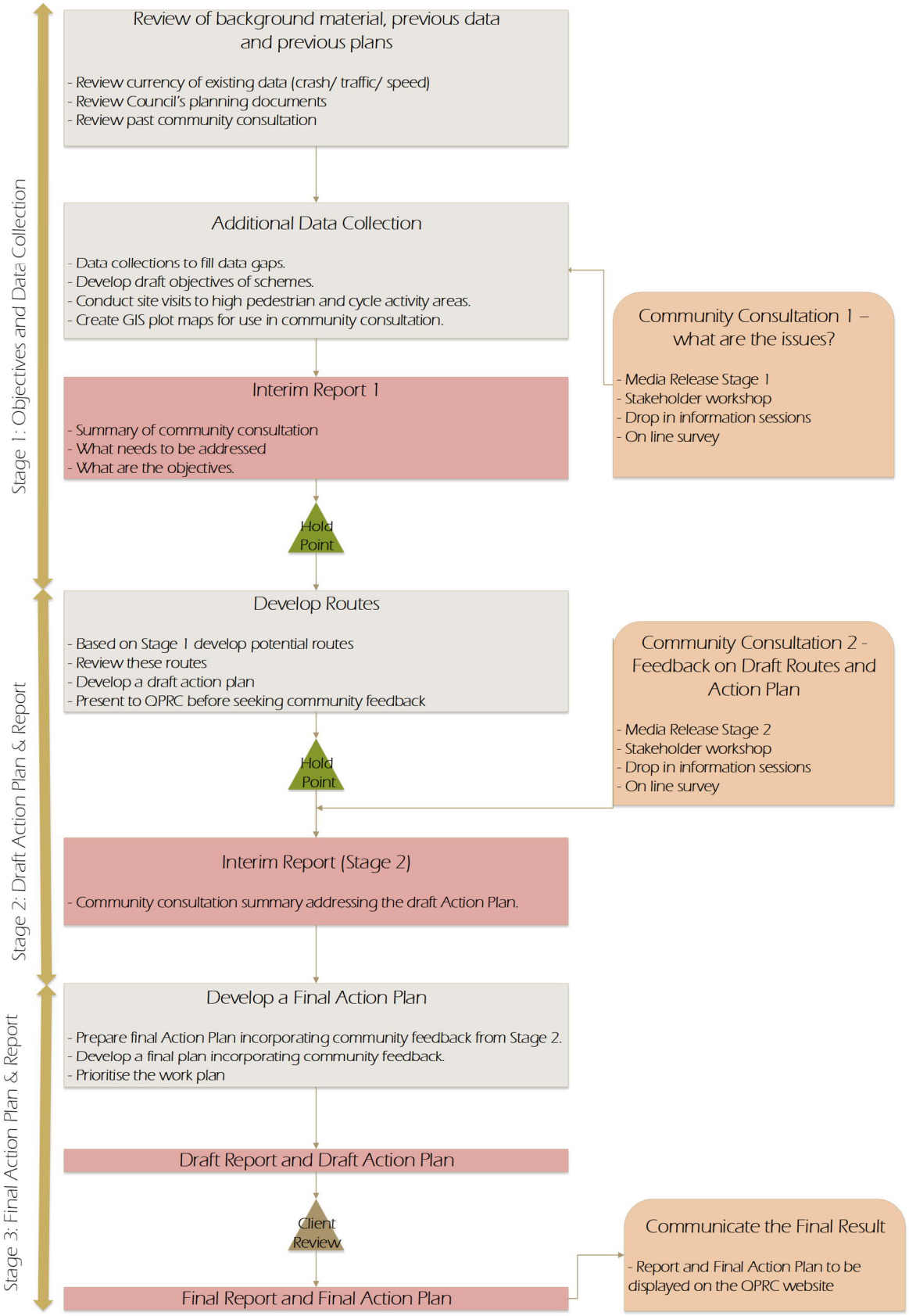
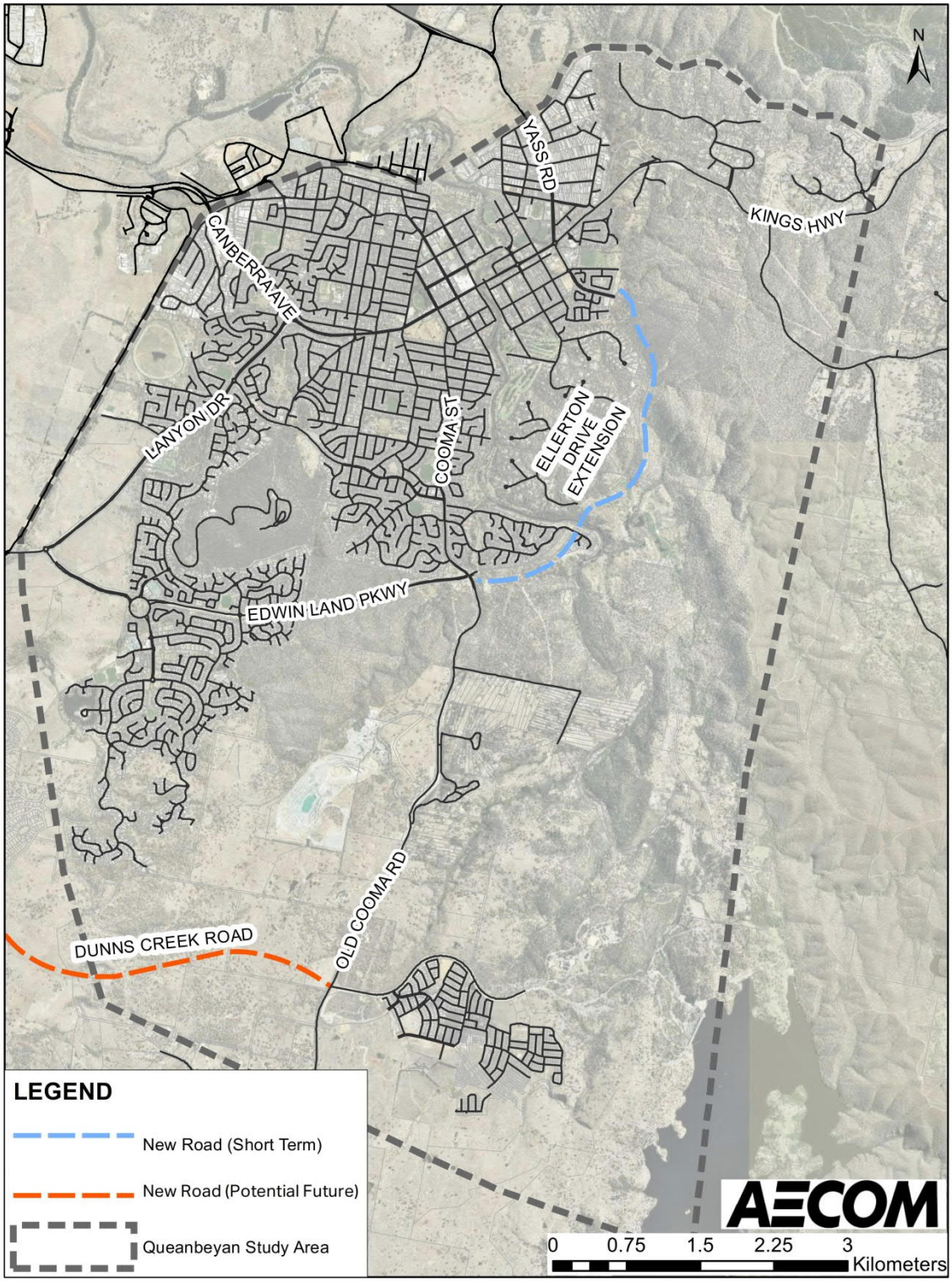


Figure 4: Queanbeyan study area



2.0 Characteristics of the Study Area

2.1 Land Use

2.1.1 Queanbeyan population

Queanbeyan is located next to the ACT and in the Southern Tablelands region. It is of importance due to its function as a regional service centre and its proximity to the ACT.

The estimated population in the Queanbeyan urban area was approximately 38,000 people in the 2016 census. By 2036 it is expected to grow to approximately 57,000 people, with a majority of this growth occurring in Googong (QPRC website, September 2017).

Seniors and the elderly (people in the age group 70+) make up approximately 7% of the population in Queanbeyan (QPRC website, September 2017). An aging population is important when considering disability, which include limits to mobility and impediments in vision and hearing.

2.1.2 Pedestrian and cyclist trip generators and attractors

The locations of cyclist attractors and generators are shown in Figure 5. Queanbeyan currently has existing cyclist infrastructure and attractions which generate cyclist activity. The major generators and attractors for Queanbeyan include:

- Educational institutions (primary and secondary schools and TAFE)
- Shopping and commercial centres
- Community centres
- Recreational facilities
- Caravan parks.

The locations of pedestrian attractors and generators are shown in Figure 5. The largest generators of pedestrian movement include schools, shops, clubs, aged housing and medical facilities.

There are six primary schools in Queanbeyan and three secondary schools, in addition to a new primary school in Googong. The schools are likely to generate pedestrian activity from surrounding residential areas and attract many bus trips.

The CBD is a major attractor for residents and visitors to Queanbeyan and has the majority of commercial and retail activity in the urban area. The swimming pool, sports fields and other open spaces are attractors particularly for youth. Community facilities such as the Civic Centre, community centres, clubs are significant attractors for seniors.

2.1.3 Future land use changes

Recent traffic modelling of Queanbeyan and region by TDG (2014) assumed that the Queanbeyan population will grow by about 3% per annum over the next 15 years (i.e. to about 55,000 by 2031). Most of this population growth is expected to occur in Googong (about 48% of growth) and South Jerrabomberra (about 29% of growth).

The modelling also assumed a significant amount of jobs growth in Queanbeyan, by almost 6% per annum over the next 15 years; almost doubling the current number of jobs. Most of this job growth is expected to occur in South Jerrabomberra (about 60% of growth). If achieved, it will have a noticeable effect on current commuter travel patterns.

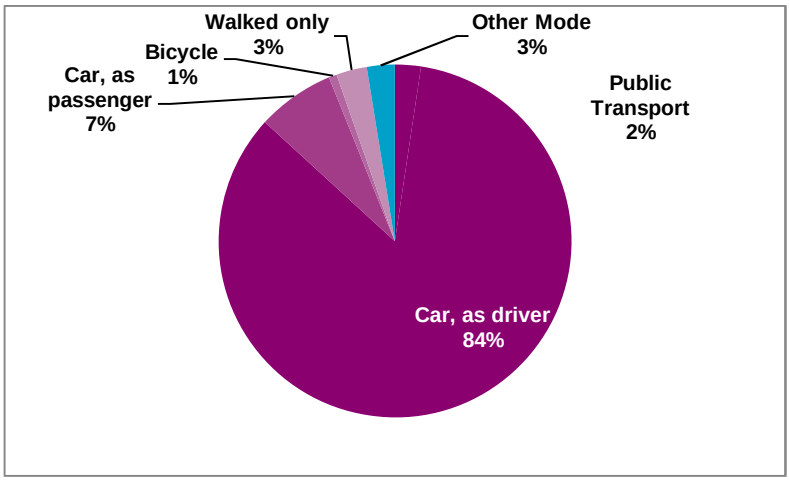
Figure 5: Queanbeyan pedestrian and bicycle key generators, attractors and facilities

2.2 Transport Movements

2.2.1 Mode use

Figure 6 shows mode use splits that were recorded using the 2016 Journey to Work census data for Queanbeyan. It shows that public transport use is small (about 2%) and that car is the main mode of transport to work.

Figure 6: 2016 Census journey to work mode use in Queanbeyan



The use of bicycle for work trips in Queanbeyan is 1%, probably reflecting a lack of bicycle facilities. Walk trips make up a reasonable proportion of trips (3%) and are an important mode of travel.

2.2.2 Road hierarchy, traffic volumes and speeds

The current road hierarchy of arterial, collector and local roads is shown in Figure 7. The road hierarchy generally represents expected traffic volumes, travel speeds and hence the type of pedestrian facilities which are appropriate for the various road categories. In Queanbeyan, the industrial road classification indicates where a larger number of heavy vehicles are expected.

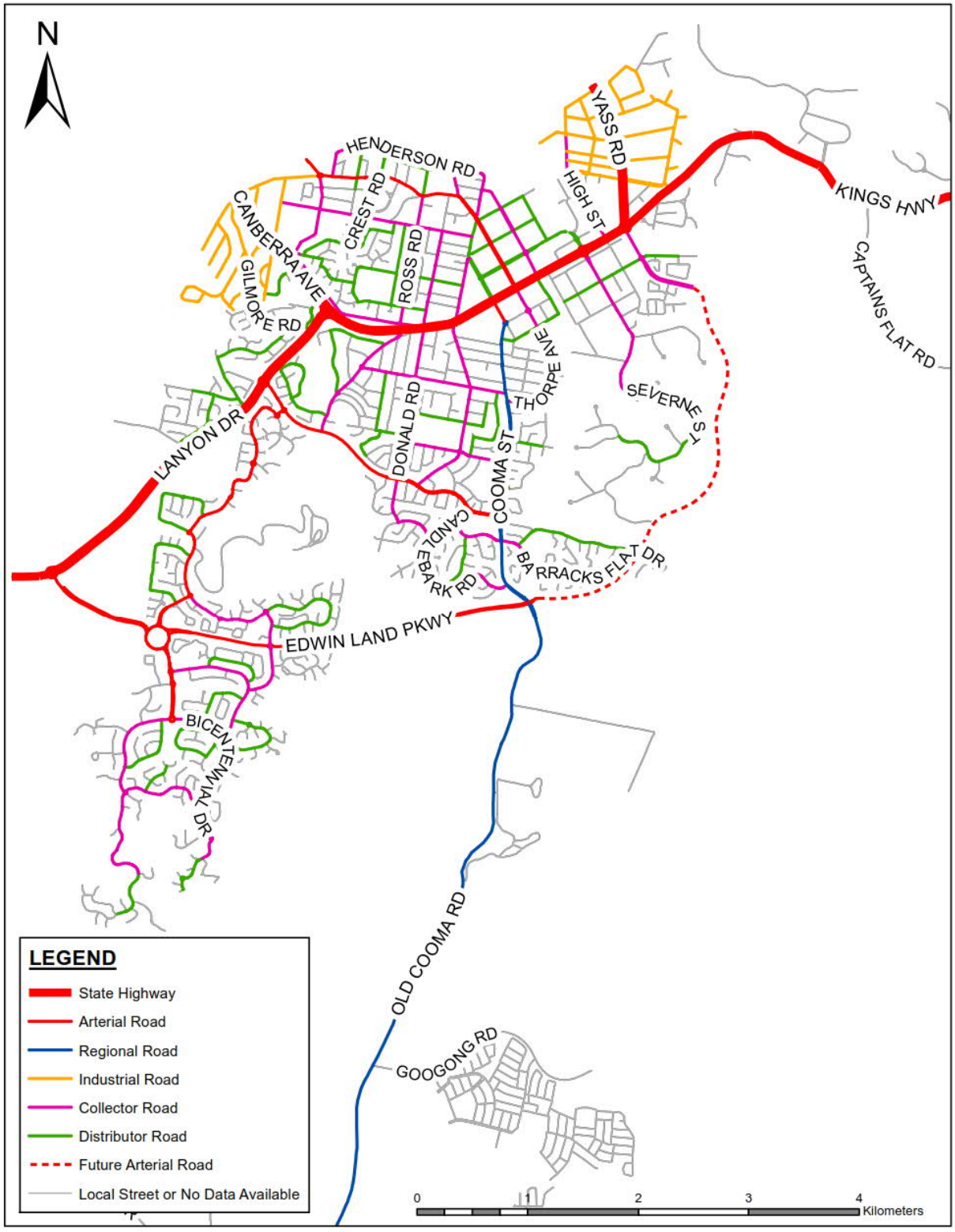
The 4.6 km Ellerton Drive extension (EDE) provides an alternative route around the Central Business District and connects east and west Queanbeyan to the new southern population growth areas. EDE runs from the current end point of Ellerton Drive, near Yass Road/Bungendore Road, in Queanbeyan East to the Old Cooma Road / Edwin Land Parkway intersection in Karabar.

The objective of EDE is to retain a minimum Level of Service (LOS) D on Cooma Street, Queens Bridge and Monaro Street, and reduce heavy vehicle movements and traffic congestion in the Queanbeyan city centre. Monaro Street would become a more pedestrian friendly environment enabling further civic and inner city improvements.

Results of recent traffic counts in vehicles per day in Queanbeyan are shown in Figure 8 and posted speed limits across the Queanbeyan road system is shown in Figure 9. Posted speed limits on Council roads have evolved and been refined over time and appear to be generally appropriate for the network. The 40 km/h speed limits are only applicable during student arrival and departure times on school days.

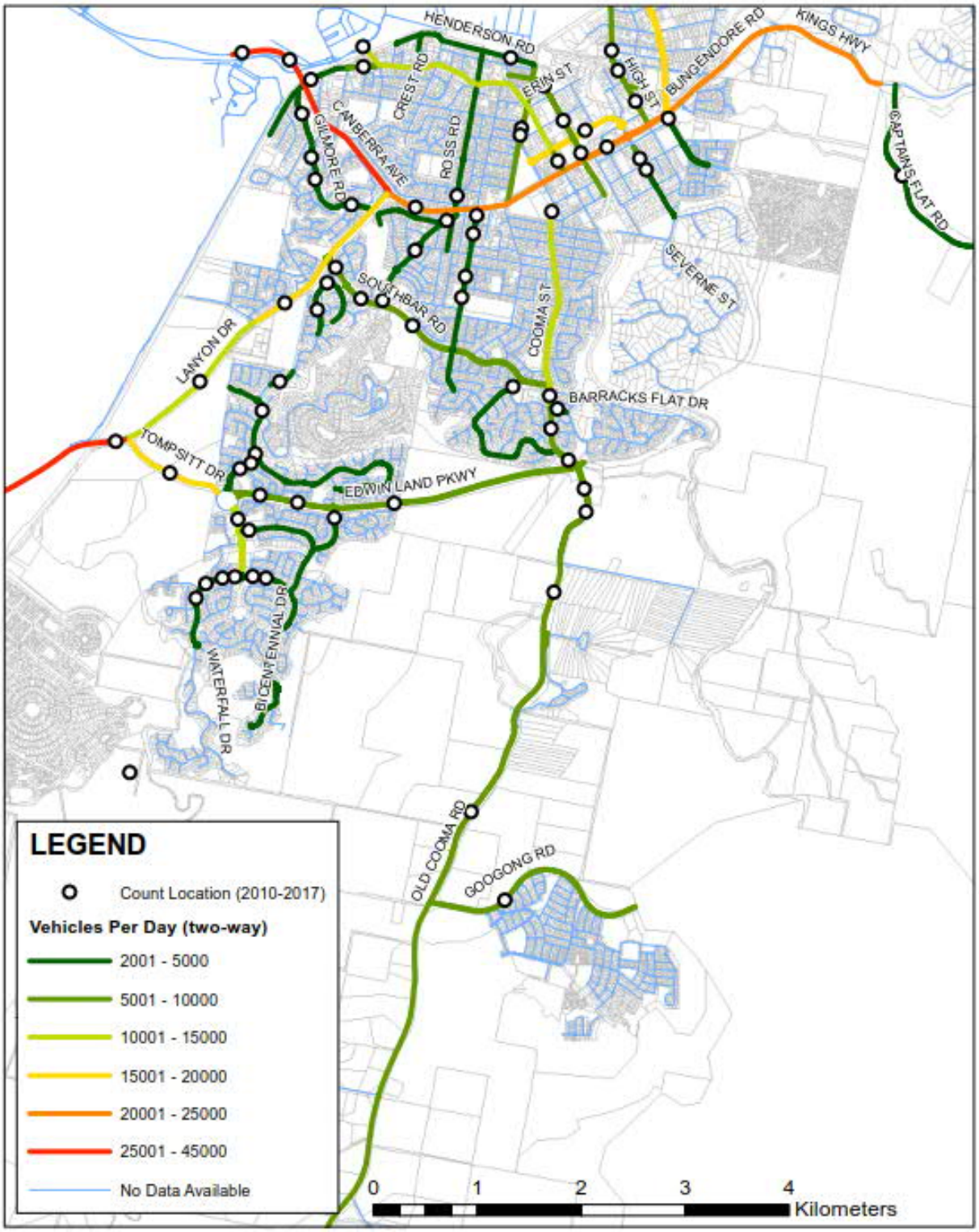
Figure 10 indicates the difference between the 85th percentile measured speed and posted speed limit. There are some notable non-compliance areas such as Gilmore Road and Old Cooma Road. Caroline Jackson Drive is also displaying some speed non-compliance, due to its connectivity to Southbar Road. A connection to Lanyon Drive could alleviate some of this speeding. Googong Road has no urban friction to encourage speed limit compliance since its speed limit reduction from prior to the Googong subdivision commencing.

