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Queanbeyan-Palerang Regional Council
09-Jun-2020

Integrated Transport Strategy

Final Report

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Revision 5 – 09-Jun-2020
Prepared for – Queanbeyan-Palerang Regional Council – ABN: 95 933 070 982

Integrated Transport Strategy

Final Report

Client: Queanbeyan-Palerang Regional Council

ABN: 95 933 070 982

Prepared by

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Reviewed by Brendan Hogan

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			Name/Position	Signature
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3	14-June-2018	Final Draft	Neil Graham Project Manager	
4	5-Feb-2019	Revised Final Draft	Neil Graham Project Manager	
5	09-Jun-2020	Council Approved	Brendan Hogan Project Manager	

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Executive Summary

This Integrated Transport Strategy (ITS) for Queanbeyan-Palerang Regional Council (QPRC) will guide future investment in the transport network in the region. The Strategy provides direction for transport; including the public transport, cycling and footpath networks and links, heavy vehicle management, future road planning and regional integration with the ACT and the broader NSW. It provides a description of proposed actions and broad priorities for future implementation. The Australian Capital Territory (ACT) is currently preparing the ACT Integrated Transport Strategy (ACT Government 2018).

An integrated approach between all levels of government is necessary to address transport and land use issues. In general terms, Council manage land use development and local roads, bicycle and pedestrian networks; they work with RMS in recommending and implementing changes to State and Regional roads; they work with Transport NSW and local bus operators for changes to the public transport system; and they work with ACT Government for changes to cross-border transport links.

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).

Travel Behaviour

Travel to the ACT is integral to economic growth and prosperity for the region, as employment, education, health, the airport and higher order services are often located in Canberra. Integrated planning approaches and reciprocal investment decision making for shared corridors and key connecting infrastructure need to be enabled. Improved connectivity by bus between Queanbeyan and Canberra is a priority.

Private vehicles are the dominant form of travel, even for short trips. The location of Queanbeyan in relation to Canberra provides opportunities to transform the nature of transport in the region in the foreseeable future. A key to this is overcoming barriers to the integration of Queanbeyan and Canberra's public transport system.

Figure 1 shows mode use for the journey to work in the main QPRC towns. It shows that use of public transport is small (3% of trips or less). Local walking trips are reasonably high for Braidwood (15%) and small for Bungendore (3%) and Queanbeyan (3%). Cycling trips represent a very small portion of travel, accounting for 1% of trips or less.

In 2016, over 62% of QPRC residents worked outside of the Council area. Of these, the vast majority of workers travel to ACT. The dominance of the ACT as an employment destination indicates Queanbeyan's function as a regional centre within the Canberra urban area and the need to better integrate the Canberra / Queanbeyan and region's transport system.

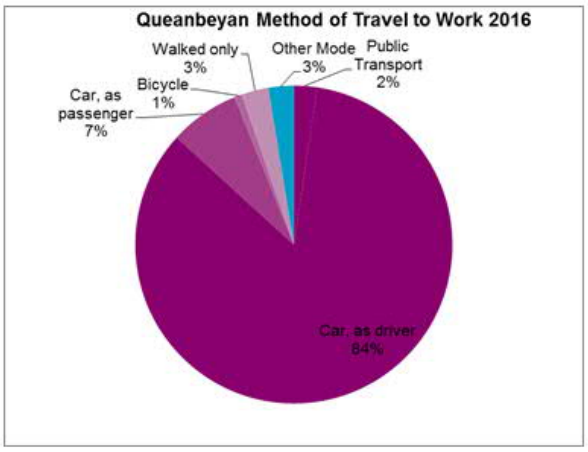
ITS Vision

The agreed vision for the ITS coming from the first round of consultation is:

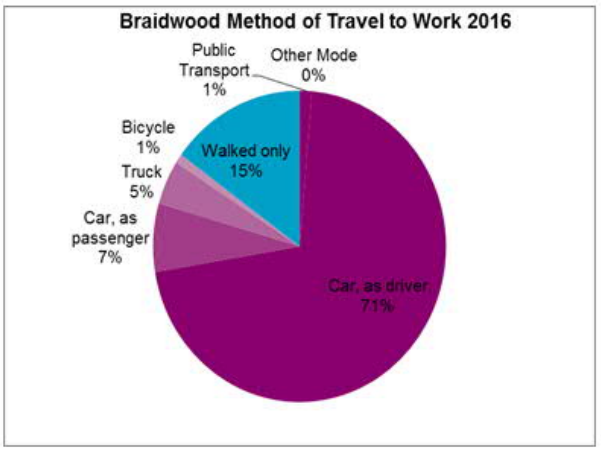
> *To build and maintain a safe, effective and environmentally sustainable transport system through: integrated transport and land-use planning, effective policy development and investment to support a connected community with affordable and convenient access to services, responding to emerging trends and making best use of new technology, promoting healthy communities through greater active transport choices, encouraging business development and regional prosperity and working together with neighbouring jurisdictions to form complementary plans and improved connectivity in the region.*

Figure 1: 2016 Census journey to work mode use in main QPRC towns

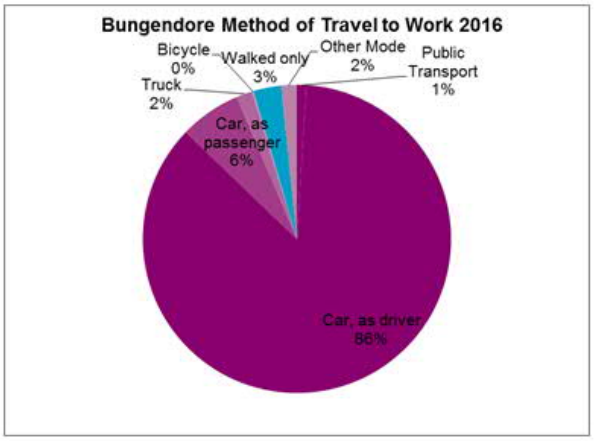
Queanbeyan



Braidwood



Bungendore



NSW Bureau of Transport Statistics (May, 2017)

Public transport, cycling and walking are traditionally understood as the key components of a sustainable transport network. However, modern sustainable transport planning extends well beyond accommodating these three modes and needs to encompass wider policy approaches that will reduce both the need to travel by car, and the desire to travel by car.

ITS Goals

The agreed goals for the ITS coming from the first round of consultation are:

Social and economic inclusion: Align the accessibility of transport to the needs of the community and the economy, developing better connected communities through improved travel links that are fast, convenient, safe and secure, and more travel choice for residents and visitors. Provide a range of options to meet transport needs including the provision of infrastructure and non-infrastructure solutions and improved services. Inform the community using a range of communication media of the various transport options available to them. Reduce obstacles to the accessibility for disadvantaged groups, through a strategy to improve infrastructure (physical access) and innovative methods to address access.

Safety, health and wellbeing: Design, construct and maintain transport infrastructure to meet acceptable standards to maximise the safety and security of all users of the transport system. Provide a range of options to meet community needs for health and wellbeing, focussed on the needs of the elderly and teenagers. Make QPRC a cycling friendly region with infrastructure such as separated lanes and road management improvements.

Economic prosperity: Encourage more efficient and lower impact freight and delivery for suppliers and businesses, through application of land use and planning instruments and close collaboration with government agencies and commercial interests. Promote and support government and private investment in road and rail infrastructure to ensure goods can be moved efficiently around the region while minimising adverse impacts on communities and the environment.

Environmental sustainability: Minimise the impact of transport on the environment by supporting growth in public transport, walking and cycling for trips in the region, as well as protecting habitat, biodiversity and landscape values. Create and promote effective policies and investments to support sustainable transport choices, encourage travel behaviour change, respond to emerging trends and to make best use of new technology, re-designing road space allocation, reducing greenhouse gas emissions from transport and containing the provision of off-street parking.

Integration: Progressively develop the transport system in collaboration with Government agencies and commercial interests, to achieve a seamless and connected network through planning and collaboration between a range of government and private providers. Promote and facilitate the integration of the public transport system through integrated transport and land-use policy development and working together with commercial interests and neighbouring jurisdictions to form a unified plan.