Figure 7: Queanbeyan road hierarchy



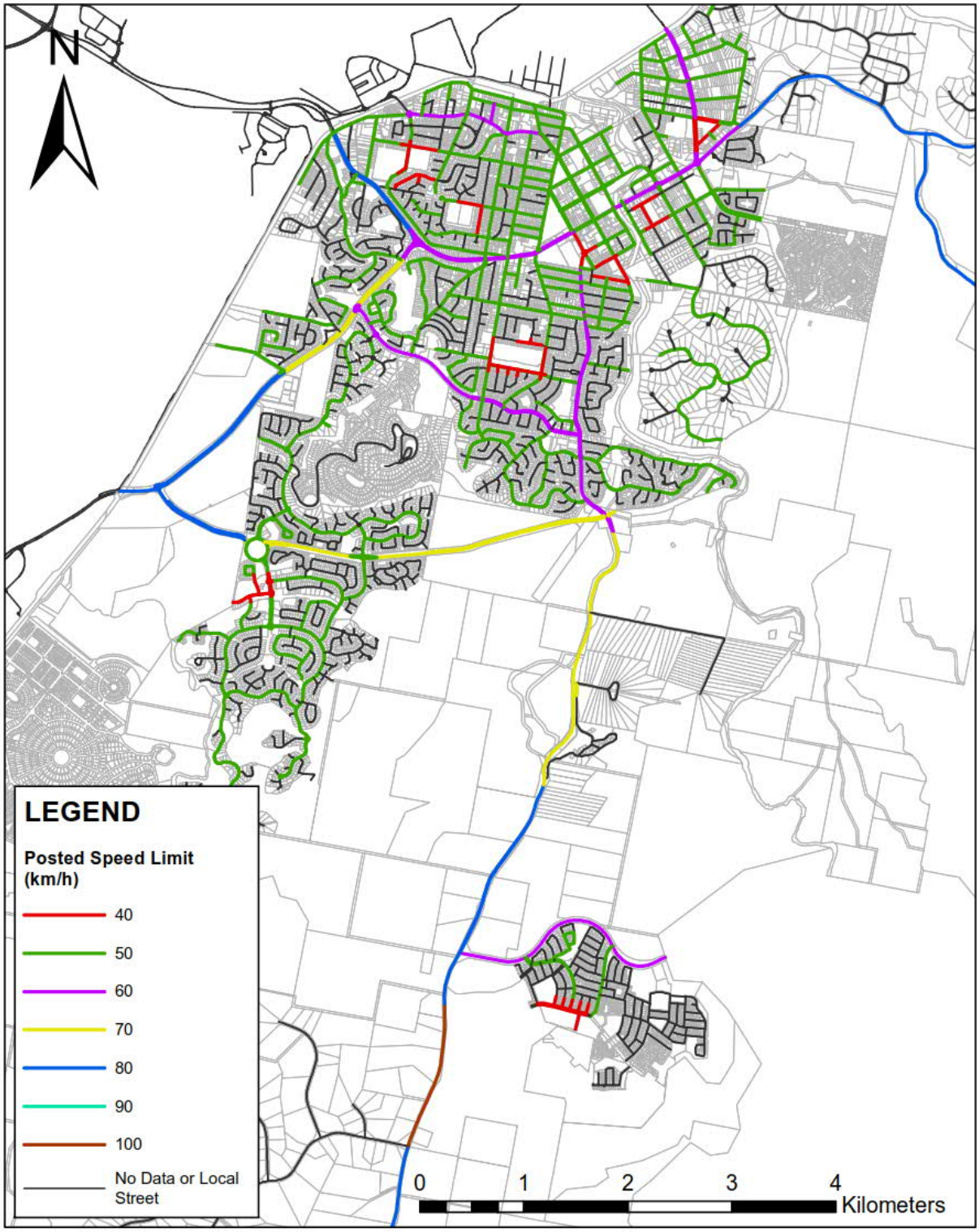
Source: AECOM (June 2017)

Figure 8: Queanbeyan daily traffic volumes



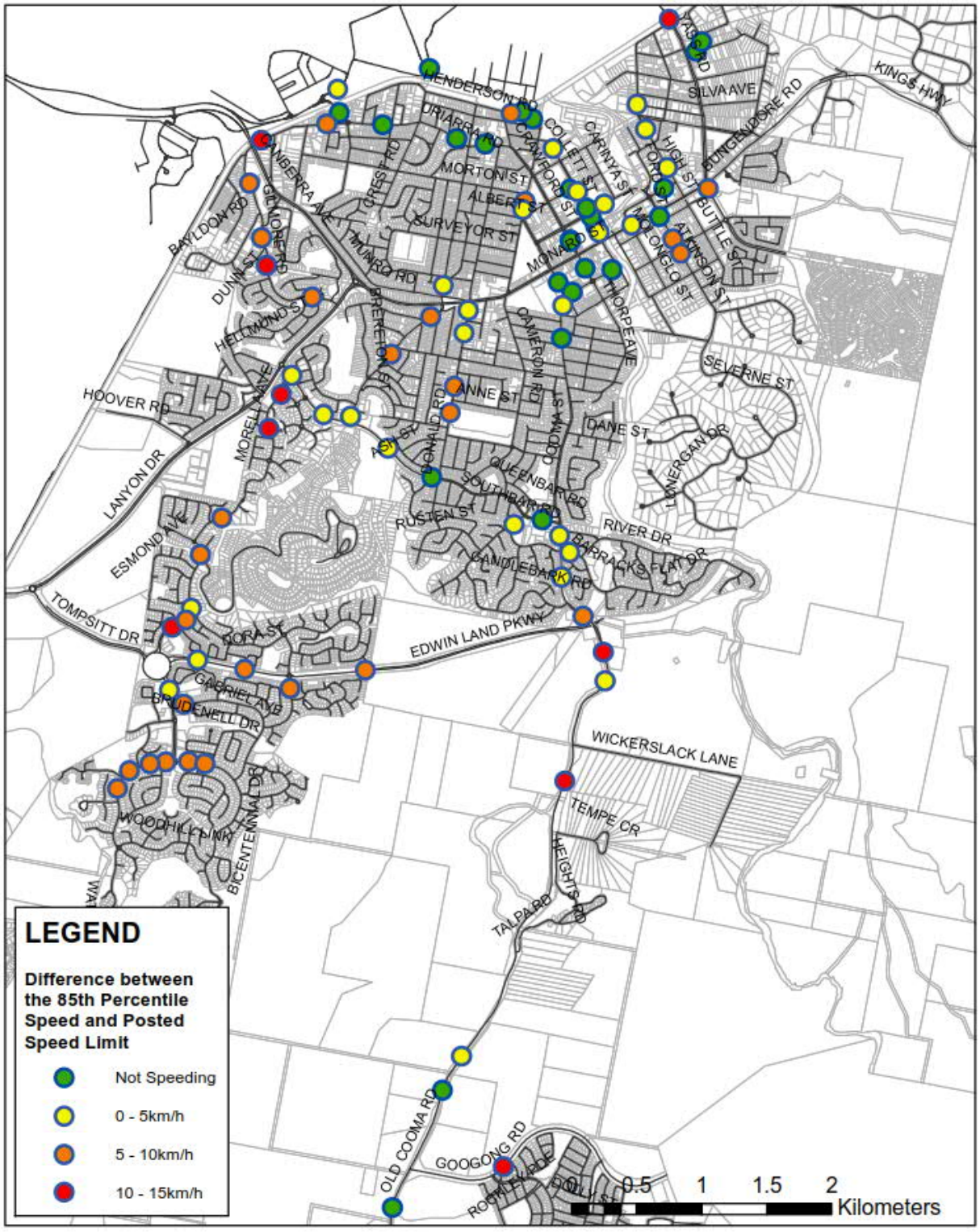
Source: QPRC data base (May 2017)

Figure 9: Posted speed limits in Queanbeyan



Source: QPRC data base (May 2017)

Figure 10: Difference between 85th percentile and posted speeds



Source: QPRC data base (May 2017)

2.2.3 Public transport

Queanbeyan is serviced by the following public transport:

- QCity urban bus network
- ACTION (from the Canberra Outlet Centre park and ride car park at Fyshwick, ACT)
- Countrylink Train (Bungendore – Queanbeyan – Kingston) and coaches
- Regional Coach Services (some via Canberra and Batemans Bay)
- Valmar community transport
- Taxis
- Uber (often from Canberra)
- Airlines (via Canberra Airport).

All inter-town bus routes in Queanbeyan meet at the interchange in Collett Street. Currently, there are no means to transport bicycles on buses in Queanbeyan, as RMS consider bicycle racks on buses a safety hazard. A recent upgrade of the Queanbeyan Bus interchange included the installation of a bike cage and bike parking.

2.2.3.1 QCity Transit

The current Queanbeyan Bus Network Map is shown in Figure 11 and Figure 12. There are four QCity public transport services that cross into the ACT which include two services that terminate at Canberra City. The remaining two services terminate at Woden Interchange and Brindabella Business Park.

QCity Transit and Transborder buses also cover school routes in Queanbeyan, Yass and Canberra. In addition, a Bungendore Demand Responsive Service is available. Importantly, a LocalLink service is offered to the mobility impaired. After completing its designated route, the service picks people up from pre-booked locations and travels into the Queanbeyan CBD.

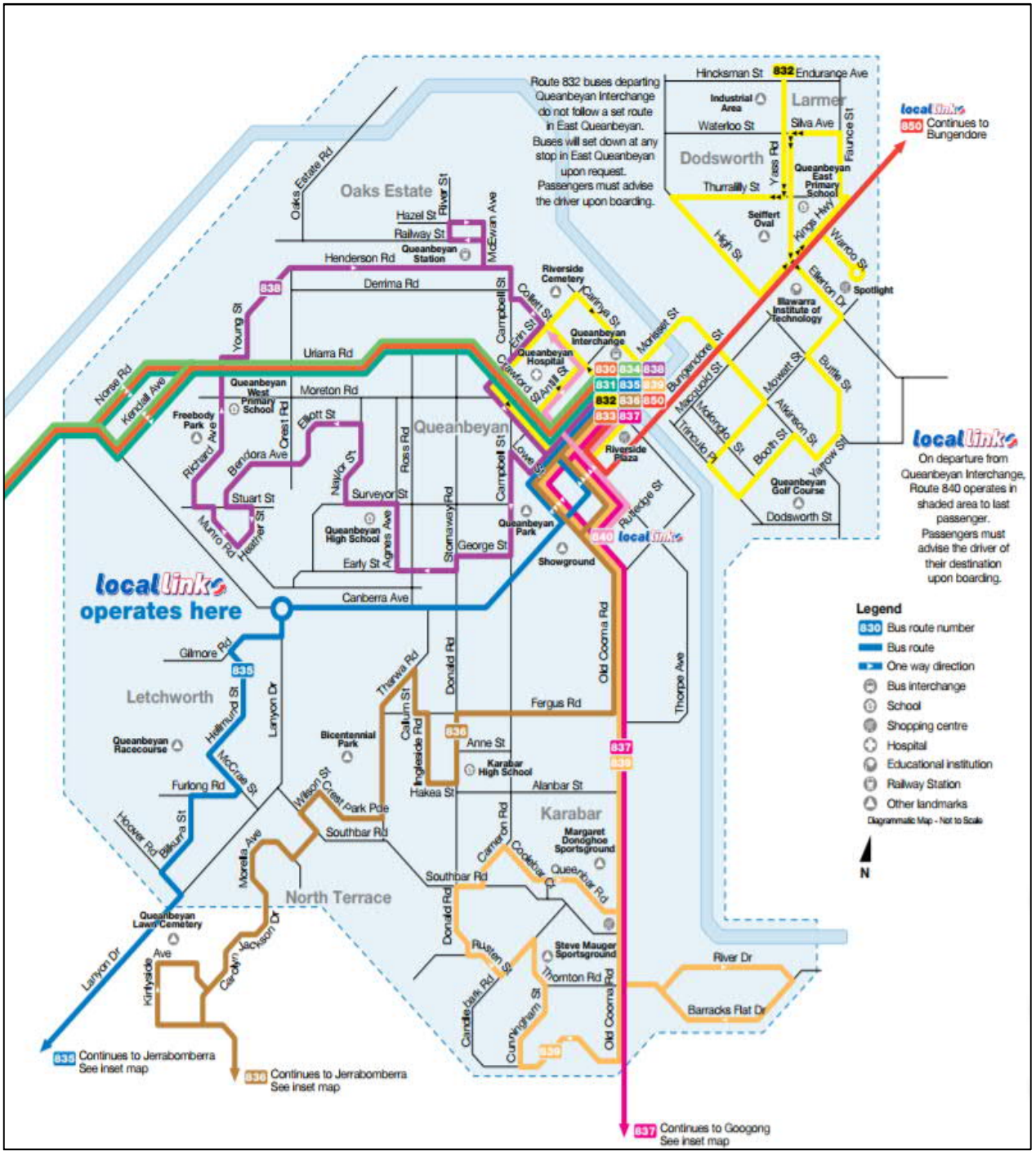
Plans have been developed and funding is available to upgrade the existing Queanbeyan interchange. The primary purpose of the upgrade is to improve pedestrian safety at the interchange.

A design has been created by QPRC (2017) to implement upgrades at the bus interchange to improve pedestrian safety, driver safety and the pedestrian waiting area.

The proposed upgrade would see the following changes at the bus interchange:

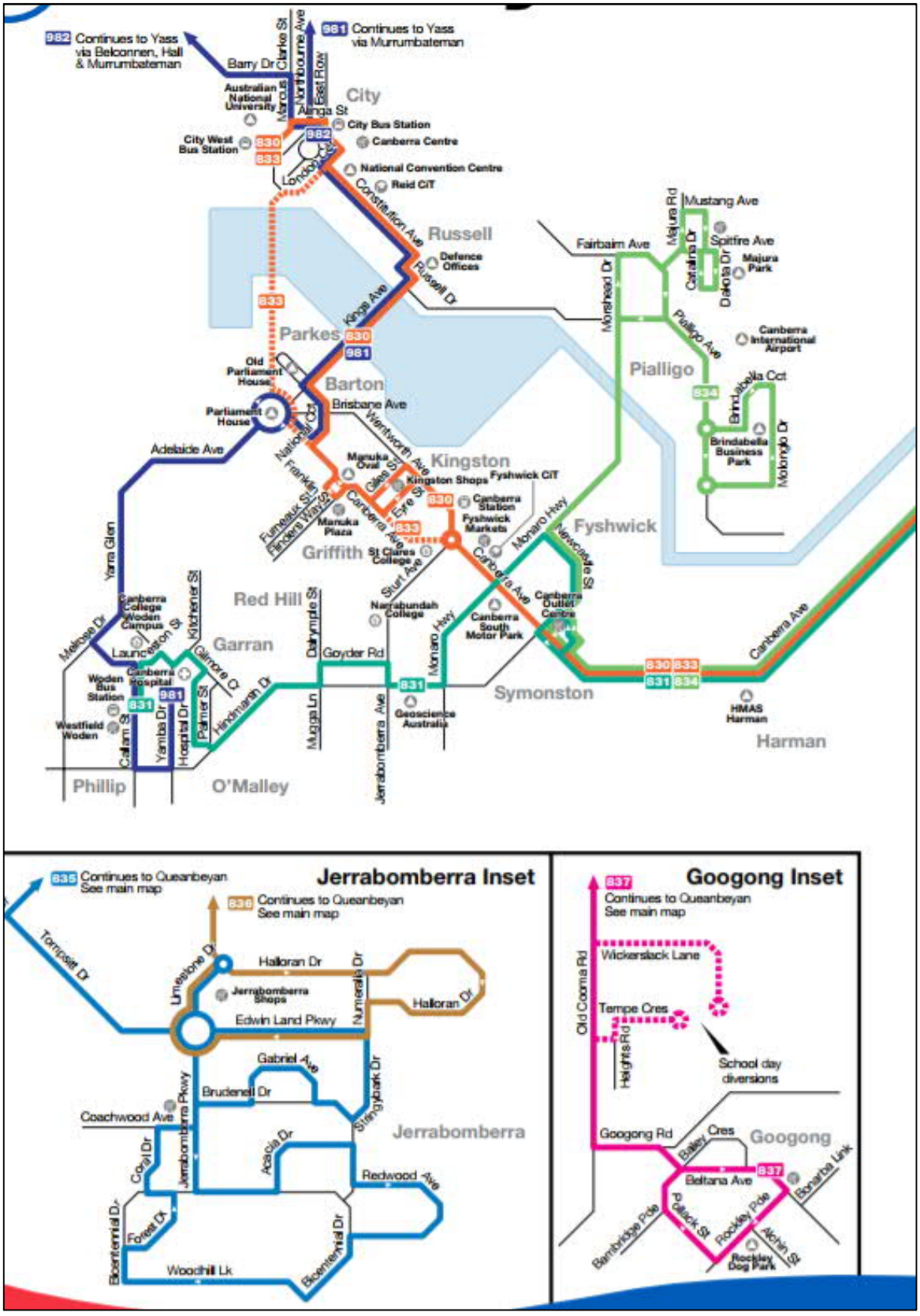
- Pedestrian fencing installed along the length of the car park separating the car parking bays from the ‘Bus Only’ road area and directing pedestrians to crossing facilities
- Pedestrian fencing extending at the end of Bus Stand 2 to wrap around the end of the stand
- New pedestrian (zebra) crossing facility installed to link pedestrian facilities with the new fencing
- Relocation of the vehicle entrance to the car parking bays with additional directional signage
- Relocation of disability parking bays and installation of new kerbing and bollards
- Wind protection installed for lengths on the northern and southern bus stands.

Figure 11: QCity Queanbeyan bus services



Source: QCityTransit (September 2017)

Figure 12: QCity Canberra, Jerrabomberra and Googong bus services



Source: QCityTransit (September 2017)

2.2.4 Pedestrian and cyclist facilities

Figure 13 illustrates the location of existing pedestrian and cyclist facilities in Queanbeyan. Pedestrian signals and zebra crossings offer the highest level of crossing safety on arterial roads. Currently, there are no cyclist crossing facilities in Queanbeyan offered by traffic signals.

There is on-road and off-road shared path route in the north-west of Queanbeyan that continues into the ACT along Canberra Avenue. This is possibly the best bicycle connection that exists in Queanbeyan, which has a limited system of shared paths or cycle lanes.

2.2.5 Route usage

A heat map provided by Strava for riding and running trips can be used to help create an understanding of cyclist and pedestrian movements within Queanbeyan. The maps also highlight routes that may benefit from cyclist and pedestrian network improvements – see Figure 14 (for riding) and Figure 15 (for running).

2.3 Crashes

2.3.1 Cyclist crashes

From the period between 2012 and 2016, there were 16 recorded crashes involving cyclists in Queanbeyan. All of these crashes were minor to moderate injury crashes and with no fatalities.

The location of cyclist crashes is illustrated in Figure 16. These crashes are generally scattered around the CBD and north-west Queanbeyan.

Table 1 shows that eleven out of the thirteen recorded crashes in the 2012-2016 study period occurred on the carriageway. The cyclist crash data from indicates that a number of cyclists involved in crashes are adults (69%), in the facility user group age range 26 to 59 years old.

Table 1: Number of crashes by cyclist manoeuvre code

Cyclist Manoeuvre Code	10	13	21	25	27	29
Number of Crashes	11	1	1	1	1	1

Note: The type of crashes cyclists were involved in have been summarised with reference to the manoeuvre codes based in the CrashLink Reporting System Data Manual (2015). The relevant codes from the manual are listed in .

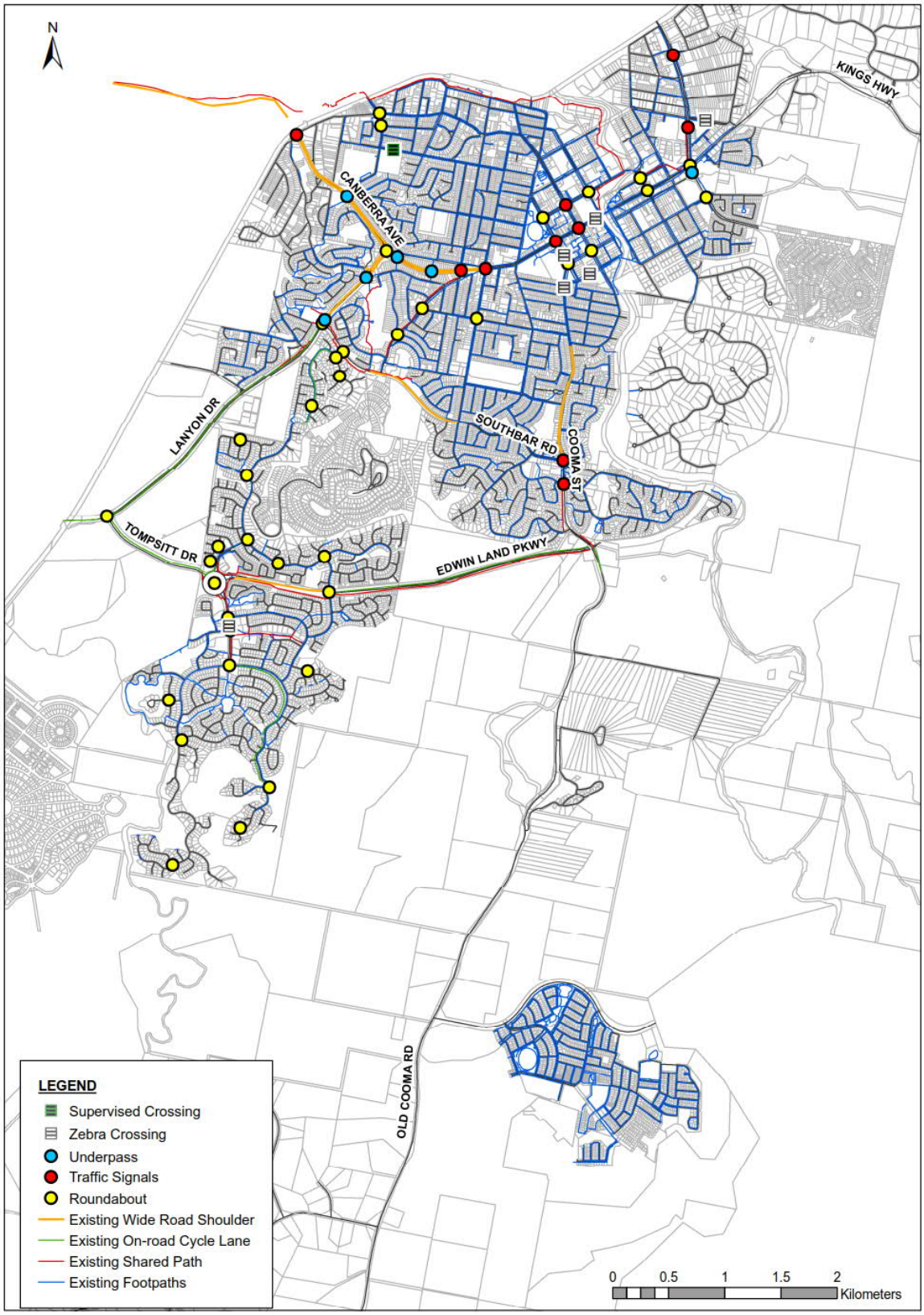
Table 2: Number of crashes by cyclist Facility User Group age

FUG	0-4	5-8	9-11	12-17	18-25	26-59	60+	Total
Number of Crashes	0	0	0	1	1	11	3	**16**
% of Population	0%	0%	0%	6%	6%	69%	19%	**100%**

Table 3: Manoeuvre code - cyclists

Code Number	Description
10	Proceeding along lane (on either straight or curved carriageway)
13	Veering to left to change to a lane moving in the same direction
21	Turning left out of own lane
25	Entering carriageway from driveway (forward or unspecified)
27	Moving along footpath
29	Performing other / unspecified forward manoeuvre