Efficiency, coordination and reliability: Support efficient and reliable door-to-door movement of people and goods in the region by progressively upgrading the mobility and carrying capacity of roads by prioritising access to public transport, walking and cycling. Promote innovative transport solutions will be used to improve travel reliability and connectivity by alternative modes.

Strategic Responses

Strategic responses or broad actions have been developed from issues raised in the first round of consultation for each of the key elements of the transport network in QPRC – roads, freight, parking, public transport, land use and active travel. These are summarised in Table 1 to Table 5.

Table 1: Road network main issues and strategic responses

Main issues of concern	Proposed strategic response
• Amount of traffic on Monaro Street in CBD • Reduced access when Queanbeyan River floods • Cross-border road capacity and traffic congestion in peaks • Limited access to Googong • Traffic congestion, access and safety on the main streets of Braidwood and Bungendore • Safety blackspots on regional roads and State highways • Traffic congestion and safety at intersections generally, but especially at the intersections of Lanyon Drive / Tompsitt Drive and Barracks Flat Drive / Cooma Street • Access to the coast via Nerriga Road (for tourism, freight and recreation) • Council is only doing the transport strategy to push the Ellerton Drive Extension agenda • Maintenance of gravel roads	1. Construct Ellerton Drive Extension across Queanbeyan River to provide all weather access and an alternative route for traffic to the Monaro Street CBD route (happening) (refer Queanbeyan CBD Transformation Masterplan) 2. Conduct a study to investigate options for improving the amenity and pedestrian movement in Queanbeyan CBD 3. Support the ACT in the duplication of Pialligo Avenue (study being conducted) 4. Ensure the alignment adopted by QPRC for the proposed Dunn's Creek Road is preserved, together with a link to Monaro Highway in ACT 5. Duplicate Old Cooma Road from Googong to Ellerton Drive extension (happening) 6. Support a master plan for upgrading the main streets of Braidwood and Bungendore (happening in Braidwood) 7. Lanyon Drive / Tompsitt Drive roundabout be replaced by signals (happening) 8. Continue to review need for intersection improvements 9. A Kings Highway route strategy is being developed by RMS 10. Upgrade Nerriga Road (happening) 11. Continue to review blackspot crash locations and seek blackspot funding 12. In consultation with RMS, continue to update Council traffic studies and recommendations as new data becomes available including any increase in public transport usage (happening) 13. Develop program for maintenance of Council roads 14. Develop plan to assist access for future red rapid service extension along Canberra Avenue to Queanbeyan

Table 2: Freight main issues and strategic responses

Main issues of concern	Proposed strategic response
• Truck access to coast via Nerriga Road • Too many trucks on Monaro Street in Queanbeyan CBD • Trucks through Braidwood and Bungendore • Safety at bridge and blackspot locations • Through traffic (trucks) to/from Canberra	1. Upgrade Nerriga Road (happening) 2. Develop options to reduce trucks using Monaro Street 3. Establish corridors for future bypasses of Braidwood and Bungendore 4. Develop a program to upgrade safety blackspots on regional road network 5. Facilitate upgrade of the standard of the State highway network 6. Develop a strategy to manage truck movements through Queanbeyan 7. Integrate freight movements in ACT and NSW heavy vehicle route plans

Table 3: Active travel main issues and strategic responses

Main issues of concern	Proposed strategic response
• Widths and quality of path surfaces • Missing links or kerb ramps • Accessible paths in Queanbeyan CBD, Braidwood, Bungendore and Captains Flat townships • Few on-road cycle lanes on urban roads and many narrow and poorly maintained shoulders on regional roads • Lack of end of trip facilities, especially at bus interchange and rail stations • Poor integration with public transport • Cross-border integration • Yass Road rail bridge • Lack of family / recreation links • Poor mapping and information on existing paths • Limited cycle network and facilities	1. Identify a connected and accessible path hierarchy and way finding strategy for active travel 2. Support increased provision of end of trip facilities, especially at bus interchange and rail stations 3. Prioritise people and pedestrian movement within Queanbeyan CBD, building on the current CBD masterplan work 4. Introduce lower speed limits in high pedestrian activity areas such as Queanbeyan CBD 5. Implement a program to promote active transport use and facilitate community participation 6. Implement improved cross-border linkages for active travel 7. Improve amenity and pedestrian facilities in Queanbeyan CBD and the townships of Braidwood, Bungendore and Captains Flat (happening) 8. Construct on-road cycling and off road shared path facilities along Ellerton Drive Extension to improve connectivity across Queanbeyan River and local neighbourhoods (happening) 9. Construct on-road cycling and off road shared path facilities along Old Cooma Road to improve connectivity between Googong and Queanbeyan (happening)

Table 4: Public transport main issues and strategic responses

Main issues of concern	Proposed strategic response
• Integration between the ACT and NSW (buses, routes, fares, information) • Integration between rail and bus (buses, services, information) • Lack of services to isolated communities (e.g. for health needs) or new urban areas (e.g. Googong) • Affordability of bus services bus services • Frequency and reliability of services • Lack of real time information on transport options • Future rail connections and services in the region • Integration of various community and point to point transport services with public transport • Rail stations need to be upgraded • Lack of bus shelters • Lack of services to Braidwood and Bungendore	1. Resolve barriers to extend ACTION Red Rapid service to Queanbeyan interchange, including planning for future bus priority (being examined by ACT/NSW Governments) 2. Resolve barriers to integrate ACT and Queanbeyan fare structure and subsidies (being examined by Transport for NSW) 3. Investigate new bus services and park and ride facilities to service Googong and Jerrabomberra directly into the ACT 4. Review public transport connections to regional train stations 5. Inform community of existing public transport services (e.g. many residents don't realise that they can use the many school bus services that run throughout the region) (happening, Transport for NSW) 6. Seek to implement a real time information system for public transport (already in ACT) 7. Integration of community and point to point transport services into the public transport network (happening, Transport for NSW) 8. Develop a strategy for bus and coach passenger shelters for region 9. Develop a strategy for integrated bus routes between ACT and NSW 10. Seek to implement a commuter rail strategy for travel between Bungendore and Kingston (ACT), with consideration of a potential new rail station at the Australian Headquarters Joint Operations Command (HQJOC)

Table 5: Parking main issues and strategic responses

Main issues of concern	Proposed strategic response
• No parking information or plan for Queanbeyan CBD • Parking requirements for new development does not encourage use of non-car modes	1. Review parking supply and demand and restrictions in Queanbeyan CBD and surrounds, as well as other key centres in Queanbeyan, Braidwood and Bungendore in line with the CBD Parking Plan 2. Review potential changes to Council's parking code requirements for new development, so as to encourage the use of alternative modes 3. Identify surface car parks in Queanbeyan CBD for future multi-use development 4. Examine new smart city technology to improve parking access and efficiency in Queanbeyan CBD (currently being investigated as part of CBD Parking Plan and Smart City Project)

Table 6: Land-use main issues and strategic responses

Main issues of concern	Proposed strategic response
• Land-use planning has resulted in dispersed development • Land-use plan does not encourage public transport use	1. Land-use planning to support improved public transport 2. Identify corridors for increased development densities 3. Promote increased densities and mixed-use development in vicinity of Queanbeyan CBD and major existing and future commercial centres, including Googong, Braidwood and Bungendore Centres

Forming the ITS

In forming an ITS there are four broad areas of transport system planning and development that need to be addressed:

- Transport network improvements for all modes of travel
- Creating a vibrant and safe CBD
- Partnership with ACT and NSW governments
- Community and stakeholder engagement

Transport Network Improvements

In order to realise a transport system that provides viable and attractive alternatives to private vehicle travel, a number of fundamental changes are required that focus on improvements to the walking, cycling and public transport networks, while preserving the ability of private vehicles and freight to efficiently access commercial areas, key employment areas and the wider region.

This is the focus of the ITS and most of the recommendations included in the implementation plan. The form and priority for infrastructure improvements are summarised in maps in Appendix A.

Creating a Vibrant and Safe CBD

The primary focus of this principle is Queanbeyan CBD, but it could equally apply to Bungendore and Braidwood CBD's, as they evolve in future. Queanbeyan is the current focus as it is the largest commercial centre in QPRC.