Figure 13: Queanbeyan existing street map and pathways



Note: Current as of December 2017

Figure 14: Queanbeyan Strava heat map – riding

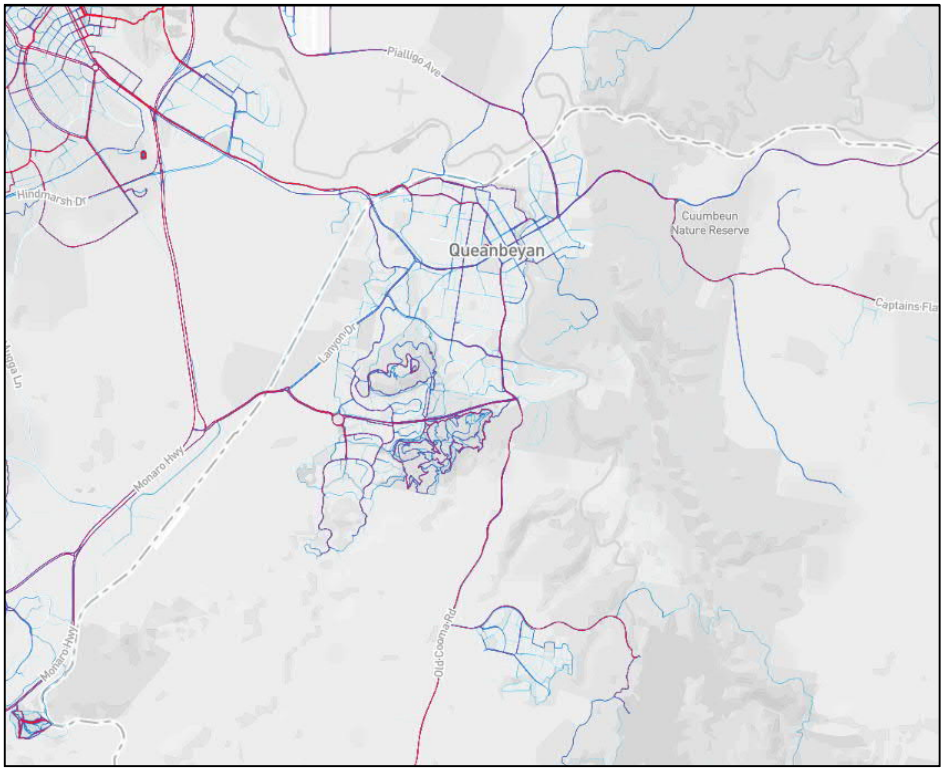
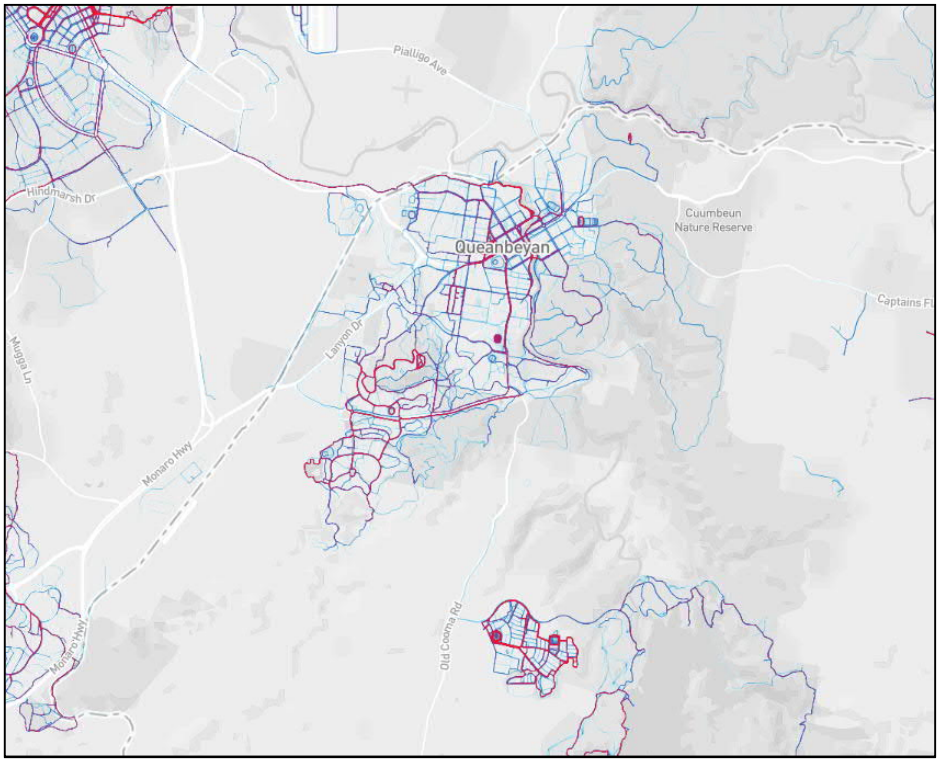
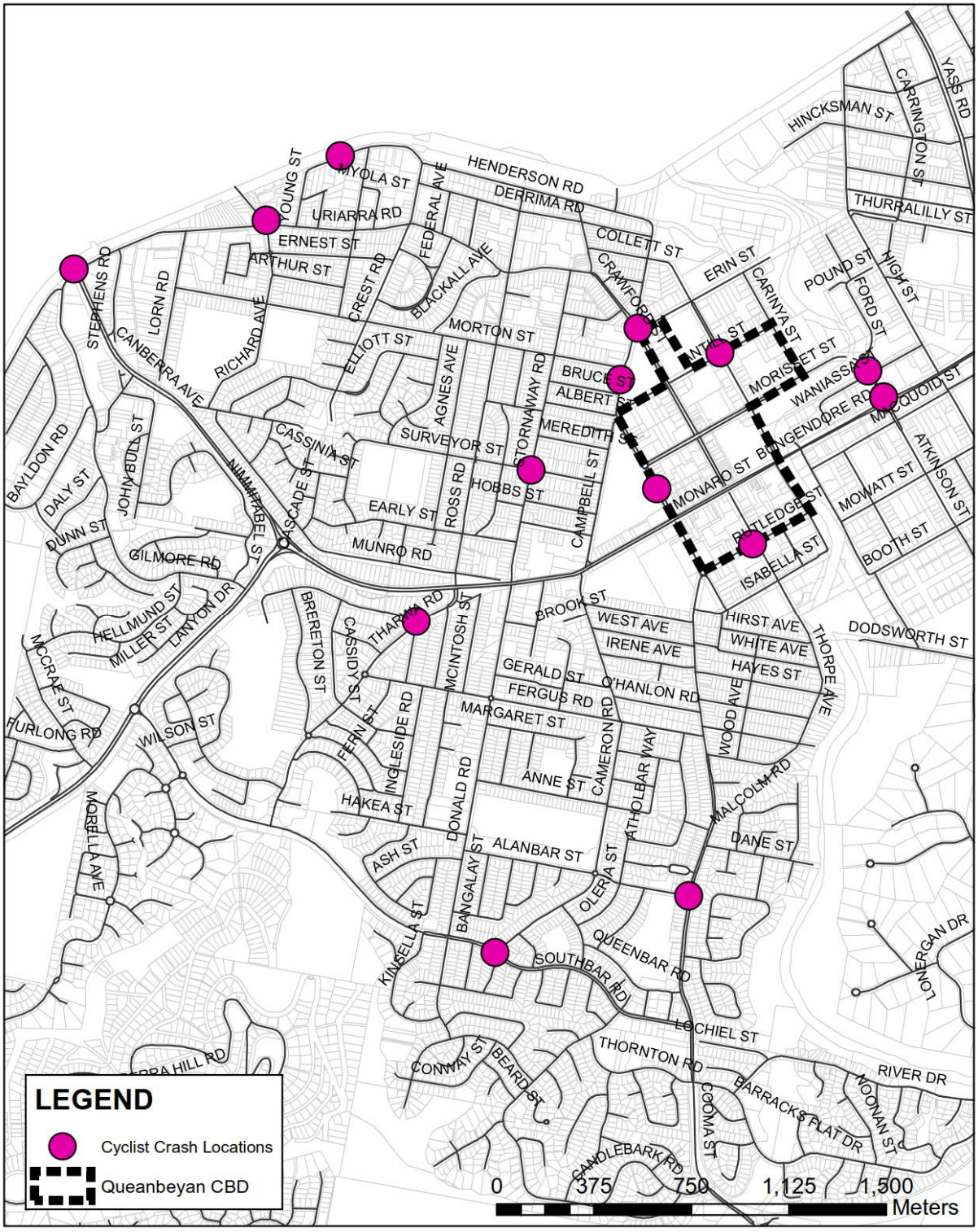


Figure 15: Queanbeyan Strava heat map – running



Source: Strava Heat Maps (Accessed June 2018)

Figure 16: Queanbeyan cycle crash locations



2.3.2 Pedestrian crashes

From the period between 2012 and 2016, there were 16 recorded crashes involving pedestrians in Queanbeyan. Most of these crashes were minor to moderate injury crashes and with one crash resulting in a fatality.

Locations of pedestrian crashes are illustrated in Figure 17. The majority have occurred on Monaro Street and Canberra Avenue in or close to Queanbeyan CBD, with one crash on Monaro Street involving a fatality.

Table 4 and Table 5 details profiles of the pedestrians involved in crashes. It is evident from Table 4 that a significant number of the crashes during the 2012-2016 study period occurred on the carriageway. Data from Table 5 shows that the majority of crash-involved pedestrians (44%) are adults, in the facility user group age range 26 to 59 years old.

Table 4: Number of crashes by pedestrian manoeuvre code

Pedestrian Manoeuvre Code	40	41	42	45	47	48	50	53
Number of Crashes	5	2	2	1	2	1	1	2

Note: The type of crashes pedestrians were involved in have been summarised with reference to the manoeuvre codes based in the CrashLink Reporting System Data Manual (2015). The relevant codes from the manual are listed in Table 6.

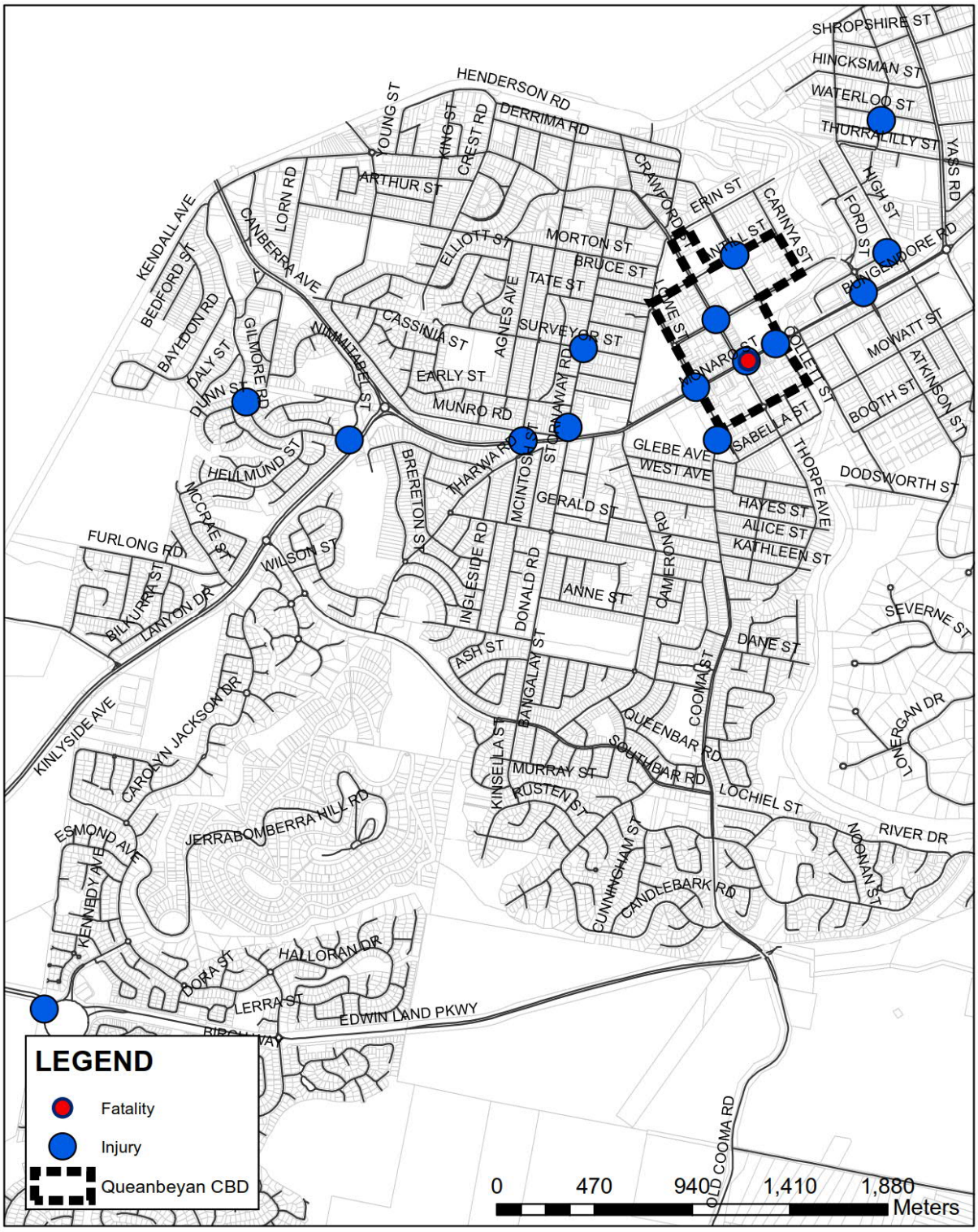
Table 5: Number of crashes by pedestrian Facility User Group age

FUG	0-4	5-8	9-11	12-17	18-25	26-59	60+	Total
Number of Crashes	0	0	1	5	1	7	2	**16**
% of Population	0%	0%	6%	31%	6%	44%	13%	**100%**

Table 6: Manoeuvre code - pedestrians

Code Number	Description
40	Pedestrian walking across carriageway
41	Pedestrian running across carriageway
42	Pedestrian standing still on carriageway
45	Pedestrian walking on vehicle on carriageway
47	Pedestrian in / on toy vehicle on carriageway
48	Pedestrian moving along edge of carriageway with traffic
50	Pedestrian stepping off / onto kerb
53	Pedestrian on skateboard / roller skates or blades

Figure 17: Queanbeyan pedestrian crash locations



Source: RMS data base (2012-2016)

3.0 Community Consultation

There have been three rounds of consultation on this project that have been considered in developing the Action Plan and Implementation Plan for bicycle and pedestrian facilities in Queanbeyan, as follows:

1. Setting context and identifying issues, as part of Stage 1 consultation.
2. Developing a draft action plan, implementation plan and report for comment as part of Stage 2 consultation.
3. Developing a draft action plan, implementation plan and report for public exhibition and comment (Stage 3).

An outline of the consultation processes and outcomes to date follows. More details are given in the project consultation reports.

3.1 Stage 1 Consultation

Activities and tools implemented in Stage 1 included:

- A stakeholder workshop to discuss the vision and objectives of the Integrated Transport Strategy (ITS) and key issues, barriers, needs, gaps and opportunities.
- A community survey to collect people's feedback.
- Information sessions held at venues in Queanbeyan during the week commencing 20 June 2017.
- Letter to key stakeholders with information attached informing them of the project, consultation process and feedback opportunities.
- Posters displayed at each of the public information sessions with background information about the project and analyses to date.
- Feedback sheets available at the public information sessions for attendees to write down their thoughts and ideas about transport in the region.
- Text for the QPRC website about the consultation process.
- Email and phone feedback available through transportstrategy@qprc.nsw.gov.au .
- QPRC Communications, Media and Public relations drafted a media release with help from AECOM to inform people about the consultation.

Stage 1 feedback was collected in June 2017 from residents in Queanbeyan. This included a stakeholder workshop, community information sessions and surveys. 53 survey responses from residents in the Queanbeyan region and feedback received by both phone and email. Six people attended the pedestrian information session in Queanbeyan, whilst three people attended the cycling information session including one representative from the Queanbeyan Bicycle User Group.

The key issues for pedestrians and cyclists arising from the Stage 1 consultation in Queanbeyan were:

- The importance of building and encouraging healthy communities especially through active transport options. For example, bicycle carriages on buses and trains and bicycle racks outside key points of interest within the city centre.
- The importance of safety and security of people who are crossing the road.
- Improved pedestrian and cyclist crossings especially pram ramps and near schools and child care centres.
- Need for surface upgrades including roadways, footpaths and cycle ways which in many areas are 'poor and uneven'.
- Improved connectivity between different regions especially to and from the city centre including cycling and walking tracks to and from the city centre and along the riverbank.

3.2 Stage 2 Consultation

A Stage 2 Stakeholder Workshop was held on Tuesday 29 August 2017 in Queanbeyan. Attendees included representatives from AECOM, QPRC, Googong Residents Association, TfNSW, QCity Transit, QueanBUG and ACT Government.

Stakeholders were asked to provide feedback on strategic response statements that were developed to address key issues of concern arising from the Stage 1 consultation. In addition, stakeholders were asked to provide comments and identify priorities on the Action Plan Maps that were developed from feedback from Stage 1 consultation.

Key pedestrian and bicycle related issues for Queanbeyan arising from the Stage 2 workshop were:

1. Identifying targets to promote active travel use and facilitate participation.
2. Integration of cross-border public transport network and pedestrian and cycle facilities.

Some changes to the Draft Action Plan Maps were identified during the workshop, to be addressed prior to the Stage 2 community consultation.

Activities and tools implemented in Stage 2 included:

- A community survey to collect people's feedback.
- A total of four Information sessions held at venues in Braidwood during the week commencing 4 December 2017.
- Posters displayed at each of the public information sessions with background information about the project and analyses to date.
- Feedback sheets available at the information sessions for attendees to write down their thoughts and ideas about transport in the region.
- Text for the QPRC website about the consultation process.
- Email and phone feedback available through transportstrategy@qprc.nsw.gov.au.
- QPRC Communications, Media and Public relations drafted a media release with help from AECOM to inform people about the consultation.

The primary feedback from this consultation with regards active travel was as follows:

- Extend the footpath that runs to White Rocks near the river. White Rocks is a popular place for people to swim.
- Widen cycle tracks on Carolyn Jackson Drive, Jerrabomberra.
- Install a pedestrian crossing near Stornaway Road.
- Additional footpaths for children to walk and ride bikes, especially around schools.
- Safety issues regarding the cycle and pedestrian network along Yass, Bungendore and Ellerton Roads.
- In general the mobility of pedestrians and cyclists are not supported by underpasses or overpasses to reduce conflict with vehicles. This is a particular concern for vulnerable user groups such as people with disabilities, the elderly and children.
- East Queanbeyan seems to missing attention in terms of active travel routes.
- Connections between Greenleigh and Queanbeyan are lacking in terms of safe active travel infrastructure.
- Greenleigh Estate does not have streetlights or footpaths constructed.
- A high priority requirement for an underpass under the Edwin Land Parkway once the EDE is open. It is currently dangerous for the community to cross over the road from the shopping centre to 'the park'. This will continue to get worse once the road is open and Googong continues to grow.

3.3 Stage 3 Consultation

This report and associated plans and reports for the ITS were exhibited for comment on Council's website from 1 March 2019 to 16 April 2019. There were 16 responses received from website surveys and five formal written responses. Of these, eleven survey responses were received in relation to Queanbeyan and three written response,

The primary feedback from this consultation with regards active travel was as follows:

- Suggestions:
  - Shared path link between Edwin Land Parkway and Candlebark Road on western side of Cooma Street.
  - Southbar Road near Karabar shops needs to be a Shared Zone.
  - Council should support the proposed Monaro Rail Trail which would be a fantastic commuting and recreational trail from Harman to Jerra and the proposed Tralee.
  - Traffic lights on Bungendore Road in Queanbeyan East to assist safe pedestrian and cyclist crossings.
  - Working with ACT Government to construct a Molonglo River riverside bikeway to Monaro Highway / Majura Parkway.
  - Pedestrian refuge to help pedestrians cross Thurralilly Street on the western side of Yass Road.
  - Pathway link on Macqoid Street between Buttle Street and Ellerton Drive underpass.
  - A number of safe crossing points are needed across Bungendore Road, especially linking to the Yass Road pedestrian traffic signals adjacent to the Queanbeyan East Primary School, either side of the current roundabout intersection with Ellerton Drive.
  - A pathway link to Ellerton Drive Extension (EDE) via the open space corridor between Yarrow Street, Bywong Street and EDE.
- Concerns:
  - Pedestrian safety crossing Campbell Street.
  - There needs to safer cycling paths along Yass Road connecting to Pialligo Avenue, particularly the section under the rail bridge and over the narrow Molonglo River bridge.
  - Access to the underpass of Ellerton Drive just south of Bungendore Road is poor from the western side.
  - No underpass of Edwin Land Parkway for Jerrabomberra community to cross over this road to the shopping centre.
  - No pathway in Plan that link to the Poplars Marketplace Development, South Jerrabomberra, the Regional Sports Precinct and the high school and Poplars Business Park.
  - The Plan has mapped out actions which appear to be a filling the gaps approach, rather than projecting inspiring, dramatic and accelerated changes to the bike and walkway system.
  - There are no changes in the Plan on how anyone can safely cross Kings Highway / Bungendore Road and it needs to be addressed as a priority, in consultation with Roads and Marine Services.

- Safety issues for pedestrians and cyclists on Yass Road, Bungendore Road and Ellerton Drive have not been adequately addressed. There is a need for good connections for bike/shared routes from the future Ellerton Road Extension to East and South Queanbeyan (e.g. connections to Greenleigh, along Bywong Creek down to the Queanbeyan River Suspension bridge).
- Pedestrian and cycle access and safety along Atkinson Street and Morisset Street between Macquoid Street and Waniassa Street, but especially across Bungendore Road.
- There are no changes to pedestrian links in Queanbeyan East in the Plan, even though it is highlighted as an area with poor pedestrian access. Queanbeyan East active travel routes need to be prioritised. The current and planned network of bicycle paths/lanes, footpaths and safe road crossings is inadequate, especially in the vicinity of Queanbeyan East Primary School.
- The streets surrounding Queanbeyan East Primary School have disjointed footpaths with several industrial driveways (e.g. the pedestrian crossings on Thurralilly Street and Mulloon Street do not link well to existing footpaths). The Mulloon Street crossing is poorly marked and the footpath on the southern side of the crossing is sporadic and difficult for parents with prams and scooters to negotiate.
- The walkway from Mulloon Street to Kings Highway along Burra Street is poorly maintained.

4.0 Relevant Policies, Programmes and Planning Principles

4.1 State Policy

The *Draft Future Transport Strategy 2056* sets out the vision, strategic directions and customer outcomes for the infrastructure and services plans for Greater Sydney and Regional NSW. The strategy is focused on six state-wide outcomes for the future mobility of NSW, shown in Figure 18. The aim is to positively impact the economy, communities and environments of the state, with these six outcomes are set to be the focus on every planning decision. These outcomes also guide the priorities set for regional communities which currently experience lower service levels and slower population growth than Greater Sydney.

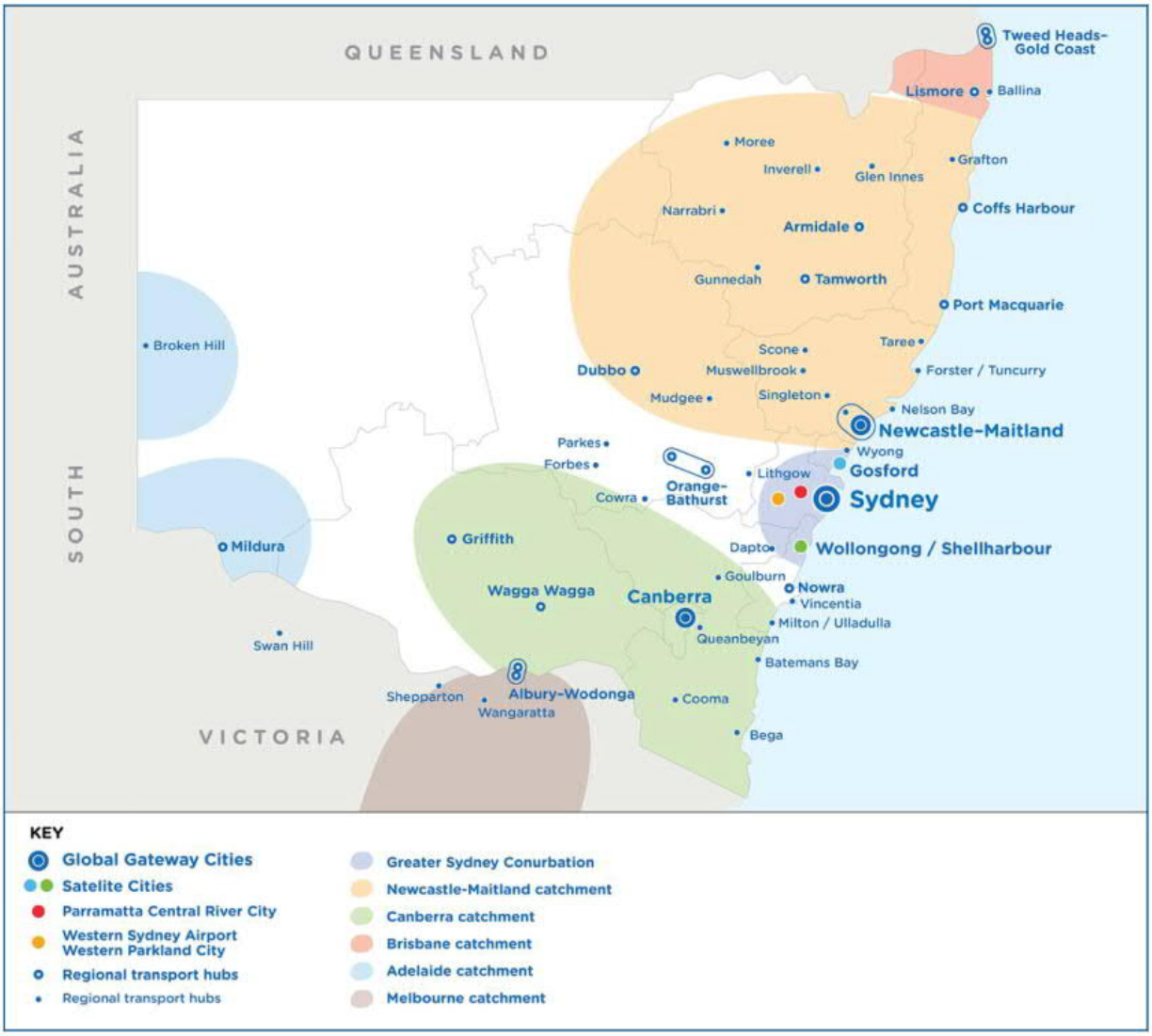
Figure 18: Six customer and network outcomes

Source: NSW Government, Draft Future Transport Strategy, 2017

The draft Strategy highlights that regional NSW has 19 regional cities and 27 regional centres. The 19 regional cities include two Global Gateway Cities (Greater Newcastle and Canberra), which serve extended catchments around Canberra-Queanbeyan and the Hunter areas as shown in Figure 19 below. Greater Sydney is the third Global Gateway City for NSW. Improved transport will broaden the catchment around each of these Global Gateway Cities, improving access to major service precincts, advanced industries and international infrastructure for the purposes of travel and trade.