The renewal of the CBD is fundamentally dependent upon the creation of a vibrant, attractive and safe public realm where walking and cycling are the preferred modes of transport. This is referred to in the CBD Masterplan (Hames Sharley) and requires the following key interventions:

- Pedestrian based environment. Within the CBD, pedestrians should have absolute priority for movement along and across streets.
- Links between CBD attractors. All major land uses within the CBD should be effectively linked by high amenity, high priority pedestrian links. The quality and safety of these links is critical to supporting high levels of pedestrian activity in the centre, as many people will still choose to drive to the centre and should not be discouraged from doing so.
- Improvements to the bus network so that it provides a higher frequency, legible service for residents to access the CBD throughout the day, evenings and weekends, including the aspects of accessibility and effective integration with land use attractors in the CBD.
- High standard of vehicle access to consolidated car parks, which service the central business area, noting that in most cases cars will have less priority than other modes of transport, but should still be afforded access.
- End of trip facilities for bicycles (both recreational and commuter) will provide the right conditions to promote cycling as an attractive form of transport.
- Ensure that existing and future ring roads operate to minimise through traffic in the CBD (maximise 'place' function of CBD transport network).

Partnership with ACT and NSW Governments

A large proportion of travel to work and freight travel involves cross-border movement into and out of ACT. The ACT Government holds responsibility for the planning, implementation and operation of the ACT public transport and arterial road networks, whilst the NSW Government is responsible public transport and arterial road networks in QPRC.

The development of a strong partnership with ACT and NSW Governments is fundamental to the development of an integrated transport system that provides real travel choice across the region, especially improving the public transport network can only be achieved through working in close partnership with the ACT and NSW Governments.

A detailed list of non-infrastructure related actions for QPRC to help develop internal policy and to advocate for actions by ACT and NSW Governments is included in Chapter 6.

Community and Stakeholder Engagement

Ongoing and continued engagement with the community and business is critical to the successful implementation of the ITS, and to ensure that the solutions proposed are relevant and targeted to meet the needs of users. Prioritisation of projects and identification of issues should be undertaken in collaboration with the community, transport industry and other affected stakeholders.

Monitoring and Review Plan

Monitoring the success of the overall ITS is critical to achieving ongoing funding support from Council and the NSW Government, and community feedback. The following actions are proposed to help ensure that progress against the objectives of the ITS is tracked:

- *ITS review:* Ongoing review of the ITS is important to ensure that it accurately reflects the latest population and development data for QPRC, and adjustments are made as necessary to ensure it remains relevant.
- *Project delivery and coordination:* Ongoing monitoring of the delivery of ITS projects is critical to measure progress against the strategy and ensure consistency of purpose across the range of Council planning and policy documents and objectives.
- *Monitoring impact of projects:* Regular measurements of travel demand, behaviour and assessment of how and when ITS objectives will be achieved is critical to understand the impact and relevance of the ITS, and make changes or adjustments as necessary. Monitoring changes in cross-border traffic volumes in bus passenger numbers will be an important element of this.
- *Opportunities for funding:* Ongoing partnership with the ACT, NSW and Federal Government is required to identify funding opportunities and maximise the ability to present business cases for investment. At the same time, new developments within QPRC are likely to provide opportunities to deliver projects as negotiated outcomes through the planning process.

In addition to these actions, the following opportunities should be considered by Council:

- Establish a community based reference group to provide ongoing feedback on the progress of the strategy, and provide input to project prioritisation and delivery.
- Continue to engage with ACT Government and the Department of Transport to progress the ‘advocacy’ actions contained within the ITS.
- Continue to monitor development approvals and activity, to capitalise on any opportunities that may arise through private sector development.
- Provide additional smart hub facilities for staff/personnel to utilise as a joint trial with the ACT and Federal Government Departments.
- Nominate bypasses for both Braidwood and Bungendore to be included within the structure plans. The location of industrial lands should be considered when investigating a bypass location.

1.0 Introduction

1.1 Purpose

This Integrated Transport Strategy (ITS) for Queanbeyan-Palerang Regional Council (QPRC) will guide future investment in the transport network in the region. It recognises that a range of viable transport options are needed, and focuses on enabling the transport system to provide genuine choice for residents, so that people in QPRC can access a full range of employment, services and recreation without needing to own a private car.