Significant investment in connecting regional cities is outlined in the Strategy. These connections will be made through smarter procurement and the deployment of technology-enabled and innovative service models.

Figure 19: Importance of Global Gateway Cities



Source: NSW Government, Draft Future Transport Strategy, 2017

The future regional transport network will be planned around a 'hub and spoke' model within a strategic framework of servicing principles allowing for local adaptation and interpretation. Servicing principles include connectivity, flexibility and efficiency, access and equity, legibility and timeliness, provision of accurate information and safety. The network will support local towns and Regional Cities and Centres and help make them better places to live, visit and do business.

This draft Plan was published by the NSW Government in late 2017. It supports the *Future Transport Strategy 2056* and sets a 40 year vision for transport in Regional NSW to support communities and productive economies. An emphasis has also been placed on the importance of providing stronger links between regional cities and centres, rather than focussing on connections to Sydney or the interstate capitals. Along with this shift in focus, the draft Plan identifies Canberra as one of three Global Gateway Cities. These cities are to provide the state-level services and facilities required to support the growing population in NSW.

The draft Plan highlights the following objectives for transport in Regional NSW:

- A safe, secure and resilient transport system that efficiently connects communities
- A transport system that improves productivity and supports regional economies and communities
- An equitable transport system that helps to vitalise our communities

- Accessible transport options for all customers
- A regional transport system that is reliable, flexible, personalised and responsive to customer needs
- A transport system that is affordable and makes best use of resources and assets.

Broad initiatives for implementation over the next 40 years include improving inter-region and regional city connectivity, and expanding the regional public transport network. The initiatives apply generally in aspects such as the road network, public transport, active travel, freight, and town centre infrastructure initiatives. These initiatives include a regional interchange program, walking and cycling programs, town access improvement programs and a regional airport program.

For the South-East and Tablelands region where Canberra is situated, the NSW Government has proposed several policy, service and infrastructure initiatives for investigation (listed below). These initiatives are intended for potential commitment or implementation over the next 20 years.

4.2 Local Policy

QPRC has a 'three tier' hierarchy of plans consisting of a Community Strategic Plan, a Delivery Program and Operational Plan.

Planning for QPRC is framed around the Community Strategic Plan. It is a 10 year document (2013 – 2023), which identifies the community's key priorities, and outlines strategies of how Council and other stakeholders will achieve those priorities. It is informed by a number of key strategic documents, including:

- The Delivery Program details activities the Council will undertake to achieve the objectives of the Community Strategic Plan and is updated every four years.
- The Operational Plan directly addresses the actions outlined in the Delivery Program and identifies activities (projects and programs) Council will be undertaking within the financial year. The Operational Plan, which is supported by a detailed budget, allocates responsibilities for each action or set of actions, and identifies suitable measures to determine the effectiveness of the activities undertaken.

The Community Vision portrays the desired destination for the Queanbeyan community by 2021. The Vision provides key principles that form the basis of developing specific strategies. It is an overarching guide to the way future strategies and Council plans are developed and implemented.

Key themes raised in consultation as important to the community include:

- **The CBD:** traffic, parking, image, activities, the river and social issues
- **Transport:** public transport, bikes/walkways, major roadways, CBD traffic flow
- **Infrastructure:** planning and location of new infrastructure, planning for and managing future growth

The 2021 vision for infrastructure, access and transport for Queanbeyan is:

> *"As Queanbeyan has grown, an emphasis on the long term planning for infrastructure, and its development and maintenance, has meant that the services and facilities have kept pace with the development and there is capacity for continuing growth. Innovative solutions to funding the necessary infrastructure will involve private sector, federal and state government and the ACT. Safe and accessible road and rail transport has ensured that heavy traffic has by-passed the CBD, and built up areas, as well as products being transported efficiently. People can easily move between suburbs, into the city, and to and from the ACT. There is a choice of affordable public services at times that meet peak and off-peak demand. In designing and delivering both transport and other infrastructure, the desire to live and act sustainably as well as catering for adequate mobility access has been taken into consideration."*
>
> *Source: City of Queanbeyan (November 2013)*

There are a number of key directions and strategies in relation to transport in the Vision document, including:

- Planning for future growth
    - Continue to work collaboratively with the government sectors; NSW, ACT and Federal and, where appropriate, with the private sector, to provide infrastructure and services for new greenfield areas
    - Promote and support private and public sector investment in the development and maintenance of key asset infrastructure in the Queanbeyan area
- Integrated land use and transport
    - Implement the Googong and Tralee Traffic Study including construction of Ellerton Drive through partnership agreements with three levels of government
- Sustainable transport options
    - Continue open dialogue with the public transport agencies for an investigation into current public transport service provision and opportunities for further route scheduling and better linkage with the ACT
    - Further develop an integrated transport strategy prioritising works and service development, and investigating the feasibility of other innovative solutions to access and transport
    - Actively promote walking and cycling as transport options to move in and around the Queanbeyan area
    - Investigate opportunities for a LGA wide car sharing program to facilitate management of traffic congestion in peak periods for those that travel daily to the ACT
- Transport infrastructure
    - Ensure scheduled maintenance and capital works for roads are founded on reliable and justifiable data
    - Investigate feasibility of major intersection upgrades following recommendations of the Googong and Tralee Traffic study
    - Continue investigating impacts of heavy vehicles on LGA road network and possible solutions for identified impacts.

4.3 Planning Principles

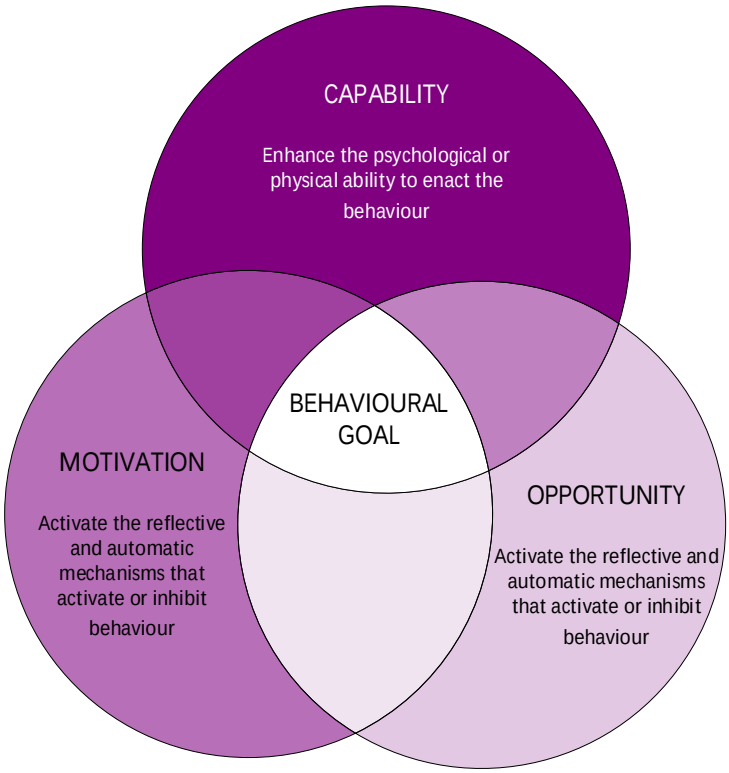
The intent of understanding the need for facilities and provision of appropriate infrastructure, education campaigns and users awareness is centred around providing viable alternatives to private motor car usage. The benefits of this are well known and include reduced emissions, improved health and social cohesion.

The approach used in the development of the new walking and cycling plan for the area focused on providing the necessary enabling conditions for riding and walking to become an attractive mode of transport for a range of trips for various age, gender and cultural backgrounds. Infrastructure is a critical part of the enabling process but is a means to an end not an-end product in itself. Enabling people to walk and cycle is to support them to adopt a new behaviour or to do more of an existing behaviour.

Behavioural change and the uptake of walking and cycling can be attributed to three things - Capability, Opportunity and Motivation (COM). Collectively these are known as the COM model for behavioural change. It is illustrated in Figure 20.

The three aspects work together to promote and enable the behavioural goal. This plan has been developed to help provide improved physical opportunities for trips and improve the amenity and safety for users. In applying this plan the principles for cyclists and pedestrians have been outlined.

Figure 20: COM model for behavioural change



4.4 Network Design Principles

The over-riding principles of designing this network are outlined in Table 7. While these are derived from cycling aspects the principles are the same.

Table 7: Network features

Route feature	Comments
Safety	Minimal risk of injury, low perceived danger, space to ride / walk, minimum conflict with vehicles
Coherence	Infrastructure should form a coherent entity, link major trip origins and destinations, have connectivity, be continuous, signed, consistent in quality, easy to follow, and have route options
Directness	Route should be direct, based on desire lines, have low delay through routes for commuting, avoid detours and have efficient operating speeds
Attractiveness	Lighting, personal safety, aesthetics, integration with surrounding area, access to different activities
Comfort	Smooth slip-resistant surface, gentle gradients, avoid complicated manoeuvres, reduced need to stop, minimum obstruction from vehicles

Source: Adapted from Cycling Aspects of Austroads Guidelines Table 2.2

The key facilitators to grow cycling and walking participation in the area include:

- A pedestrian and cyclist friendly CBD.
- Developing off road facilities that provide key links between key origin and destinations.
- Provide separated facilities for higher speed links reducing conflict between high speed cyclists and lower speed cyclists / pedestrians.
- Improving efficiency of links by making them more direct and providing signage and line marking as appropriate.
- Ensuring all school and key public transport nodes are connected to the proposed network.

While there are similarities, the principles for the pedestrian and cyclists have been separated.

4.5 Pedestrian Planning Principles

4.5.1 Different pedestrian user types

When assessing existing infrastructure it is critical that consideration is given to the different user groups. This section of the report explores the different user groups that could be considered as the primary and vulnerable users in the assessment.

When planning for pedestrian facilities ideally the placement of facilities should match the usage patterns. There are a number of pedestrian user groups that have to be focused on, with the aim to encapsulate all pedestrian users' mobility and access needs.

The AustRoads Guide to Traffic Engineering Practice, states that pedestrian facilities are often designed to cater for the ‘average’ pedestrian. In order to meet the needs of different users AustRoads identifies ten broad groups of pedestrians:

1. Commuters
2. Children walking to school
3. Utility activities*
4. Parents/carers with prams
5. Wheelchair users
6. People with disabilities
7. Seniors and people with mobility aids
8. Recreational pedestrians
9. Runners/joggers
10. Dog walkers.

*Includes people undertaking shopping actives with trolleys and bags

The Queensland Government ‘Designing for Pedestrian and Cyclists Course’ handbook identifies three groups as shown in Table 8.

4.5.2 Walking user groups

For the purpose of providing usable and practical facilities these user types can be narrowed down to three key user groups of:

1. Vulnerable walkers– school children, the elderly, disabled walkers, adults with strollers/ trolleys
2. Mobile adults – people who walk or use their bicycle for transport to travel for a purpose around their communities
3. Sport and fitness riders and walkers – power walkers, joggers, fitness riders.

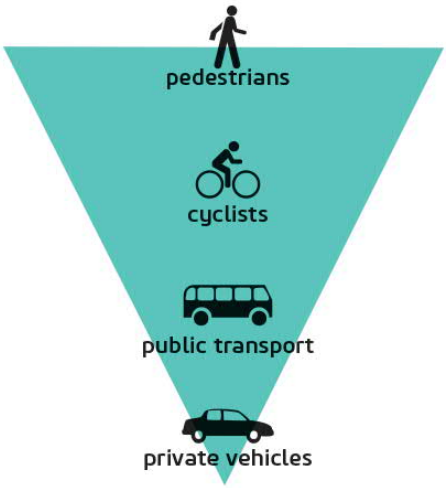
These user types were applied in the assessment of the Queanbeyan area.

Table 8: Different pedestrian types

User Type	Purposes	Operating Characteristics
Vulnerable to traffic	Elderly walkers Disabled walkers Parents with prams Children to 15 years of age Traffic shy adults	Speeds slower than 4 km/h Vulnerable Lower reaction times Lower skill levels Shorter trip distances
Mobile adults	Purposeful adult walkers Commuters Recreational/social walkers Tertiary students	Speeds 2 – 8 km/h Purposeful walking Higher skill levels Medium to quick reaction times Medium to long trip distances
Sports and fitness	Runners Triathletes Fitness walkers Recreational and social walkers	Speeds higher than 8 km/h Quick reaction times High skill levels Often walk in groups Medium to long trip distances Need high-quality walking surface

4.5.3 Principle intent

There is an opportunity to provide a better balance of priority focus in the town through recommendations outlined in this plan. A modern urban core (town centre) should provide the following movement prioritisation:



Delivery and service vehicles are an important part of any vibrant core and will be considered with any recommendations. Taxis are considered with public transport.

A shift to this hierarchy of transport priority in the town core would result in a stronger focus on pedestrian safety, function and amenity in exchange for a potential increase in delay for private motor vehicles.

Wayfinding and consistency are important aspects in network legibility and pedestrian experience. Clarity of pedestrian facilities and links can greatly assist in wayfinding, legibility and usage. High contrast treatments and raised tactile treatments should be considered for vision impaired users for any new or retrofitted works especially within the CBD. This could include the use of yellow, rather than white, line markings on light colour concrete. Raised tactile markers should be allied for new road crossing locations within the CBD and at traffic signals.

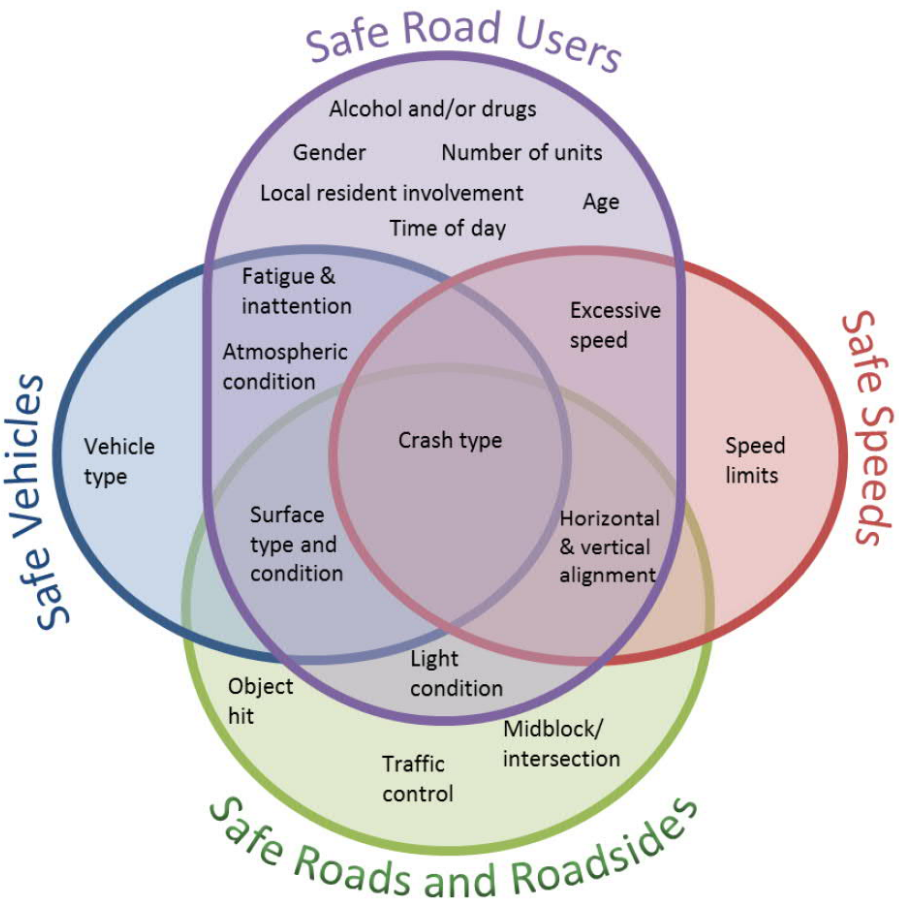
4.5.4 Approach

In determining appropriate facilities, our approach to this project has incorporated the Safe Systems approach. The Safe System approach is a guiding philosophy that operates on the principle that it is not acceptable for a road user to be killed or seriously injured if they make a mistake. The approach aims to create a forgiving road system based on the following four principles:

1. People make mistakes – People make mistakes and some crashes are inevitable.
2. People are vulnerable – Our bodies have a limited ability to withstand crash forces without being killed or seriously injured.
3. We need to share responsibility – System designers and people who use the roads must share responsibility for creating a road system where crash forces do not result in death or serious injury.
4. We need to strengthen all parts of the road transport system – We need to improve the safety of all parts of the system, roads and roadsides, speeds, vehicles, and road use so that if one part fails, other parts will still protect the people involved.

The principles and the interaction between them are outlined in Figure 21.

Figure 21: Safe system approach



Source: ARRB Group.

Safe speeds and safe roads and roadsides are the principle domain in which Council has the ability to influence traveller behaviour. An understanding of road users in each area can also assist in developing effective solutions.

All new footpaths should be a minimum of 1.5 m wide to allow two wheelchairs or prams to pass each other without the need for one of them to leave the path.

4.6 Bike Planning Principles

The planning approach for the development of a bicycle network includes shared use paths and on-road cycling facilities (bicycle lanes or advisory treatments) as means of providing for cyclists. Off-road bicycle facilities (shared use paths, bicycle-only paths) provide separation to motor vehicles and hence are often favoured for their perceived safety. However in the Australian context, right-of-way provisions at intersections and side streets, risks from vehicles entering and exiting driveways, and often poor maintenance standards can have a significant impact on the safety performance of off-road facilities. Therefore, the planning approach does not rely on off-road facilities as the sole or even main form of bicycle facility, but uses both on-road and off-road facilities depending on circumstances.

On-road bicycle treatments can be the most cost-effective way of providing for cycling trips, and research demonstrates that these are also effective at increasing cyclist safety. However, on-road cycling is generally not suited to young children without supervision; hence children under the age of 12 are legally allowed to cycle on footpaths in Australia. Youths or adult parents/ guardians accompanying such children are also legally allowed to cycle on footpaths.

Even where sealed paths exist on a route, it is often desirable for higher speed cyclists to be separated from pedestrians, child cyclists and slower cyclists by providing on-road facilities. Bicycle lanes or advisory bicycle treatments can also provide a traffic safety role, by calming the traffic, creating a driving environment that encourages slower speeds and designating a space outside the travel lanes that pedestrians can enter when crossing a road.

There are a number of types of on-road treatment possible. The amount of space, speed environment, whether or not parking is permitted on a street and the turnover rates of on-street parking all affect the type of treatment that might be provided. These differences and applications are detailed in guides such as Cycling aspects of Austroads Guidelines 2017 edition. Bicycle lanes have associated with them certain regulatory requirements. For example, bicycles must use a bicycle lane if one is provided (unless turning right); cars cannot drive in a bicycle lane except to turn left.

4.6.1 Bicycle user categories

In determining infrastructure treatments and priorities, it is important to understand who will be using the facility and what their needs and capabilities are. The type of cyclist that use bicycle networks can be categorised based on their experience and skill levels.

The four general categories used to describe cyclists in this report are:

- Children cyclists
- Adult local cyclists
- Adult commuters
- Recreational cyclists.

4.6.1.1 Children cyclists

Children cyclists in the Primary School age range do not have fully developed cognitive skills. This makes them a vulnerable road user due to their lack of experience and little to no understanding of road rules. It is necessary for these children to be supervised when riding. Separation from motor vehicles is important when identifying suitable infrastructure for these users.

4.6.1.2 Adult local cyclists

Adult local cyclists are those who accompany children for short trip bicycle rides. Trip purposes include a range of activities such as recreational trips and short trips to local shops.

4.6.1.3 Adult commuters

Adult commuters are the most advanced riders who are less affected by motor vehicles on the road. These riders are able to share lanes with vehicular traffic, although dedicated lanes may be preferred. Speed is a more important factor than separation from motor vehicles. Hence, facilities should be designed and maintained to allow reasonable high speed riding. This may sometimes result in parallel facilities to cater for different user categories such as on road lanes and off road shared path facilities.

4.6.1.4 Recreation cyclists

Recreation trip lengths may vary depending on the level of experience of the rider. Skill levels also vary from beginner primary school aged children to advanced adult riders. These riders typically avoid busy roads and direct routes as the trip purpose is mainly the cycling experience.

4.6.2 The bicycle network

The bicycle network consists of a number of interconnected routes signed for bicycle use either on road or off road. The cycling speed and distance covered, has an impact on the spacing of routes. Assuming an average cycle speed of 15 km/h, or 20 km/h for commuter cycling on local roads, then cyclists living or working within 500 metres of a cycle route are within acceptable distance to the facility. This distance would take an average cyclist one to two minutes to cycle on local streets to join a bicycle route. However, the network must provide a level of service comparable with the intended cyclist's level of experience, road safety expectations, and directness of route.

Bicycles are vehicles under the Australian Road Rules; therefore all streets are cycling streets. In reality, however, due to the differences in speed of travel, size of cars and trucks and the personal safety differences between the cyclist and the car driver, in order to be pro-active in addressing these imbalances, specific engineering works are required to establish a bicycle network. Essentially a bicycle network consists of a hierarchy of routes.

In this Bike Plan, the network functions have been adopted from the NSW Bicycle guidelines. If Council wish to further refine a hierarchy for their active travel network it is recommended that consistency is applied across the whole Council area. When considering definitions and treatments other jurisdictions within close proximity should be reviewed to consider merits and possible ease of integration.

The bicycle network functions in this hierarchy are:

- Regional bicycle routes
  These are longer distance regional routes connecting the major regions of the town and beyond. As they are often on highly trafficked roads, taking advantage of the most direct road alignments, they require the highest level of bicycle facility. They are often on-road sharing the road space with cars and trucks and are designed for use by experienced commuter cyclists. Some are on State and regional roads where RMS agreement and implementation may be required.