The Strategy provides direction for transport; including the public transport, cycling and footpath networks and links, heavy vehicle management, future road planning and regional integration with the ACT and the broader NSW. The development of the Strategy includes the review and update of the Pedestrian and Mobility Plan (PAMP) and Bicycle Plan to include the whole Queanbeyan-Palerang region.

1.2 Background

QPRC, with Queanbeyan City as its major population centre, sits close to the ACT border with New South Wales (NSW). Two-thirds of employees living in Queanbeyan commute to the ACT for work. As such, its population patterns have more in common with those of the ACT than they do with other areas in regional NSW.

Private vehicles are the dominant form of travel, even for short trips. The location of Queanbeyan in relation to Canberra provides opportunities to transform the nature of transport in the region in the foreseeable future. A number of characteristics of the car dominated transport network need to be addressed so that the transport network promotes a vibrant, inclusive society, where other modes of transport are attractive, safe and viable. A key to this is overcoming barriers to the integration of Queanbeyan and Canberra's public transport system.

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).

This report provides a description of proposed actions and broad priorities for the implementation of an ITS for QPRC. It builds on previous work summarised in previous reports on this project, including:

- Context Report (AECOM 2017a) – provides background information relating to existing transport infrastructure, conditions, policies and issues in QPRC and region.
- Bicycle and Pedestrian Facility Plans for Queanbeyan, Bungendore and Braidwood (AECOM 2019 b, c, d) – provides detailed action plans in each of these major QPRC centres.
- Community consultation reports for Stage 1 (issues) and Stage 2 consultation (actions) (AECOM 2017a, 2018a).

In addition, it builds on information from previous technical reports assessing options for transport improvements in QPRC – refer Section 8.0.

1.3 Scope

The ITS provides recommendations for all transport modes and networks in the municipality, with a particular focus on Queanbeyan, Bungendore and Braidwood. The recommendations have been developed using a four-step approach to providing an inclusive and integrated transport network:

- Broad vision, goals and general principles for the QPRC transport network are described in Chapter 3.
- Strategic responses to key issues raised during the initial consultation for this project, described in Chapter 4 of this report.
- Network gaps and needs and actions to address these, detailed in Chapter 5.
- Projects priorities for addressing transport network needs, detailed in Chapter 6 of this report, including specific projects or actions.

Finally, a series of performance indicators are presented in Chapter 7 as a basis for tracking the success of the strategy, including mode share targets.

Prior to this an outline of existing conditions is provided in Chapter 2. This is based on extracts from the Context Report for this project (AECOM 2017b) and includes an outline of the project's consultation processes and outcomes.

More details of actions and priorities for the pedestrian and bicycle network are given in the following associated reports for this project:

- Queanbeyan Bicycle and Pedestrian Facilities Plan (AECOM 2018ab)
- Bungendore Bicycle and Pedestrian Facilities Plan (AECOM 2018bc)
- Braidwood Bicycle and Pedestrian Facilities Plan (AECOM 2018cd)

1.4 Context

In addition to the reports produced as part of this project, this report complements a number of policies and strategies that are either existing or under preparation, including:

- Draft Future Transport Strategy 2056 (NSW Government 2017)
- Queanbeyan Community Strategic Plan 2013-23 (Queanbeyan City Council 2012a)
- Queanbeyan Tomorrow Community Vision 2021 (Queanbeyan City Council 2013a)
- Queanbeyan CBD Transformation Strategy (QPRC 2017c)
- Queanbeyan CBD Master Plan (Place Design Group 2009)
- ACT/QPRC Memorandum of Understanding
- Queanbeyan CBD Parking Plan
- Queanbeyan Residential and Economic Strategy 2031 (NSW Department of Planning 2007)
- South Jerrabomberra Structure Plan (Queanbeyan City Council 2013b)
- QPRC Disability Inclusion Action Plan 2017-2021 (QPRC 2017a)
- QPRC Rural Lands Strategy 2016 – 2036 (QPRC 2016b)
- Bungendore Land Use and Structure Plan (Walsh Consulting 2009)

It provides a sound rationale for the implementation of these strategies and policies, by linking transport and access initiatives with broader social and economic goals for the region.