- Local bicycle routes
  These are connectors within suburbs and cater to local trips to school, shops, community facilities and local recreation attractors. These link to the Regional Routes and are typically shorter distance facilities that are disproportionately used by less experienced cyclists such as children, teenagers and less experienced adult cyclists. These are typically off road routes but when they are on-road, the cycle lanes are normally on slower, lower volume council roads. These can also be more circuitous taking advantage of open space corridors, the local topography, access to views and linking in a leisurely fashion to land use attractors along the way. As these routes are inevitably shared with pedestrians, they are not designed for high bicycle speeds. Detailed design of such routes can add value to the cycling experience; this can include stopping areas / picnic areas, network distance signage, points of interest signs as well as under-cover seating for wet weather protection.

- Mixed Traffic Streets
  These link with the residential street system to provide residential access to destinations. Where the road link is used to connect between local or Regional bicycle routes on road markings and watch for cyclists signage can aid with the legibility of the cycle network. While not all residential streets will be marked as mixed traffic streets, indicating road with reasonable topography, low vehicle volumes and speeds as cycle friendly streets on bike maps can help users identify suitable path links to take.

5.0 Network Plans

5.1 Network Constraints and Opportunities

The study area already presents a large range of opportunities for pedestrian and cycle movement. QPRC wishes to enhance these facilities through the development and implementation of the bicycle and pedestrian facilities plan and through future re-development of sites when they occur. Existing facilities should link in with highly used cyclist and pedestrian routes and upgraded when required.

Opportunities for improved walking and cycling facilities in Queanbeyan include:

- Improved connections to existing off-road shared paths
- Existing road crossing facilities which include traffic signals and pedestrian refuges
- Parks and open space where cycle networks can be built to encourage recreation activities
- Pedestrian underpasses and pedestrian bridges
- Rail trails which can be used for recreational cycling
- Low volume streets.

Constraints to walking and cycling in Queanbeyan include:

- Topography (steep grades and creeks)
- High volume roads such as the Kings Highway to Canberra Avenue route, Yass Road and Lanyon Drive
- Through streets with a significant amount of kerbside parking (Monaro St)
- Roads with slip lanes that cut through cyclist travel paths
- Industrial area which generate a large volume of truck traffic
- Narrow bridges (Morisset St)
- Railway lines, utility easements.

There is an existing network of paved footpath on both sides of the road on the majority of streets within the Queanbeyan CBD. Existing facilities also include site connections, signalised intersections, pedestrian refuges, zebra crossings and 40 km/h school zone areas. Existing facilities should link in with highly used pedestrian routes and upgraded when required.

Open spaces or park areas present opportunities for the construction of paths to assist short-cuts or recreational walking. Furthermore, a shared pathway system in some areas of Queanbeyan would extend the travel range and safety particularly of children as well as recreation walkers.

The lack of footpaths and appropriate safe crossing facilities are the major constraint to walking both in established areas and in the newer suburbs. Along arterial roads, where footpaths are missing, their construction is necessarily a high priority.

For those with disabilities, there are many barriers, depending on the nature of the disability. It must be remembered that most seniors, especially those over 75 years of age, suffer from some form of disability, usually less agility and poorer eyesight.

5.2 Network Master Plan

A network master plan has been developed for Queanbeyan according to the approach and principles already described in this report. The proposed walk and cycle network master plan for Queanbeyan is shown in Figure 22.

Figure 22: Proposed Greater Queanbeyan walk and bicycle network master plan

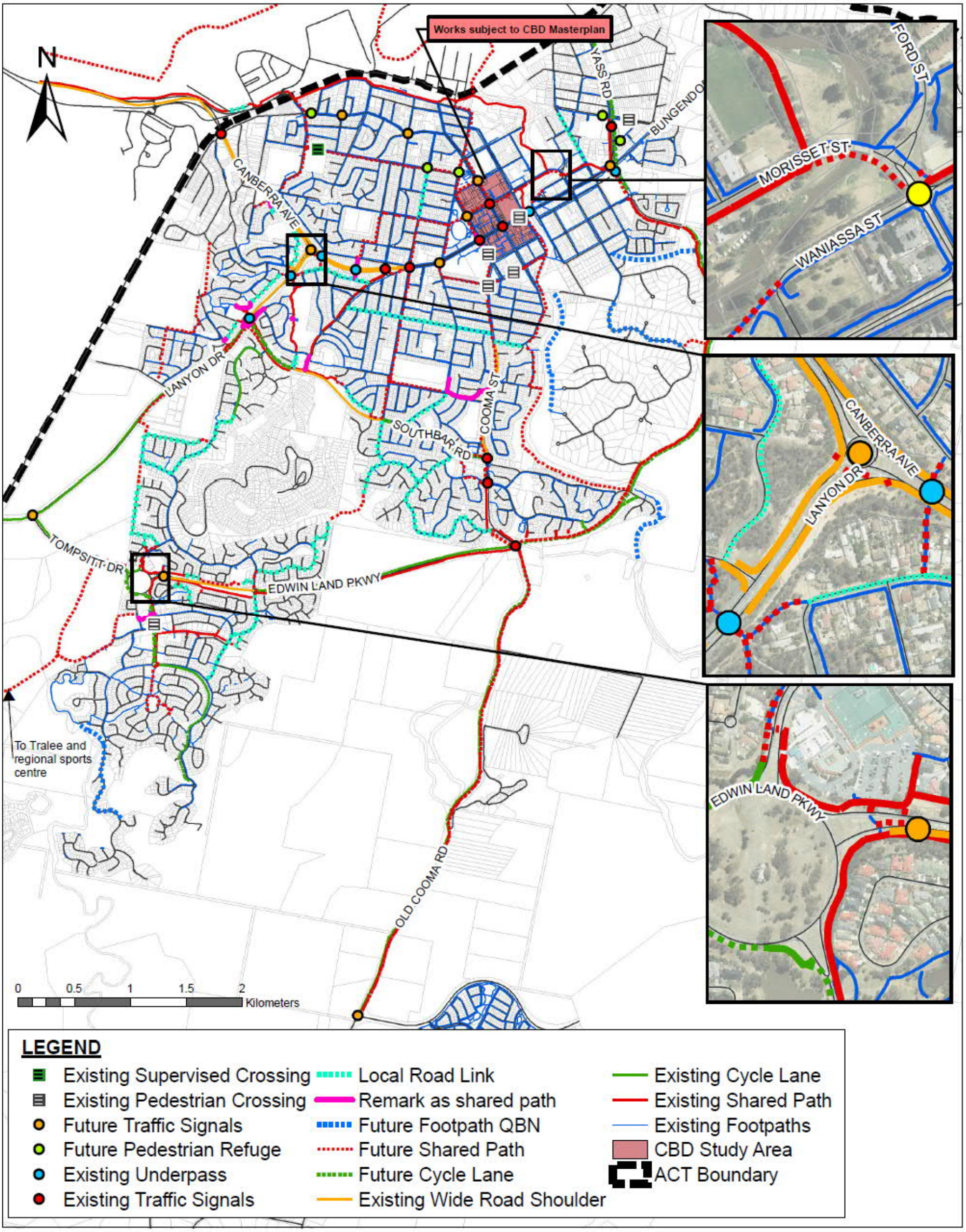
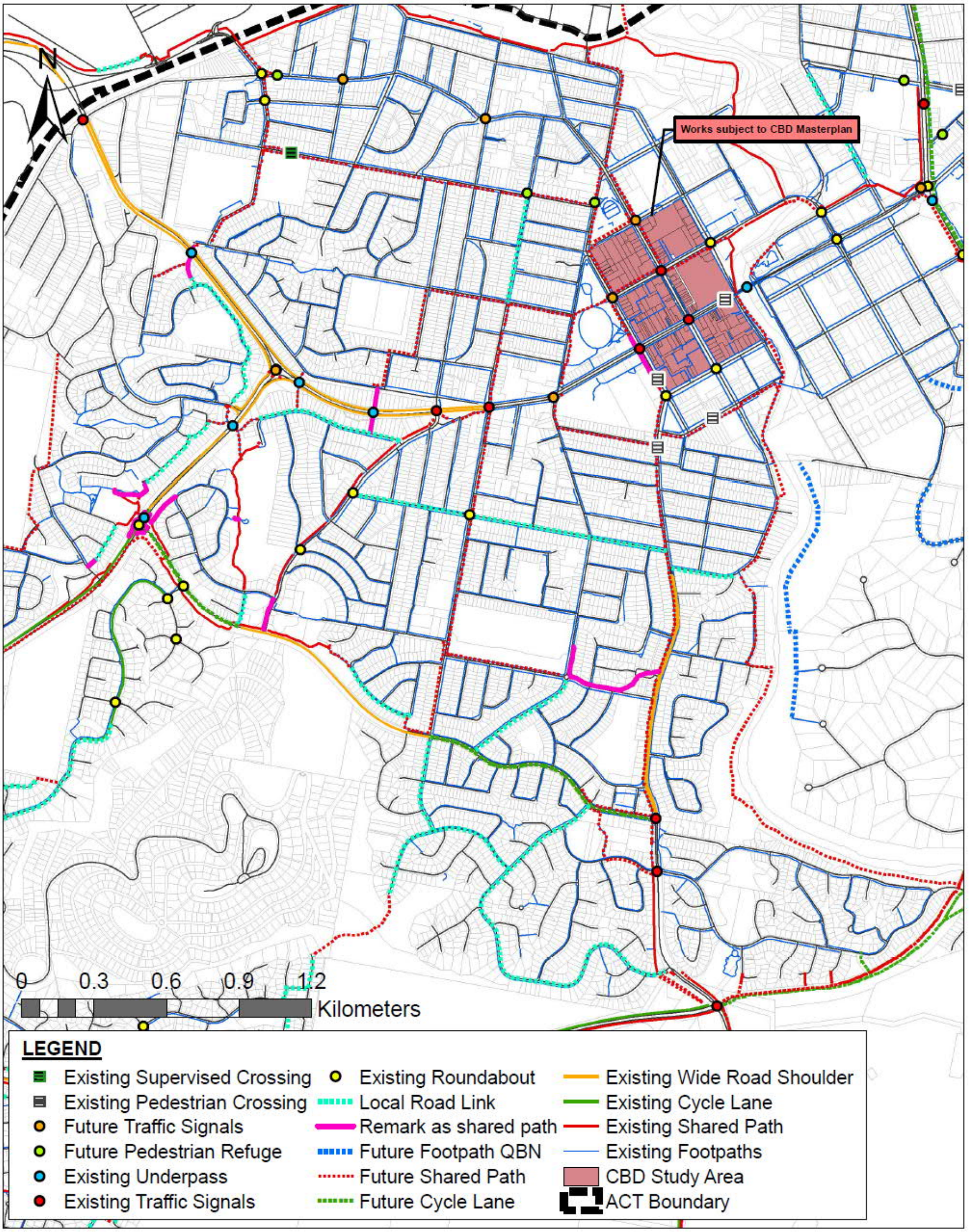


Figure 23: Proposed Inner Queanbeyan walk and bicycle network master plan



It is important to note that:

- This a strategic network, rather than an itemisation of every route that might ultimately be desired. They identify routes with an additional level of priority to those that could be desired on every street.
- Network feature definitions shown in the master plan figure are defined for planning purposes. The action plans then interpret these into the physical networks that should be implemented, and the priorities for these.
- The bicycle and pedestrian facilities plan has a definite timeframe. The networks shown are based on a timescale of about 10 years. It is assumed that the plan will be reviewed every five years.
- Changes in land uses can have large impact on walking and cycling needs, but not all land use changes that will occur can be predicted and incorporated into the networks.

5.3 Catchments

To help identify priority link items and where greater density of activities are likely to occur, catchment maps for key generators and vulnerable users have been developed. The catchments have been developed based on the path network rather than as the crow flies to help identify actual distances and missing links. The distances are based on the current path and road network.

5.3.1 Pedestrian catchments

Having established the constraints and opportunities, the conceptual pedestrian generators, attractors and catchment areas are illustrated for various pedestrian target groups. Catchments are based on distance covered at a defined walking speed.

Examining the overlapping catchments for various attractors, it is clear that there needs to be a process for determining the site inspections and ultimately the priority for implementation. If walking is to be encouraged, then the planning method must be changed to be pro-active rather than reactive to existing behaviour. This has been the method used in bicycle transport facility planning.

5.3.1.1 Seniors and mobility impaired catchments

Figure 24 illustrates the 0.9 km walking radii around senior's attractors such as retail nodes, railway stations and community centres. The aged housing is located in respect to these. While the path link distance used to establish the catchment for planning purposes is 0.9 km - it is expected that the actual walking distance is likely to be more than this. Some seniors' attractors have no identifiable cluster of aged housing near them. This does not mean that there are no elderly living within the catchment of that facility.

5.3.1.2 School catchments

For schools, the potential walking catchments are linked to the walking radius around the school within which bus travel is not subsidised. The path link distances used in the walking catchment are 1.6 km radius for primary schools (Figure 25) schools and 2 km radius for secondary schools (Figure 26). As can be seen, the catchment areas overlap substantially illustrating that every street is a walking street to school. It is therefore not realistic just to plan for the school frontage or a single route to a school. Essentially children walk from all directions as in a gravity model - it will be necessary to ensure that on roads of higher road classification, high speed or volume, appropriate crossing facilities are in place and on arterial and sub arterial roads where children would be expected to walk there are continuous footpaths.

As the streets converge on the school, it is more likely that pedestrian crossing facilities already exist. However even on streets over 1 km away from the school, children would still be expected to cross traffic routes to access the school by foot. In many cases, parents would then drive their children to school if safe appropriate crossing facilities are not available, thus increasing unnecessary vehicle trips. There is an existing or proposed shared path that links to most schools. A notable exception to this is St Gregorys on Molonglo Street which has a school crossings and is generally surrounded by lower speed, lower order roads with a good foot path connections.

Figure 24: Seniors walking catchments

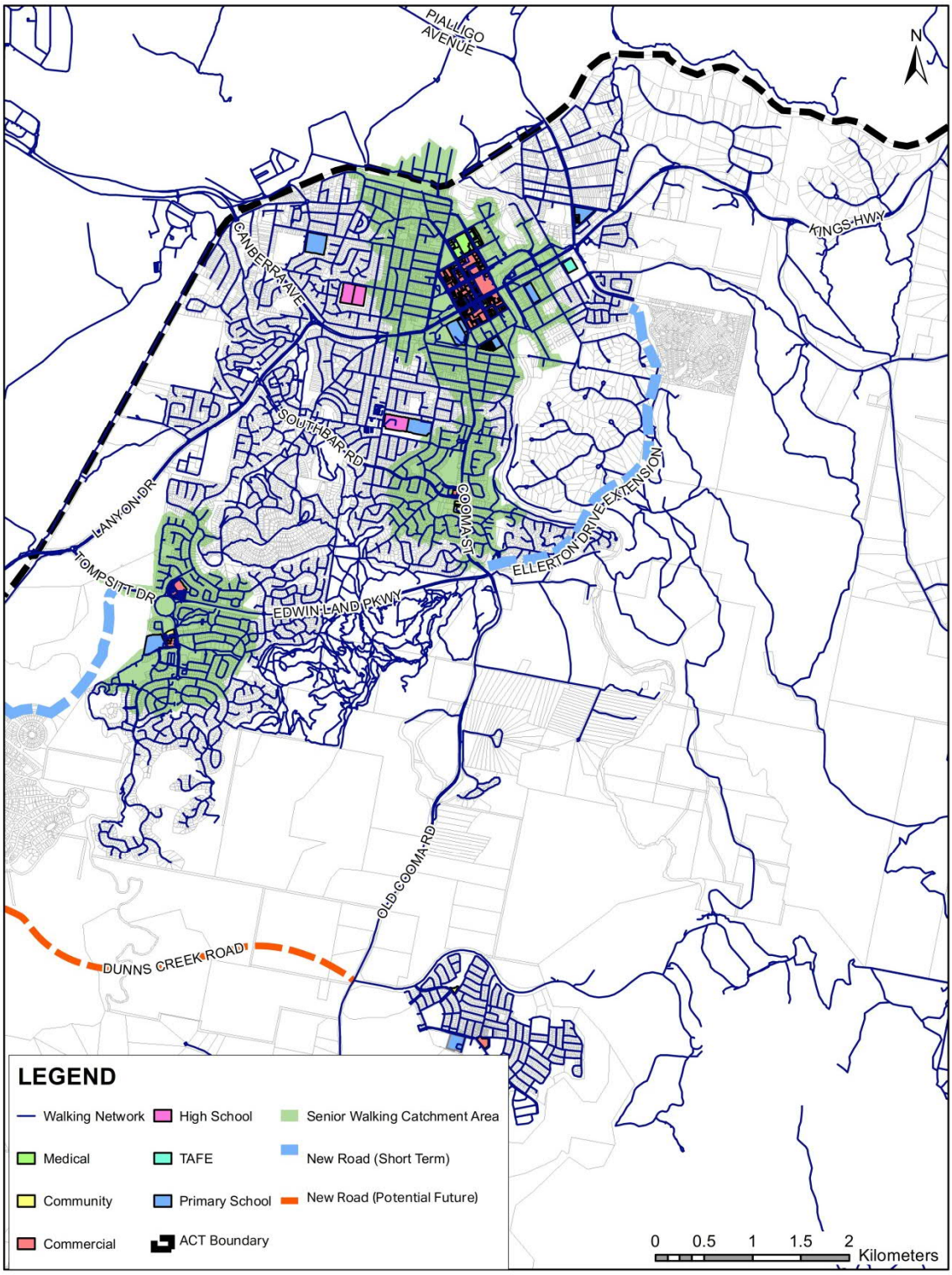


Figure 25: Primary school walking catchments

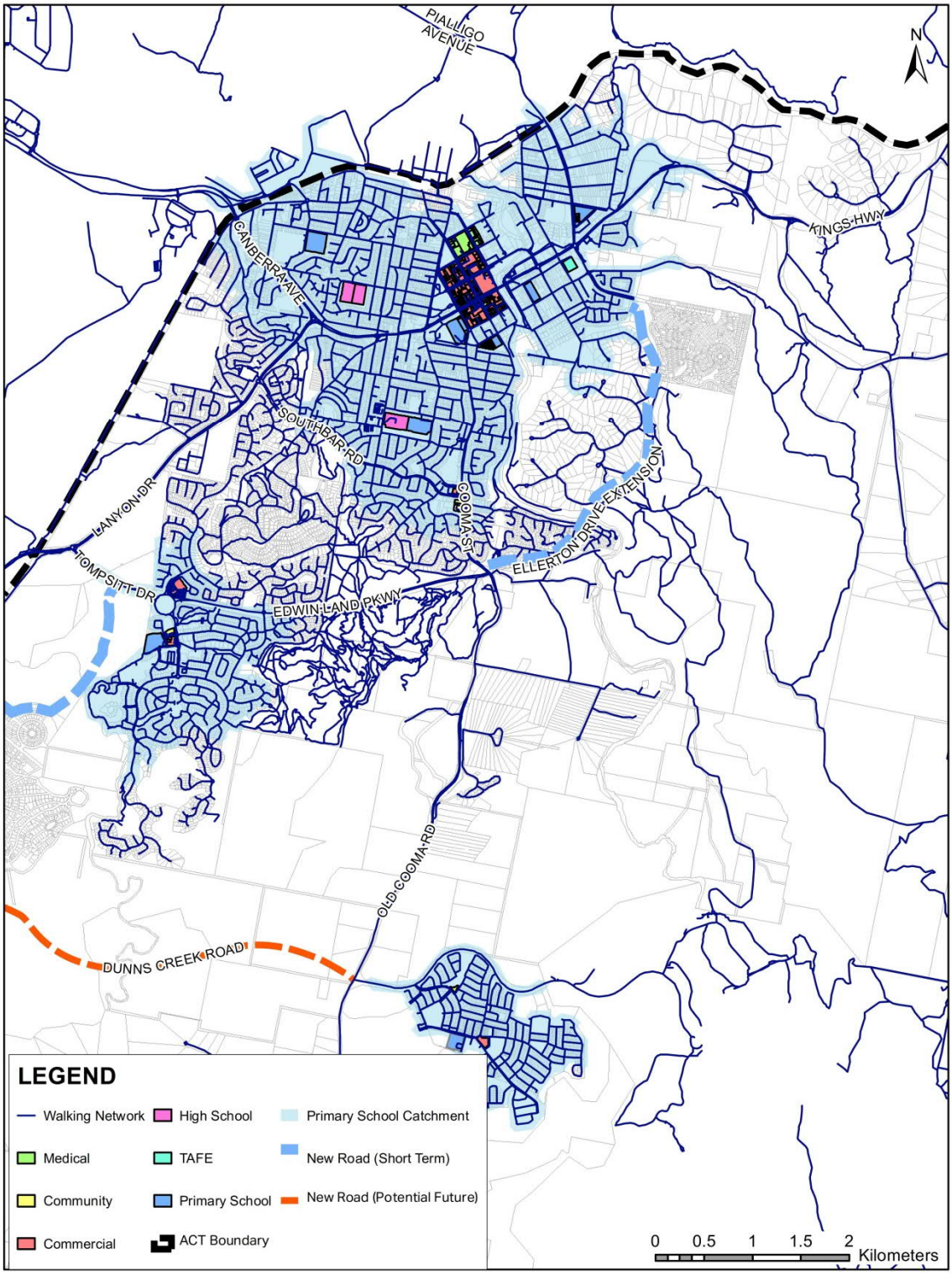
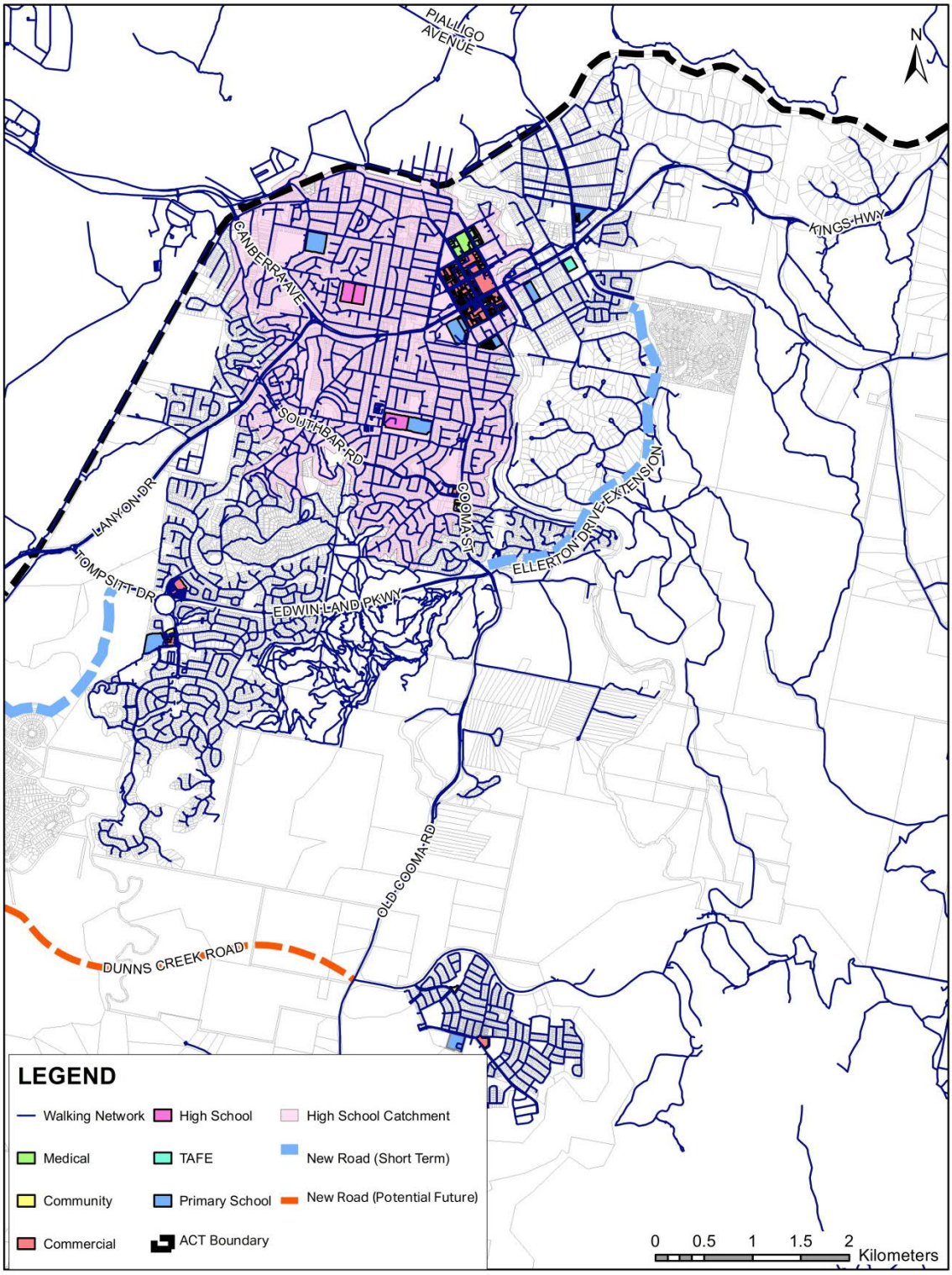


Figure 26: High school walking catchments



5.3.1.3 Shopping walking catchments

The conceptual catchments of major retail nodes are presented in Figure 27. The path link distance used to establish the catchment for planning purposes is 1.3 km - it is expected that actual walking distance will vary according to topography and street permeability. Queanbeyan town centre is a key attractor and it may be that people would be prepared to walk longer distances to the CBD if continuous good quality paths and crossings are available.