1.5 Council's Role

Councils in NSW generally have a role to play in the provision of a range of transport infrastructure and services, such as:

- Community transport that provides access to the services that Council offers (for example, youth services or aged services)
- Roads, footpaths and cycle networks
- Local Area Traffic Management (LATM) measures

Working with transport authorities to improve the overall network. Council also has an important part to play in its role as Planning Authority, in ensuring that new development is appropriately planned, and that relevant services are accessible by a range of transport modes, such as walking and cycling. Council usually shares this responsibility with state government departments and agencies such as NSW Department of Transport and NSW Department of Planning and Environment. Roads and Maritime Services (RMS) are also an important organisation within the Department of Transport. Council has to work closely with the NSW Government in the provision of an appropriate level of transport and access to employment and services, particularly in relation to the provision of major infrastructure such as arterial roads and public transport services. An integrated approach between all levels of government is necessary to address transport and land use issues.

Most of the actions for arterial roads and public transport cannot be implemented by QPRC, but by other Government authorities (Transport NSW, RMS); QPRC can work with these authorities to help implement these changes and can only advocate for such changes.

2.0 Existing Conditions

2.1 Population and Employment

2.1.1 QPRC region

QPRC, with Queanbeyan City as its major population centre, sits close to the ACT border with New South Wales (NSW). Two-thirds of employees living in Queanbeyan commute to the ACT for work. As such, its population patterns have more in common with those of the ACT than they do with other areas in regional NSW.

Bungendore supports the local region and is also a dormitory suburb for Canberra and also to some degree, the nearby Headquarters Joint Operations Command (Australia).

Braidwood also supports the local region. There are other smaller villages and a significant rural residential population in the region.

The QPRC population forecast for 2018 is 59,499 and is forecast to grow to 78,756 by 2036 (QPRC website, June 2018).

The National Institute of Economic and Industry Research estimated that QPRC had 32,543 employed residents in 2016, but only 16,840 local jobs. This means that a large proportion of residents seek employment outside of QPRC; in particular, in Canberra.

2.1.2 Queanbeyan

Queanbeyan currently has a population of approximately 41,000 and expects to accommodate at least another 10,000 to 15,000 in Queanbeyan by 2031 with further growth occurring in the centres of Bungendore and Braidwood expected to add an additional 1,000 residents.

The number of households is expected to grow by 8,000 in Queanbeyan over the next 15 years. More than half of this growth will be in Googong.

Much of the jobs growth in Queanbeyan is expected to occur in Googong or in the corridor between Hume and Jerrabomberra.

While growth areas are planned to include provision of pedestrian, bicycle and public transport facilities, it is considered likely that they will generally exhibit higher levels of car dependency than if they were located in close proximity to the comprehensive range of employment, services and facilities that are available in Queanbeyan CBD. While the ITS does not seek to provide broad based land use recommendations for future growth, it is clear that infill development closer to the CBD is likely to exhibit more sustainable transport characteristics than peripheral development, and as such is more likely to contribute to achieving the overall objectives of the ITS. All future development should provide viable walking, cycling and public transport options for users from the beginning of the development, rather than being retrofitted at a later date when travel behaviour has already been established.