Again as with school routes, it will be necessary to ensure that appropriate crossing facilities are in place particularly on arterial and sub arterial roads and there are continuous footpaths.

5.3.1.4 Recreation walking catchments

Finally, the conceptual catchments of recreation attractors are presented in Figure 28. The path link distance used to establish the catchment for local sporting facility planning purposes is 1.7 km - as it is expected that these would be catering to youth who would be prepared to walk longer distances. For the sporting facilities, a 2.5 km walking distance is considered appropriate for able-bodied walkers and teenagers.

5.3.2 Cyclist catchments

The recreational walking catchments extend to cover almost the entire town boundary. The cycling catchment of an attractor to / from a generator is generally determined by the type of trip purpose and age / competence of the cyclist. AUSTROADS suggests an average of 20 km/h cycling speed for adults; children would be expected to cycle at 10 km/h while commuter cyclists would achieve 30 km/h. A 15 minute trip could therefore cover from 2.5 to 7.5 km depending on the cyclist. Given the lower end of this is the same as the recreational trip cycling catchments would cover the entire town and therefore have not been provided. It does however indicate that the size of Queanbeyan has excellent opportunities to increase cycling patronage if improved amenity and awareness is created. There is no standard trip length determined for recreational trips.

5.3.3 End of trip facilities

AGTM11 (Austroads 2017) and the Australian Standard AS2980.3 provides information on bicycle parking and end-of-trip facilities. The Australian Standard classifies bicycle parking facilities by the level of security provided for the parked bicycle by the following classes:

- Security level A facilities – Individual locker with high security locking mechanism.
- Security level B facilities – Secure rooms or structures protected from the weather allowing users to lock the bicycle frame and both wheels.
- Security level C facilities – A bicycle parking space where the bicycle frame and both wheels can be locked.

5.3.3.1 Security level A bicycle parking

There are bicycle parking lockers within Queanbeyan bus interchange.

5.3.3.2 Security level B bicycle parking

Locked cages are most appropriate near transport hubs, employment centres and educational institutions. Given the scale this is not considered to be critical for Queanbeyan. Employee bicycle parking should be considered for commercial tenancies.

5.3.3.3 Security level C bicycle parking

Low security bicycle parking is more appropriate for short-term parking such as near retail centre, libraries and recreational facilities such as the pool or park. Facilities should be located in well-lit areas and close to the user's destinations.

Figure 27: Shopping walking catchments

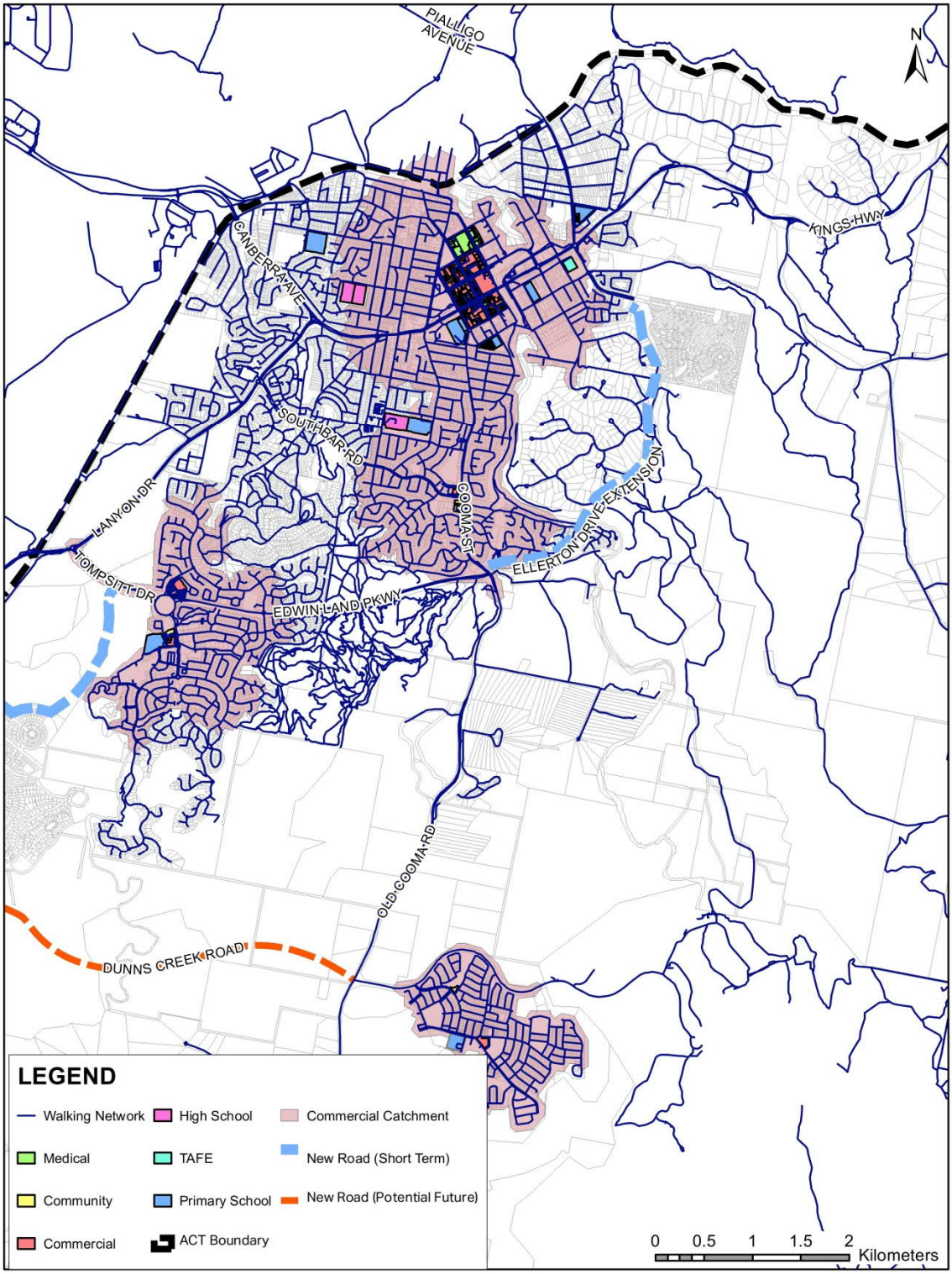
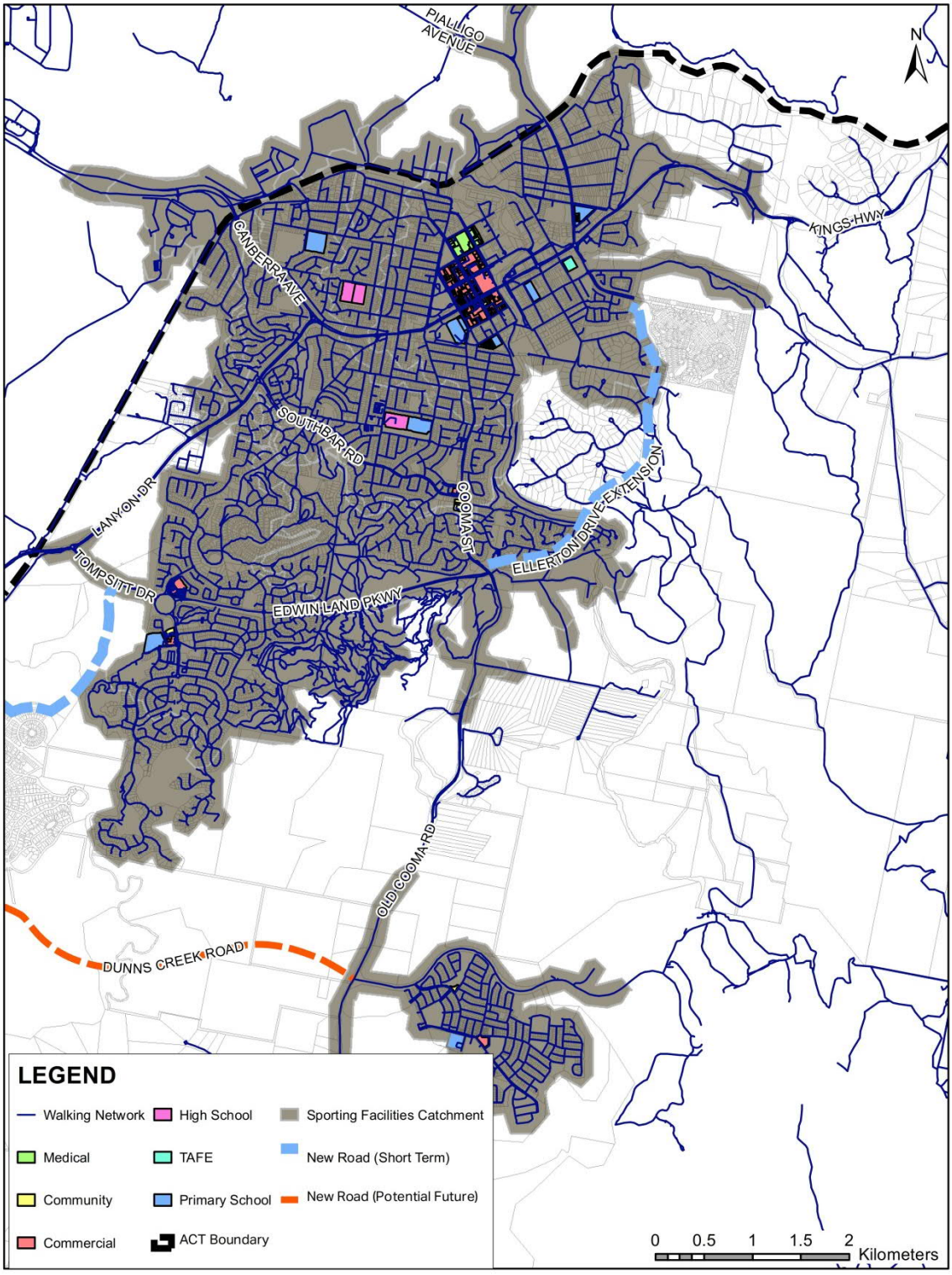


Figure 28: Recreation walking catchments



Recommended locations for low security bicycle parking rails are:

- Along Streets within the CBD including Morisset Street, Crawford Street and Lowe Street
- Around parks
- At the Karabar Shops
- Outside community centres and facilities
- At the Jerrabomberra shops.

5.3.4 Network features and design standards

The network planning for Queanbeyan has adopted the following network features:

- Commercial zones; the most frequent destinations for walking and cycling trips
- Secondary zones: other major destinations for walking and cycling trips, for example schools and recreation facilities
- Main access routes; these provide main level of access to the destination zones (and vice versa), forming a spine for local walking and cycling
- Local access routes; parts of the general street network that have strategic value in providing walking and cycling access to main access routes, secondary zones and commercial zones
- Cut throughs; generally short sections of path that provide access where no road or street alignment otherwise exists recreational routes; for providing recreational opportunities
- Regional routes; for fast and unhindered cycle travel between the towns and other regional destinations.

6.0 Route Priority Strategy and Implementation Plan

The Action Plan for improved bicycle and pedestrian facilities for Queanbeyan is shown in Figure 22. This Chapter sets out the priorities and estimated costs for implementing the works.

6.1 Route Prioritisation

Routes will be developed in stages when funding becomes available. The selection of active travel routes was based on consideration of the following elements:

- Connectivity to attractors and generators
- Route Continuity
- Proximity to a schools and aged care
- Proximity to public transport
- Safety
- Cost.

This provides a good framework for assessment. In cases where two parallel routes were identified the need for both was considered. If it connected to a school or a shopping precinct the route split near the point of interested to provide connectivity to both.

Routes have been allocated as high priority with the intent to undertake the works within the next five years and medium priority for likely future path links that should be considered with any planning or new development works.

Shared paths as opposed to footpaths have typically been proposed as they provide for a wider range of users and provide adequate widths for two-way passing of wheelchairs and prams. The width rather than surface treatment has been outlined as the defining characteristic for this study.

Each town has their own local character and walking and cycling infrastructure should reinforce this character. This infrastructure is also important as part of presenting a picture of how the towns (and QPRC) regard their walking and cycling to residents and visitors. At the same time, infrastructure needs to be functional, and this functionality needs to be balanced against aesthetics in developing a good streetscape design outcome.

6.1.1 Route connectivity

Where a local route connects to an attractor or a generator, there is greater likelihood of that facility being used. Connectivity is a key determinant of the potential use of the network. This is particularly relevant to local routes, the main purpose of which is to create a facility which can be used for a range of trip purposes, thus decreasing the need to use a car. This criterion therefore creates a relationship between the local route length, and the number of attractors and generators served by the route. This also includes new development areas.

The type of facility and selected alignments have been considered in determining priorities. Pedestrian crossings could be integrated with the roundabout metering to help improve connections across those roads especially the Kings Highway near Yass Road.

6.1.2 Route continuity

This criterion relates to new route connectivity to other proposed routes as well as to connecting to existing routes. There is clear value in growing an existing facility rather than building a new isolated route, as there is usually an existing bicycle user base whose range can be expanded.

6.1.3 Proximity to schools and aged care

Facilities close to schools or aged care housing typically cater for more vulnerable road users who rely on active travel.

6.1.4 Road safety

Where possible, the bicycle network should address the existing bicycle road safety issues reflected in the bicycle crash record. The most recent five year RMS crash data base is the key input in assessing this criterion and this showed that there were no bicycle crashes in Queanbeyan during this period.

6.1.5 Cost of routes

There is typically a balance between amenity and cost. Wider paths can offer a greater amenity but may reduce the extent to which the network can be developed with the available funding. In developing a masterplan for the active travel network, greater amenity has been targeted where higher usage is expected. Cost can also be related to physical constraints such as existing infrastructure. Where costs would be substantial, such as widening Queens Bridge over the Queanbeyan River to provide for a regional cycle link connection, alternatives have been sought.

6.2 Routes

Defining a network hierarchy of regional and local routes helps define work priorities and an implementation plan. It can also help identify what types of infrastructure should exist for each location and how users of the infrastructure should be managed.

Considerations for developing the network hierarchy in this study include:

- A single hierarchy for both pedestrians and cyclists has been developed drawing upon the common factors affecting pedestrians and cyclists (such as land uses that generate trips). A hierarchy that applies to both walking and cycling is simple and facilities that cater to both can be a more efficient use of resources, compared to parallel routes with duplication of facilities such as refuges. However, pedestrians and cyclists can also have different needs and this is taken into account in developing network infrastructure improvements.
- Routes are much more effective if they form a network. A network is a series of routes that are connected to each other in some form of pattern. The hierarchy can be used to reinforce a network, to ensure that people can move from any one point in an area to any other point, without facing barriers in terms of gaps in the facilities offered.
- Networks do not necessarily have to be hierarchies. For example a grid pattern, with all links having equal status, is a network without a hierarchy. A network can also be used to separately identify different functions of routes; for example, routes that provide connectivity between areas can be distinguished from routes providing access within areas.
- Different routes types in the hierarchy are identified that reflect trip types, purposes and user types; but these also reflect that lower pedestrian and cyclist volumes will start in lower order routes and collect on higher order routes.

A broad indication of desires lines for the regional and local travel that help define a network hierarchy are presented in Figure 29. Commentary on physical links that could help serve these desire links follows.

6.2.1 Regional routes

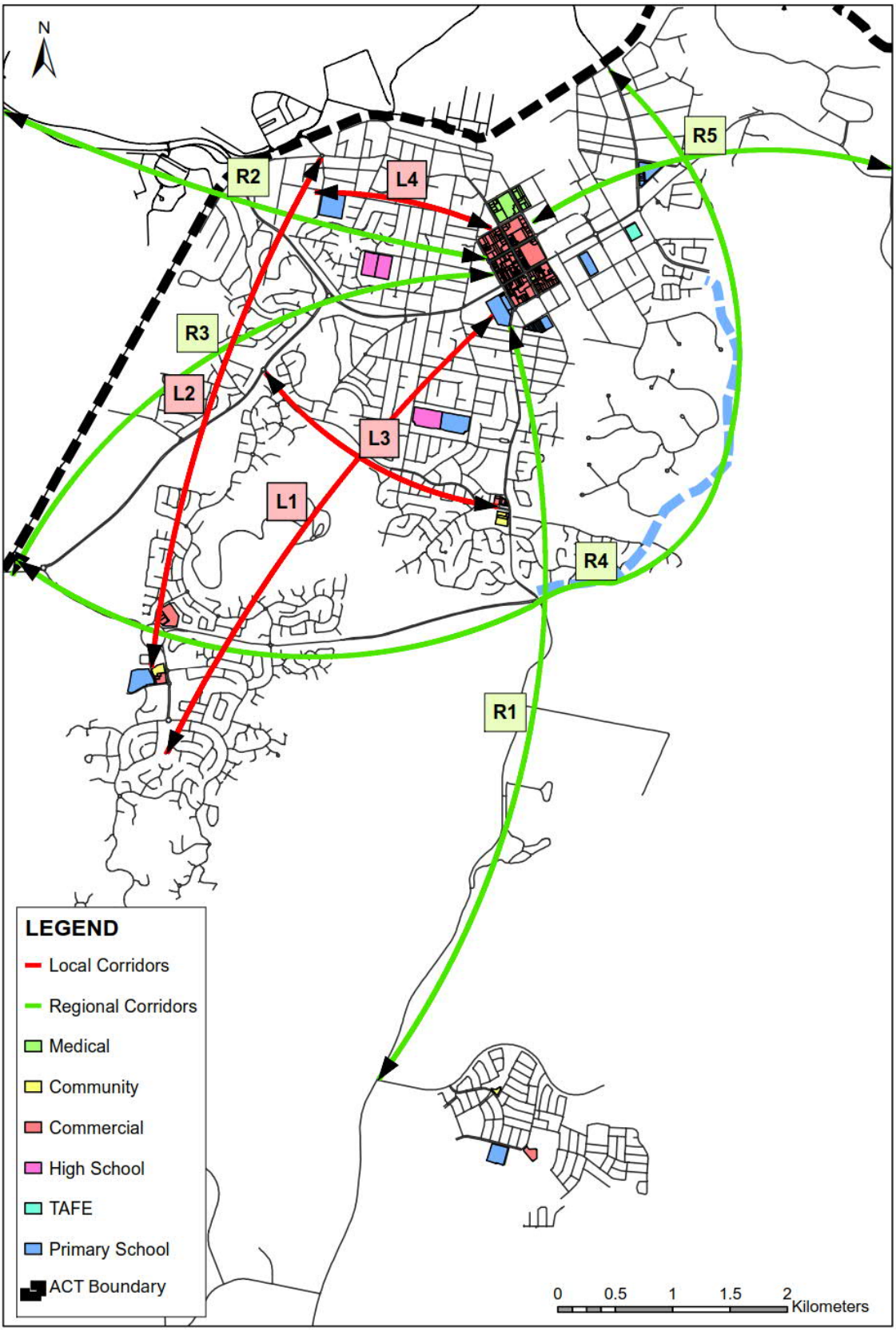
These routes are the longer distance links connecting the Queanbeyan suburbs and beyond. They have typically been associated with longer distance cycling; however, they do include a mix of on and off road facilities. A description of each of the regional routes is outlined below.

Route R1 – Googong to Queanbeyan CBD

As Googong develops this will become an increasingly important link. There is confirmed funding for on-road cycle lanes and a shared path along Old Cooma Road from Googong to the Edwin Land Parkway. In the longer-term Cooma Street is to be duplicated between Edwin Land Parkway and Southbar Road. This widening should also have on road cycle lanes.

A shared path has been proposed along Cooma Street connecting Queanbeyan CBD to the north and Old Cooma Road to the south. There is also an existing wide shoulder along Cooma Street between Thorpe Avenue and Southbar Road where on-road cycle lanes could continue.

Figure 29: Active travel route hierarchy



North of Southbar Road, the route would have to be on-road due to the existing urban land uses. The existing road treatment of pavement markings and islands would need to be reviewed along with a new road treatment scheme, with consideration for vehicular, pedestrian and cyclists' needs.

Route R2 Canberra Avenue to Queanbeyan CBD

This is the main east-west route through Queanbeyan, linking to the ACT in the north-west. There are two possible connection options for this route:

- Directly along Canberra Avenue
- Along Norse Road via either the shared path or a circuitous route through the Crestwood Road network.

Given the significance of this route, both shared path and on-road cycle lane options are recommended.

Currently, Canberra Avenue has wide marked shoulders for the majority of its length until Cameron Road / Campbell Street. However, the route loses its shoulders at almost all intersections. This creates an unsafe environment where there is uncertainly for both cyclists and vehicles about ability to use the road space.

Most of the unsignalised intersections should be able to be adjusted with some line marking and reduction to the length of some of the left turn deceleration lanes. The signalised intersections may require some localised changes at the intersections. A Concept Design study of Canberra Avenue should be undertaken in consultation with RMS to include:

- Adequate on road cycle lane widths
- Changes to signalised intersection configurations including head start boxes
- Links to the adjacent network including cut thoughts at key points such as the Stuart Street – Nimmitabel Place underpass to connect the adjacent local cycle network to Canberra Avenue
- Conversion of continuous left turn lanes to slip lane with priority for Canberra Avenue
- Consideration of northbound cyclists at the Lanyon Drive roundabout
- Integration with other regional and local route links.

Route R3 –Lanyon Drive

This route is a direct commuter route for those travelling between Jerrabomberra and Queanbeyan / Canberra. This route starts on Canberra Avenue and then connects to the Monaro highway. It links Routes R2 and R4 and local Routes L2 and L3.

Route R4 – Tompsitt Drive, Edwin Land Parkway and Ellerton Drive to Yass Rd

Along Tompsitt Drive the route runs along the shoulder lane to the intersection with Edwin Land Parkway / Limestone Drive where cyclists lose their facilities and need to share the road space with vehicles. A shared path is provided along the southern side to Cooma Street. On-road facilities are reintroduced east of the roundabout at Numeralia Drive and Stringybark Drive.

The Ellerton Drive extension has committed funding and once constructed will have both on-road cycle lanes and a shared path. These will continue to the Mowatt Street / Old Sydney Road roundabout.

A shared path is then recommended to connect to the Yass Road shared path link, with on-road cycles lanes continuing to the ACT border, connecting with Pialligo Avenue that will have on-road cycle lanes when duplicated in future.

6.2.2 Local routes

Four key local route desire lines have been identified. These are further refined within the masterplan to link with generators, destinations and existing infrastructure. The local routes tend to align themselves with the collector, distributor and local level street network rather than regional or arterial roads. A description of each of the local routes follows.

Route L1 – Jerrabomberra to Queanbeyan CBD

This link is an important connection between two major centres within Queanbeyan. To enable adequate catchments the route has been split into two either side of Jerrabomberra Hill for its application to route links for the network. The eastern link uses Donald Road, crossing the reserve and linking to Halloran Drive before connecting into broader Jerrabomberra. The western side links along Tharwa Drive to connect to existing infrastructure and ties in with Route L3 on Southbar Road.

Route L2 – western North –South Route

L2 covers a similar area to R3 as a north-south link along the west of Queanbeyan. It connects Jerrabomberra to Crestwood via local links and connects to R2, R3, L1, L3 and L4. The selected prioritised links for this route from the north include:

- Proposed shared path connections along Richard Avenue.
- Connecting to the Stuart Street / Nimmitabel Street underpass of Canberra Avenue.
- Utilising Nimmitabel Street and Crest Road as mixed traffic streets.
- Upgrading the footpath to a shared path between Gilmore Road and Harman Place.
- A connection across Lanyon Drive can be facilitated by the underpass linking Gilmore Road with Gilmore Place (note the anti motorbike barriers need to be addressed as they also pose a risk to cyclists especially in low light conditions where forward visibility of them may be poor).
- Harman Place and Miller Street could be marked as a mixed traffic street and a new link provided between the car park at the end of Miller Street and the shared path that goes around Letchworth Regional Park.
- A new shared path is then proposed adjacent to Lanyon Drive to link Southbar Road with Kinlyside Avenue with a mix of shared paths and mixed traffic streets connecting to the Jerrabomberra Shops.

Route L3 – Southbar Road

This route runs east-west through Karabar from Lanyon Drive to Cooma Street. The route offers a strategic corridor linking local routes to the north and south. It connects Routes R4, R3 L1 and L2. The current route is made up of shared paths, local traffic links adjacent to Southbar Road and some existing wide shoulders. With some localised improvements and treatments at the intersections most of Southbar Road could be converted to incorporate good quality on-road cycle lanes.

An adjacent shared path network should still be provided to cater for non-commuter based users and enable good walking connections as well. Route L3 also has a proposed shared path branch that will connect to Karabar High School.

Route L4 – Queanbeyan CBD to Freebody Park and Queanbeyan West Public School

Local route L4 is intended to provide an adequate interim link to Regional Route R2. The on-road and off-road segments of R2 are on average about 1 km apart and there were not adequate local facilities between them. L4 provides for an important connection with education and recreation land uses.

6.3 Implementation Plan

To avoid fragmentation of works an integrated approach was undertaken to balance each of the criteria and associated works. The networks identified in the plan present a 0-10 year timeframe. Typically the high priority items cover a 0 - 4 year time frame and the medium priority works relate to a 5 - 15 year time frame. However, the plan should be reviewed at the end of five years for currency and changed conditions, the implementation of works, likely forward works, available funding levels, changes in strategy, etc.

A Schedule of Works of proposed facilities and a cost estimate are provided in Appendix A. The cost estimates for each item are based on unit rates as agreed with Council. These unit rates are based on 2017 estimates and inflation should be taken into account for proposed works in future years.

6.3.1 Queanbeyan proposed works plan

The proposed works plan for bicycle and pedestrian facilities in Queanbeyan has been broken down by priority for clarity. The high priority links are shown in Figure 30 and the medium priority links in Figure 32. They include priorities for shared path or footpath improvements.
These figures demonstrate how the works proposed in the path program combine with existing paths, plus the proposed street crossing points and existing crossing places, to create an overall network. In this sense, "existing" also includes those paths that developers have committed to providing (where known).

6.3.2 Cost rates

The cost rates used in the implementation plan are based on the cost of recent similar works, in consultation with Council staff, and are presented in Table 9. These rates have been used to determine the indicative costs based on route lengths More detailed costing will be undertaken in the design phase.

Table 9: Infrastructure cost rates

Item	Rate	Cost
Concrete Path	Per square metre	$150
Bitumen path	Per square metre	$60
Pedestrian refuge island	Per item	$25,000
Mixed Street signage and line marking	Per metre	$30
Cycle lane – signage and line marking	Per metre	$50
Cycle lane – widening pavement	Per metre	$300

Note: 2018 prices

In regard to these, it should be noted that:

- Path rates have been nominated by Council.
- The cost rates exclude design and drafting of plans, community consultation or traffic control associated with works, and which might occur in-house or as part of other projects.

In developing the schedule of works and costs the type of treatment recommended was based on AUSTROADS and the RMS's NSW Bicycle Guidelines, using the following general principles:

- Shared off-road path regulatory signage is located every 500 metres and / or at intersections;
- Bicycle lane regulatory signage is located every 500 metres and / or at intersections;
- Bicycle network route directional signage is located at decisions points, such as the beginning and end of a route, where two routes intersect or where a route changes direction
- Bicycle lane logos are located every 75 metres and / or at intersections
- Shared off-road path logos located every 200 metres and / or at intersections
- Cycle lane widening pavement assumes widening by 1.5 m including signage and line marking – it excludes as service utility or street lighting relocation.

Network route directional signage has not been costed as part of these works. Signage would typically be located at decisions points; such as the beginning and end of a route, where two routes intersect or where a route changes direction.

Figure 30: Proposed works plan for Greater Queanbeyan – high priority

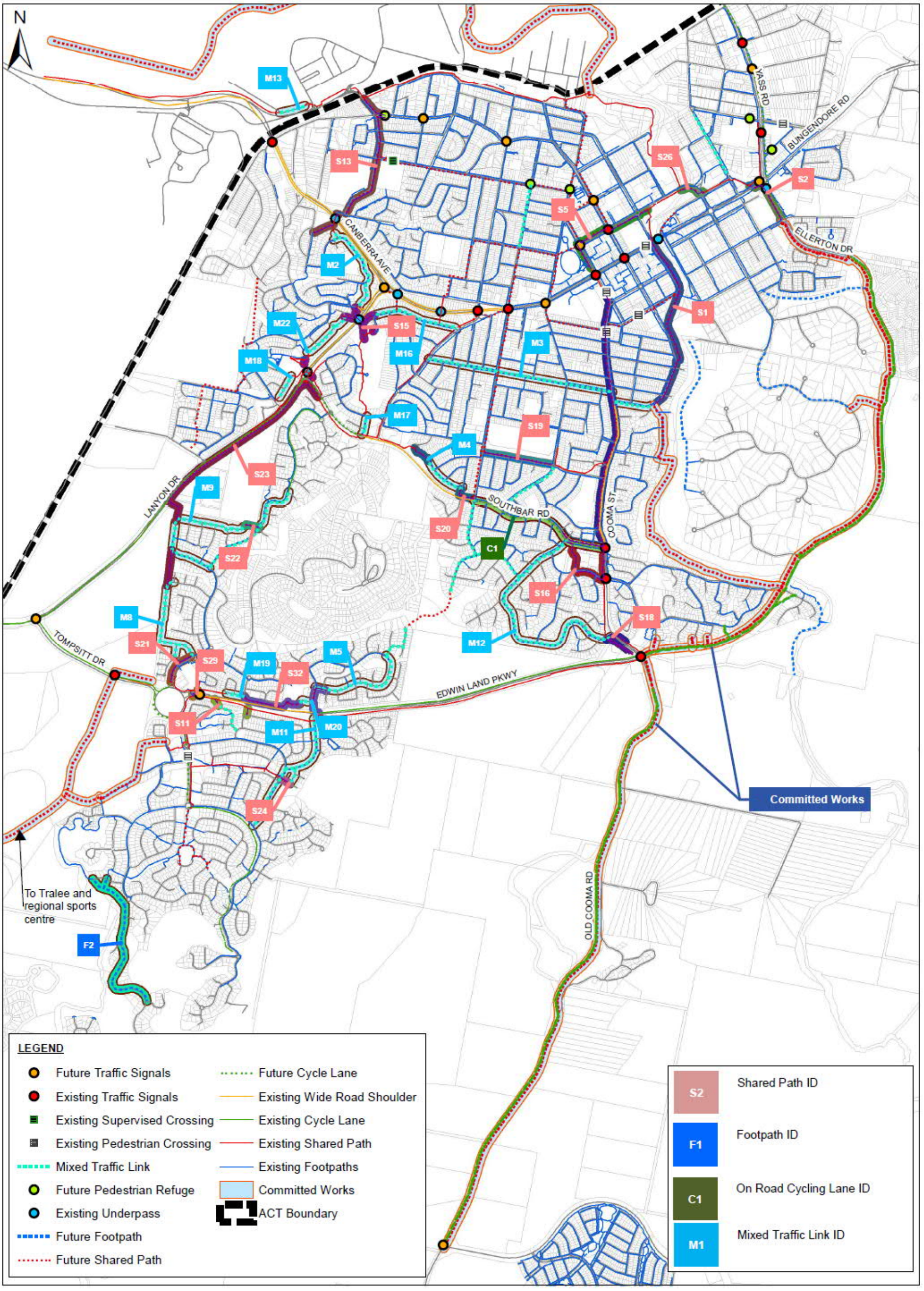


Figure 31: Proposed works for inner Queanbeyan – high priority

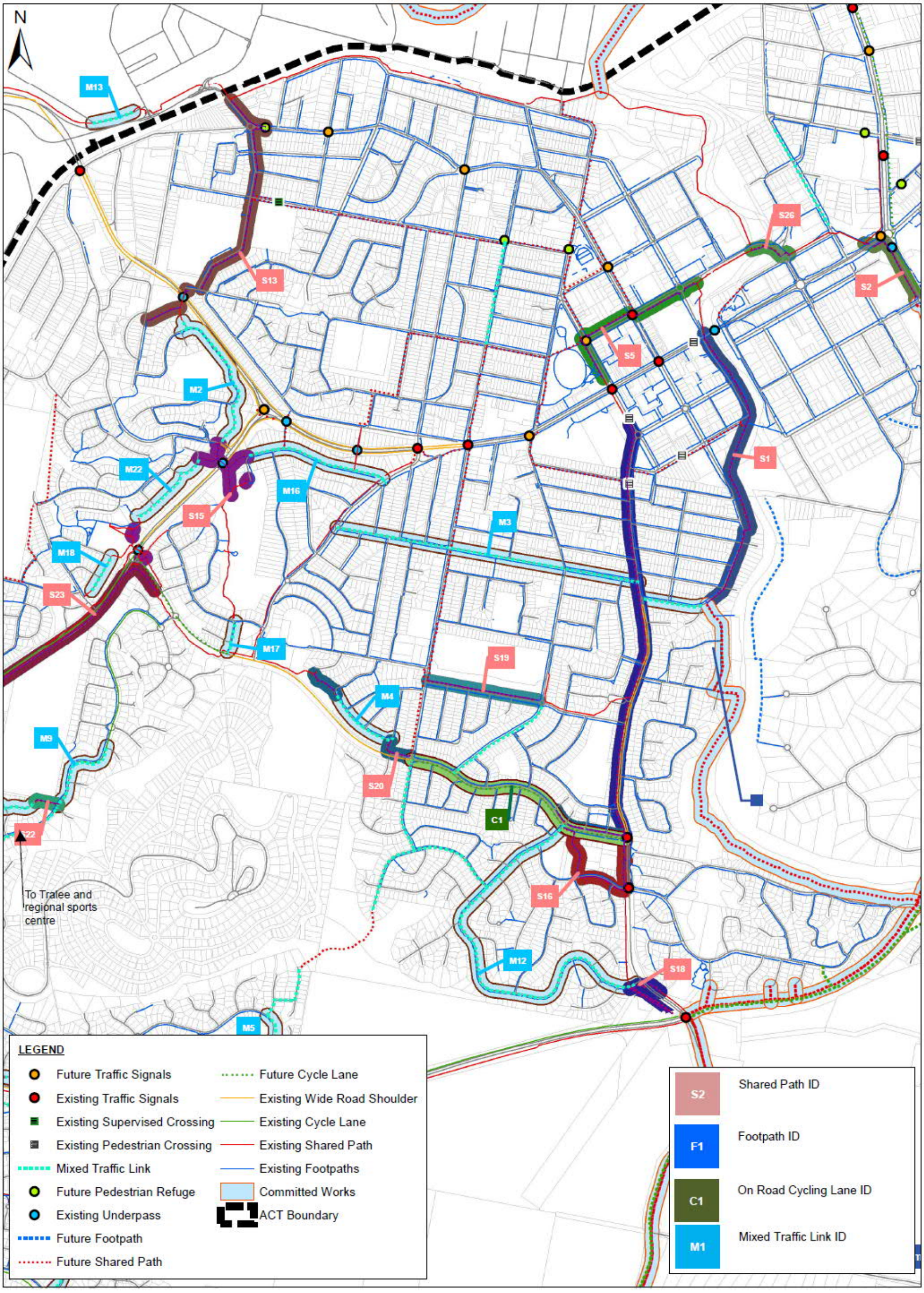


Figure 32: Proposed works plan for Greater Queanbeyan – medium priority

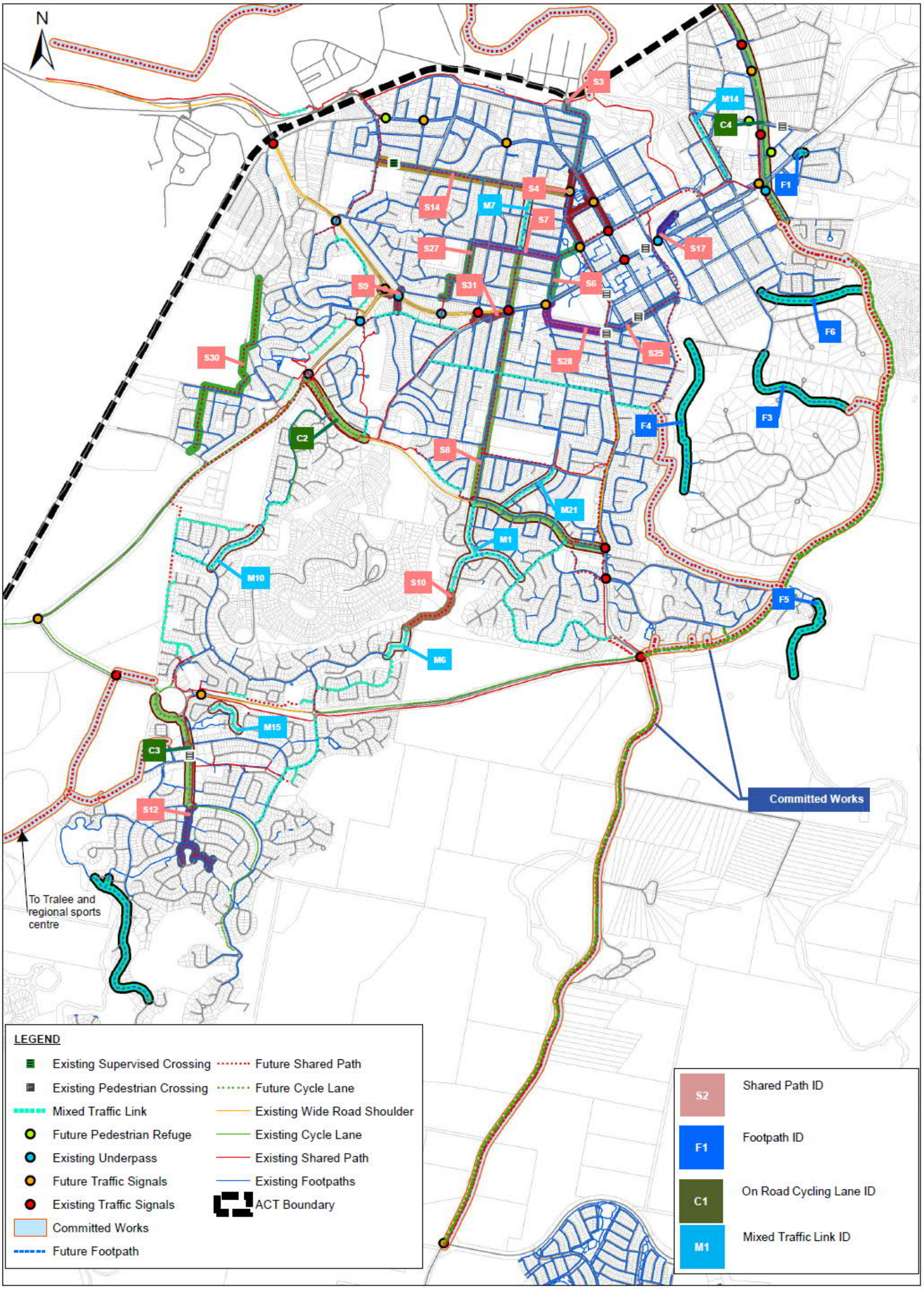
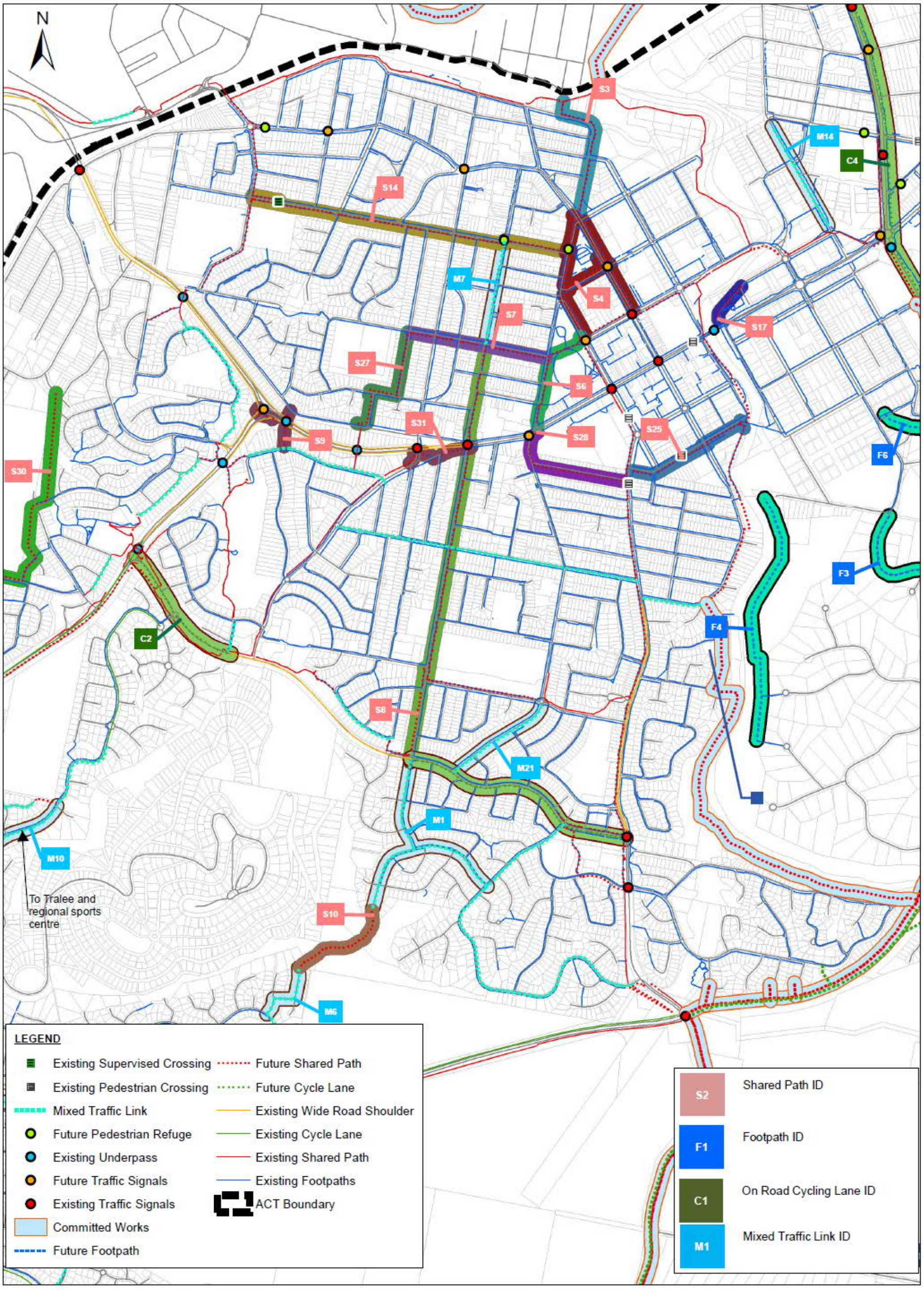


Figure 33: Proposed works plan for inner Queanbeyan – medium priority



6.3.3 Path program

The estimated cost of path improvements in Queanbeyan is given in Table 10 for footpaths and in Table 11 for shared paths. The tables itemise each of the routes in the path program, with an estimated cost. The tables also assign a map reference to each path and lists paths in (roughly) priority order.

It should be noted that depending on the condition of the existing footpath it may be possible to convert a footpath to a shared path at a lower rate than what is nominated in the tables. Without a detailed study of the condition of existing paths it has been decided to cost all shared paths at the higher amount which is likely to be conservative.

This program addresses the priority infrastructure required to link existing facilities to form usable networks. These typically comprise of shared use paths to as they cater for both pedestrian and cyclists affording greater use and path capacity.

The high priority treatments have sought to connect the identified north-south and east-west routes and provide continuous routes where there are missing links.

The memorandum of understanding for Council Projects funded by the RMS outlines terms of funding assistance for these works, as follows:

- Pedestrian crossings on, and kerb ramps provided to access footpaths adjacent to, streets under the care and control of the RMS are generally eligible for 100% RMS funding, subject to available funds and other funding priorities, if provided in accordance with an approved pedestrian facilities plan.
- Bicycle facilities provided in compliance with an approved Bicycle Plan are generally eligible for 50% funding from the RMS, subject to the availability of funds and competing funding priorities. This also applies to shared use paths.

Table 10: Queanbeyan proposed footpaths

REF ID	Link Description	Priority	Path Length (m)	Total Cost
F2	Waterfall Drive - From Bellbush Close to Lake Jerrabomberra	High	1290	$232,000
			sub total	**$232,000**
F1	Elizabeth Crescent to Kings Highway	Medium	60	$11,000
F3	Severne Street	Medium	950	$142,500
F4	Along Queanbeyan River – Between Granville Close and Dodsworth Street	Medium	1130	$169,500
F5	Along Queanbeyan River	Medium	680	$102,000
F6	Along open space corridor between Yarrow Street and Ellerton Drive Extension	Medium	770	$115,500
			sub total	**$530,500**
			Total	**$772,500**

Note: All estimated costs rounded to nearest $500

2. REFID is shown in Figure 30 and Figure 32

Table 11: Queanbeyan proposed shared paths

REFID	Priority	Link Description	Path Length	Total Cost
S1	High	Along the Queanbeyan River between Riverside Plaza and Ellerton Drive	1330	$199,500
S2	High	Along Ellerton Drive between Kings Highway and Mowatt Street	380	$56,500
S5	High	Along Morisset Street between Queanbeyan River and Brad Haddin Oval (including the eastern side of the Brad Haddin Oval)	700	$105,000
S11	High	Connections on southern side between Edwin Land Parkway's existing shared path and both Poplar Crescent and Rosewood Glen	100	$15,500
S13	High	Along Lorn Road and Kealman Road between Uriarra Road and John Bull Street	1220	$183,000
S15	High	Lanyon Drive connections allowing cyclists and pedestrians to have access to a shared path that uses the underpass	560	$83,500
S16	High	Along Cooma Street and Thornton Road in the vicinity of the Karabar Preschool and the local sporting facilities	660	$99,500
S18	High	Cooma Street between Southbar Road and Lowe Street and also additional connections near Candlebark Road to Edwin Land Parkway	2280	$342,500
S19	High	Along Alanbar Street between Donald Road and Cameron Road	490	$73,500
S20	High	Southbar Road Connection that combined with Sassafras Crescent run parallel to Southbar Rd	590	$88,500
S21	High	Along Limestone Drive between Edwin Land Parkway and Jerrabomberra Parkway intersection to O'Sullivan Road	260	$39,000
S22	High	From Carolyn Jackson Drive to Pepper Place	110	$16,000
S23	High	Along Lanyon Drive between Southbar Road and Esmond Avenue	1880	$282,000
S24	High	Connection from Brudenell Drive to and the end of Tea Tree Close	70	$10,000
S26	High	Connection from Waniassa Street to Carinya Street across the bridge	180	$26,500
S29	High	Edwin Land Parkway crossing near the shops	60	$9,000
S32	High	Connections on northern side of Edwin Land Parkway near the shops that enable access from Dora Street to Unwin Avenue	710	$106,000
			High Priority Sub-Total	**$1,735,500**
S3	Medium	Along McEwan Ave, Henderson Rd and Campbell St between the bridge over the railway line and the intersection of Campbell Street and Crawford Street	600	$90,500
S4	Medium	Works in the vicinity of the Queanbeyan Aquatic Centre on Campbell Street, Lowe Street, Crawford Street and Morisset Street	1260	$189,500
S6	Medium	Link across Brad Haddin Oval and along	490	$73,000

REFID	Priority	Link Description	Path Length	Total Cost
		Campbell Street		
S7	Medium	Along Surveyor Street between Brad Haddin Oval to the Queanbeyan High School.	550	$83,000
S8	Medium	Along Donald Road between Southbar Road and Surveyor Street	1750	$263,000
S9	Medium	Canberra Avenue connections crossing Lanyon Drive near the roundabout.	220	$33,500
S10	Medium	Connection between Murruba Place and Rusten Place crossing the Jerrabomberra Mountain Reserve	460	$68,500
S12	Medium	From Jerrabomberra Parkway to the Allan McGrath Reserve through the park and connecting several other streets to the Allan McGrath Reserve	840	$126,000
S14	Medium	Along Morton Street between Lorn Road and the Queanbeyan Aquatic Centre	1430	$214,000
S17	Medium	Connection between Trinculo Place and Waniassa Street through the Sensory Gardens.	180	$27,000
S25	Medium	Along Isabella Street between the Queanbeyan River and Cooma Street.	570	$85,500
S27	Medium	Along Spendelove Street, Early Street and Agnes Ave between Surveyor Street to Munro Road	570	$85,000
S28	Medium	Along Glebe Avenue between Cooma Street to Canberra Avenue	560	$84,500
S30	Medium	From Gordan Avenue to Hoover Road around the Queanbeyan Race Club	1640	$246,500
S31	Medium	Connections on Canberra Avenue between Donald Road and Tharwa Road	230	$34,500
			Medium Priority Sub-Total	**$1,704,000**
			Total	**$3,439,500**

Note: 1. All estimated costs rounded to nearest $500
2. REFID is shown in Figure 30 and Figure 32

6.3.4 Mixed traffic links

The map reference and cost for these are given in Table 12.

Table 12: Queanbeyan proposed mixed use roads

REFID	Priority	Link Description	Path Length (m)	Total Cost ($)
M2	High	Along Nimmitabel Street between the underpass on Canberra Avenue and the underpass on Lanyon Drive	710	$10,500
M3	High	Along Fergus Road between Tharwa Road and Cooma Street	1590	$24,000
M4	High	Along Sassafras Crescent parallel to Southbar Road	340	$5,000
M5	High	Along Halloran Drive between Allambee Street and Numeralia Drive	740	$11,000

REFID	Priority	Link Description	Path Length (m)	Total Cost ($)
M8	High	O'Sullivan Road and Esmond Drive between Limestone Drive and path connecting to Kinlyside Ave	830	$12,500
M9	High	Along Halloran Dr, Kinlyside Ave, Carolyn Jackson Dr between Carolyn Jackson Drive and Hamilton Place	1420	$21,500
M11	High	Allong Stringybark Dr and Brudennel Drive between Edwin Land Parkway and Bicentennial Drive	1100	$16,500
M12	High	Along Candlebark Road between Cooma Street and Southbar Road	1750	$26,500
M16	High	Along Gilmore Place between Tharwa Road and Lanyon Drive	620	$9,500
M17	High	Along Telopea Place between Crest Park Parade and Southbar Road	140	$2,000
M18	High	From Letchworth Park to Maloney Street	170	$2,500
M19	High	Along Unwin Avenue parallel to Edwin Land Parkway connecting the shared path	130	$2,000
M20	High	Along Lerra Street between Numeralia Drive and a future shared path	110	$1,500
M22	High	Along Miller Street and Harman Place	370	$5,500
			Sub-Total	**$150,500**
M1	Medium	Donald Road between Southbar Road and Rusten Street and all of Rusten Street	1130	$17,000
M6	Medium	Connecting Allambee Street, Gurrana Street and Murruba Place to a shared path that crosses the Jerrabomberra Mountain Reserve	300	$4,500
M7	Medium	Ross Road between Surveyor Street and Morton Street	450	$7,000
M10	Medium	Carolyn Jackson Dr between Halloran Dr and Kinlyside Ave	460	$7,000
M14	Medium	High St between Thurralilley St and Bungendore Rd	490	$7,500
M15	Medium	Along Rosewood Glen connecting the Bicentennial Drive to Edwin Land Parkway	320	$4,500
M21	Medium	Cameron Rd between Southbar Rd and Alanbar Rd	500	$7,500
			Sub-Total	**$55,000**
			Total	**$205,500**

Note: 1. All estimated costs rounded to nearest $500

2. REFID is shown in Figure 30 and Figure 32

6.3.5 Cycle lanes

Cycle lanes are proposed to be implemented in two ways. First, signage and line marking within minimal changes to existing pavement. Second, to provide a sealed shoulder or widen an existing shoulder. The map reference and cost for these are given in Table 13.

Table 13: Queanbeyan proposed cycle lanes

REFID	Link_Description	Priority	Path Length	Total Cost
C1	Southbar Road from Donald Road to Cooma Street*	High	1030	$52,000
			High Priority Sub-Total	**$52,000**
C2	Widen shoulder Southbar Road from Lanyon Drive and before Tharwa Road	Medium	600	$180,500
C3	Along Jerrabomberra Parkway*	Medium	820	$41,000
C4	Along Yass Road and Ellerton Drive*	Medium	2200	$166,000
			Medium Priority Sub-Total	**$387,500**
			Total	**$439,500**

Note: 1. All estimated costs rounded to nearest $500

2. REFID is shown in Figure 30 and Figure 32

Assumes signage and line marking alterations only

6.3.6 Street crossing program

The greatest safety hazard for road users is at intersections. Intersections and street crossings therefore have a high priority in the action plan.

A lack of kerb ramps also affects access for people with disabilities (a particular area of interest for council, given statutory requirements such as the Disability Discrimination Act and Disability Standards for Accessible Public Transport) and for people using strollers, etc. Construction of street crossings will also provide kerb ramps.

The priority for street crossings is where crossings:

- Are of high traffic volume streets
- Are used by high pedestrian and / or cyclist volumes
- Link routes to form or enhance networks.

Kerb extensions, raised pedestrian crossings and road crossing facilities provided on local and regional roads (those not under the care and control of the RMS) are generally eligible for up to 50% funding by the RMS, subject to availability of funds and competing funding priorities.

Table 14 outlines the proposed crossing facilities, in the form of refuge islands. The location of these are shown in Figure 22 and described in Table 14.

Table 14: Queanbeyan proposed street crossing facilities

Link Description	Priority	Items	Total Cost
Refuge Island – Uriarra Road east of Richard Avenue	High	1	$25,000
Refuge Island – Campbell Street near Morton Street	High	1	$25,000
Refuge Island – Thurralilly Street west of Yass Road	High	1	$25,000
Refuge Island – Mulloon Street east of Yass Road	High	1	$25,000
		High Priority Sub-Total	**$100,000**

Link Description	Priority	Items	Total Cost
Refuge Island – Morton Street near Stornaway Street	Medium	1	$25,000
		Medium Priority Sub-Total	**$25,000**
		Total	**$125,000**

6.3.7 Kerb ramp replacement program

A kerb replacement program has been actioned and many of the links with footpaths have installed pram ramps. All sites with footpaths or shared paths should have kerb ramps installed. The kerb ramps associated with older footpaths generally do not meet current disability standards in terms of gradients, ease of mounting, directional guidance provided by Tactile Ground Surface Indicators (TGSIs); are poorly located and aligned; and in some cases do not exist at all.

If kerb ramps are only installed with new infrastructure, they are not provided in a strategic way - i.e. to create usable routes - and accessible routes and networks would not be created in a reasonable timeframe.

The kerb ramp replacement program aims to provide or replace kerb ramps in existing footpaths, to create a basic framework of accessible routes within each town within five years. Priority should be determined by the following factors:

- Amount of pedestrian use
- Currently programmed works (whether the kerb ramp would otherwise be constructed)
- Providing continuously accessible routes, especially in commercial and secondary destination zones, but also other locations well- used by frail pedestrians (typically the elderly) and/ or people using prams or strollers
- Providing number of circular loops to cater for some degree of recreational opportunities.

The cost of constructing new kerb ramps is about $1,100 per kerb ramp, plus around $160 per square metre of footpath where footpath construction or reinstatement is required in addition to the kerb ramp.

A kerb ramp replacement program of $11,000 per year is proposed in the first instance. This would provide for some ten kerb ramps to be replaced each year, or 50 over the life of the program. This should allow sufficient funds to complete the kerb upgrade works within Queanbeyan. Other works, such as constructing new kerb and installing new footpaths, will also provide new kerb ramps. Kerb ramps will typically need to be provided in pairs, so that kerb ramps facing each other across a street or intersection are both compliant.

It is understood that Council has undertaken an audit of kerb ramps and is undertaking a kerb ramp replacement program.

"Kerb ramps provided to access footpaths adjacent to roads under the care and control of the RMS are eligible for 100% funding by the RMS, subject to availability of funds and competing funding priorities. Kerb ramps provided as an upgrade of existing pedestrian facilities on local and regional roads (those not under the care and control of the RMS) are eligible for up to 50% funding through local government pedestrian facilities programs *by the RMS, subject to availability of funds and competing funding priorities".*

6.3.8 Off-network program

The preceding programs have all concentrated on creating the pedestrian and cycling networks for Queanbeyan. However, to maximise the use, utility and ultimately value of these networks, a number of other activities can be undertaken. This includes capital works activities, policy or planning activities, and promotional activities.

These are termed "off-network" activities and this program covers these activities.

Bicycle parking

An almost complete lack of bicycle parking was noted during the community consultation and site visit. Basic bicycle parking levels are specified in the design standards. Bicycle parking provided in addition to this should be installed on an incremental basis, with additional parking dependent on observations of take up.

The custom coloured bike racks out the front of the library on Rutledge Street are considered very effective and assist to raise awareness for cycling based on their shape.

It is suggested that the bicycle program allow for at least five rails to be installed each year. It is preferable for the rails to be installed singly or as pairs of rails, rather than only installed at a single location each year. At a cost of about $250 each, this would be $1,250 a year.

Bicycle facilities provided in compliance with an approved Bicycle Plan are generally eligible for 50% funding from the RMS, as outlined in the Council Projects Funded by the RTA Memorandum of Understanding, subject to the availability of funds and competing funding priorities.

Proposed locations for bicycle parking are:

- Adjacent all sporting ovals and public parks
- Various locations with the CBD preferably within 100m of the main riverside plaza entrances and along the main street.

Better signage to existing parking would also greatly improve awareness and likely usage.

Activities raising awareness of the bicycle and pedestrian facilities plan

In assisting to enable behavioural change, motivation can play an equally important factor as opportunity. Pedestrian and cycling infrastructure can create the opportunity. Hand in hand with this should be walking and cycling motivation, education and awareness - those things that enable the physical facilities to be used to its best extent. Education, promotion and encouragement activities could include:

- Educate communities about the new facilities provided and opportunities these present;
- Encourage the use of facilities; and
- Create goodwill between the community and Council.

The cost to implement these actions will depend on the type and extent of activities selected for implementation, the degree to which they fall under existing budgets, the degree to which grant funding or resources are available to assist in their implementation and the degree to which Council actively pursues these actions. Hence a firm cost estimate cannot be given.

Bicycle training courses, BikeWeek activities, bicycle use promotions and map production may be eligible for part funding from the RMS through the bicycle user support program, subject to the availability of funds and competing funding priorities.

7.0 Plan Implementation and Monitoring

7.1 Implementation

The staged implementation plan identified through this study would need to be assessed and implemented based on specific site conditions and reflect the latest pedestrian and bicycle facilities standards at the time of implementation. The staged action plan would be considered by Council as part of other projects (e.g. road upgrade, place making projects etc.) or included as standalone items in future Delivery Programs and Operational Plans.

Construction of any works identified in this study will be subject to the availability of funding.

7.2 Monitoring

As the pedestrian and bicycle network is developed, it will be important to monitor the progress of the network over time. Monitoring could relate to the following three areas:

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

Monitoring of the quality of pedestrian and bicycle routes could be undertaken by measuring the quality of the route against the existing design criteria as part of a "look and see" audit process. This will enable the overall quality of routes to be improved, problems to be addressed and resources to be targeted appropriately. Council would monitor the pedestrian and bicycle plan deliverables as per the action plan. A typical assessment would involve an assessment of route conditions by a person familiar with pedestrian and bicycle design issues and would involve a site visit along the specified route.

8.0 References

ABS (2011) Australian Bureau of Statistics, Census of Population and Housing 2011

ABS (2016) Australian Bureau of Statistics, Census of Population and Housing 2016

AECOM (2017a) Integrated Transport Strategy Stage 1 Consultation, July 2017

AECOM (2018a) Integrated Transport Strategy Stage 2 Consultation, for QPRC, February 2018

Geoplan (2010a) Queanbeyan bicycle plan, for Queanbeyan City Council, May 2010

Geoplan (2010b) Queanbeyan pedestrian and mobility plan, for Queanbeyan City Council, May 2010

NSW Government (2017) Draft future transport strategy 2056, October 2017

Queanbeyan City Council (2012a) Community Strategic Plan 2013-23

Queanbeyan City Council (2013a) Queanbeyan tomorrow community vision 2021, November 2013

RTA (2011) NSW Bicycle Guidelines, January 2011

RMS (2017) 2012-2016 road crash statistics data base, May 2017

Appendix A

Schedule of Works

Appendix A Schedule of Works

REF ID	Priority	Link Description	Path Length (m)	Total Cost
C1	High	Southbar Road between Donald Road and Cooma Street	1032	$51,500
F2	High	Waterfall Drive between Bellbush Close and two end connections near Lake Jerrabomberra.	1290	$232,000
PR1	High	Uriarra Road east of Richard Avenue	1 item	$25,000
PR2	High	Campbell Street near Morton Street	1 item	$25,000
PR3	High	Thurralilly Street west of Yass Road	1 item	$25,000
PR4	High	Mulloon Street east of Yass Road	1 item	$25,000
S1	High	Along the Queanbeyan river between the Riverside Plaza and Ellerton Drive	1330	$199,500
S2	High	Along Ellerton Drive between Kings Highway and Mowatt Street	380	$56,500
S5	High	Along Morisset Street between Queanbeyan River and Brad Haddin Oval (Including the eastern side of Brad Haddin Oval)	700	$105,000
S11	High	Connections on southern side between Edwin Land Parkway's existing shared path and both Poplar Crescent and Rosewood Glen	100	$15,500
S13	High	Along Lorn Road and Kealman Road between Uriarra Road and John Bull Street	1220	$183,000
S15	High	Lanyon Drive connections allowing cyclists and pedestrians to have access to a shared path that uses the underpass	560	$83,500
S16	High	Along Cooma Street and Thornton Road in the vicinity of the Karabar Preschool and the local sporting facilities	660	$99,500
S18	High	Cooma Street between Southbar Road and Lowe Street and also additional connections near Candlebark Road to Edwin Land Parkway	2280	$342,500
S19	High	Along Alanbar Street between Donald Road and Cameron Road	490	$73,500
S20	High	Southbar Road Connection that combined with Sassafras Crescent run parallel to Southbar Road	590	$88,500
S21	High	Along Limestone Drive between Edwin Land Parkway and Jerrabomberra Parkway intersection to O'Sullivan Road	260	$39,000
S22	High	From Carolyn Jackson Drive to Pepper Place	110	$16,000
S23	High	Along Lanyon Drive between Southbar Road and Esmond Avenue	1880	$282,000
S24	High	Connection from Brudenell Drive to and the end of Tea Tree Close	70	$10,000
S26	High	Connection from Waniassa Street to Carinya Street across the bridge	180	$26,500
S29	High	Edwin Land Parkway Crossing near the shops	60	$9,000

REF ID	Priority	Link Description	Path Length (m)	Total Cost
S32	High	Connections on northern side of Edwin Land Parkway near the shops that enable access from Dora Street to Unwin Avenue	710	$106,000
M2	High	Along Nimmitabel Street between the underpass on Canberra Avenue and the underpass on Lanyon Dr	710	$10,500
M3	High	Along Fergus Road between Tharwa Road and Cooma Street	1590	$24,000
M4	High	Along Sassafras Crescent parallel to Southbar Road	340	$5,000
M5	High	Along Halloran Drive between Allambee Street and Numeralia Drive	740	$11,000
M8	High	O'Sullivan Road and Esmond Drive between Limestone Drive and path connecting to Kinlyside Ave	830	$12,500
M9	High	Along Halloran Dr, Kinlyside Ave, Carolyn Jackson Dr between Carolyn Jackson Drive and Hamilton Place	1420	$21,500
M11	High	Allow Stringybark Dr and Brudennel Drive between Edwin Land Parkway and Bicentennial Dr	1100	$16,500
M12	High	Along Candlebark Road between Cooma Street and Southbar Road	1750	$26,500
M16	High	Along Gilmore Place between Tharwa Road and Lanyon Drive	620	$9,500
M17	High	Along Telopea Place between Crest Park Parade and Southbar Road	140	$2,000
M18	High	From Letchworth Park to Maloney Street	170	$2,500
M19	High	Along Unwin Avenue parallel to Edwin Land Parkway connecting the shared path	130	$2,000
M20	High	Along Lerra Street between Numeralia Dr and a future shared path	110	$1,500
M22	High	Along Miller Street and Harman Place	370	$5,500
C2	Medium	Southbar Road between Lanyon Drive and Tharwa Road	601	$180,500
C3	Medium	Along Jerrabomberra Parkway from Bicentennial Drive to Tompsitt Drive	820	$41,000
C4	Medium	Along Yass Road and Ellerton Drive between the QRPC border and the Mowatt Street / Old Sydney Road	2213	$110,500
F1	Medium	Elizabeth Crescent crossing the nature strip to the side of the Kings Highway	60	$11,000
F3	Medium	Severne Street	950	$142500
F4	Medium	Along Queanbeyan River – Between Granville Close and Dodsworth Street	1130	$169,500
F5	Medium	Along Queanbeyan River	680	$102,000
F6	Medium	Along open space corridor between Yarrow Street and Ellerton Drive Extension	770	$115,500
PR4	Medium	Morton Street near Stornaway Street	1 item	$25,000
S3	Medium	Along McEwan Ave, Henderson Rd and Campbell St between the bridge over the railway line and the intersection of Campbell Street and Crawford Street	600	$90,500

REF ID	Priority	Link Description	Path Length (m)	Total Cost
S4	Medium	Several road works in the vicinity of the Queanbeyan Aquatic Centre on Campbell Street, Lowe Street, Crawford Street and Morisset Street.	1260	$189,500
S6	Medium	Link across Brad Haddin Oval and along Campbell Street	490	$73,000
S7	Medium	Along Surveyor Street between Brad Haddin Oval to Queanbeyan High School	550	$83,000
S8	Medium	Along Donald Road between Southbar Road and Surveyor Street	1750	$263,000
S9	Medium	Canberra Avenue connections crossing Lanyon Drive near the roundabout	220	$33,500
S10	Medium	Connection between Murruba Place and Rusten Place crossing the Jerrabomberra Mountain Reserve	460	$68,500
S12	Medium	From Jerrabomberra Parkway to the Allan McGrath Reserve through the park and connecting several other street connections to the Allan McGrath Reserve	840	$126,000
S14	Medium	Along Morton Street between Lorn Road and the Queanbeyan Aquatic Centre	1430	$214,000
S17	Medium	Connection between Trinculo Place and Waniassa Street through the Sensory Gardens	180	$27,000
S25	Medium	Along Isabella Street between Queanbeyan River and Cooma Street	570	$85,500
S27	Medium	Along Spendelove Street, Early Street and Agnes Ave between Surveyor Street to Munro Road	570	$85,000
S28	Medium	Along Glebe Avenue between Cooma Street to Canberra Avenue	560	$84,500
S30	Medium	From Gordan Avenue to Hoover Road around the Queanbeyan Race Club	1640	$246,500
S31	Medium	Connections on Canberra Avenue between Donald Road and Tharwa Road.	230	$34,500
M1	Medium	Donald Road between Southbar Road and Rusten Street and all of Rusten Street.	1130	$17,000
M6	Medium	Connecting Allambee Street, Gurrana Street and Murruba Place to a shared path that crosses the Jerrabomberra Mountain Reserve	300	$4,500
M7	Medium	Ross Road between Surveyor Street and Morton Street	450	$7,000
M10	Medium	Carolyn Jackson Dr between Halloran Dr and Kinlyside Ave	460	$7,000
M14	Medium	High St between Thurralilley St and Bungendore Rd	490	$7,500
M15	Medium	Along Rosewood Glen connecting the Bicentennial Drive to Edwin Land Parkway	320	$4,500
M21	Medium	Cameron Rd between Southbar Rd and Alanbar Rd	500	$7,500