2.1.3 Areas outside of Queanbeyan

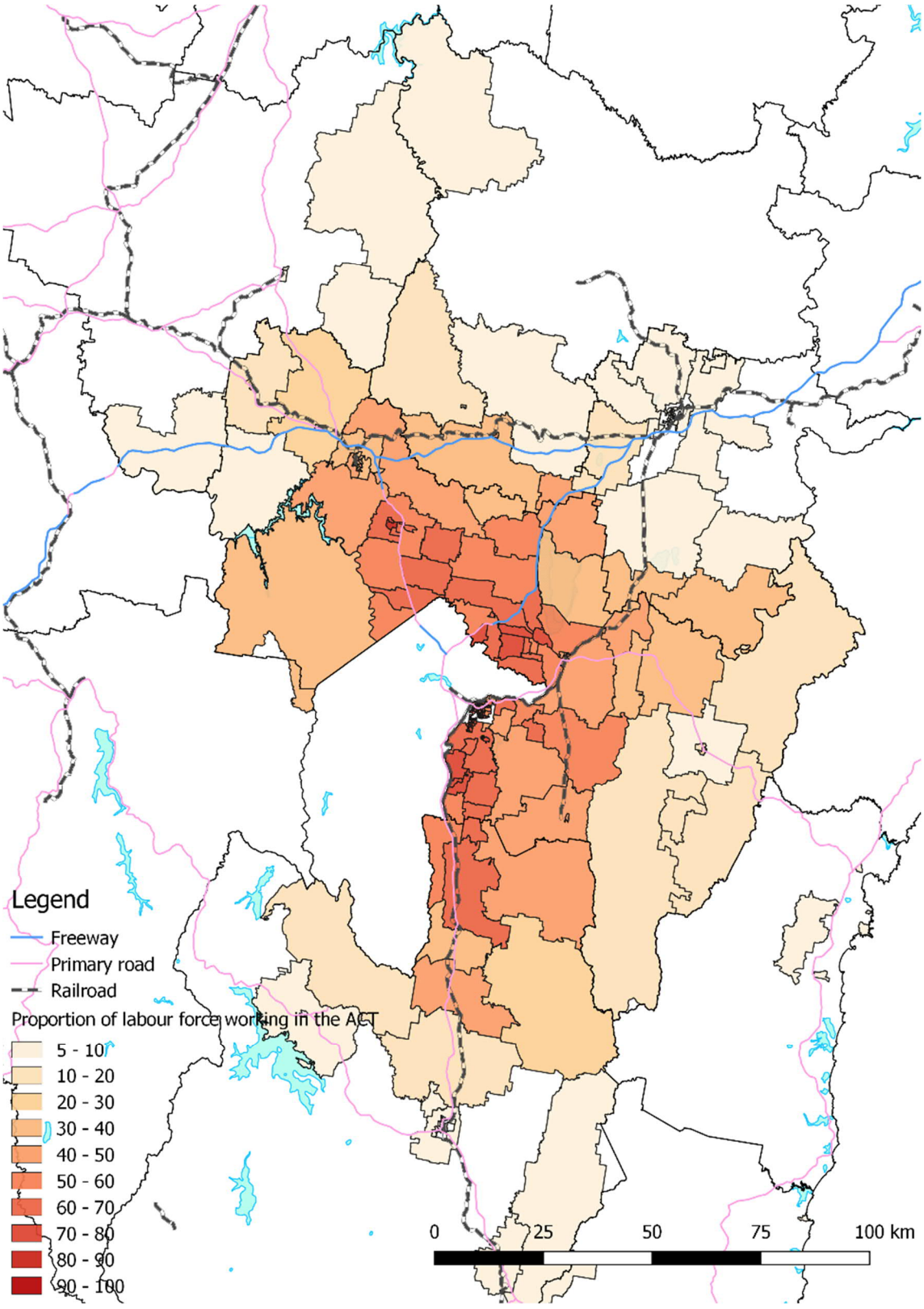
There has also been significant demand for rural residential land outside of Queanbeyan, to the south of Googong and north of the ACT border, to the west of Bungendore. These areas comprise a significant population group within the LGA, with transport needs that differ somewhat from those of the urban centres. Growth rates outside of the Queanbeyan urban area are expected to lie between 1.9% and 2.0% per annum for the 10 years to 2021. After 2021 growth rates are expected to fall slightly to about 1.3% per annum.

The projected population numbers show that as the population grows, the percentage of residents of working age (15 to 64 years old) will decline from 68.5%, to around 61.8% by 2031. Local employers will find it increasingly difficult to find workers locally as the available workforce will grow more slowly than the population overall.

2.2 Travel Patterns

There is significant movement west into ACT from surrounding towns in QPRC. In the 2016 Census, 24% (25,029) of the Capital Region's labour force work within the ACT. The largest proportion of these are located within close proximity to the ACT / NSW border, primarily along major road with direct access to Canberra (see Figure 2).

Figure 2: Labour force living in Capital Region and working in the ACT



Australian Bureau of Statistics, 2016, Census journey to work SA1, prepared by Elton Consulting

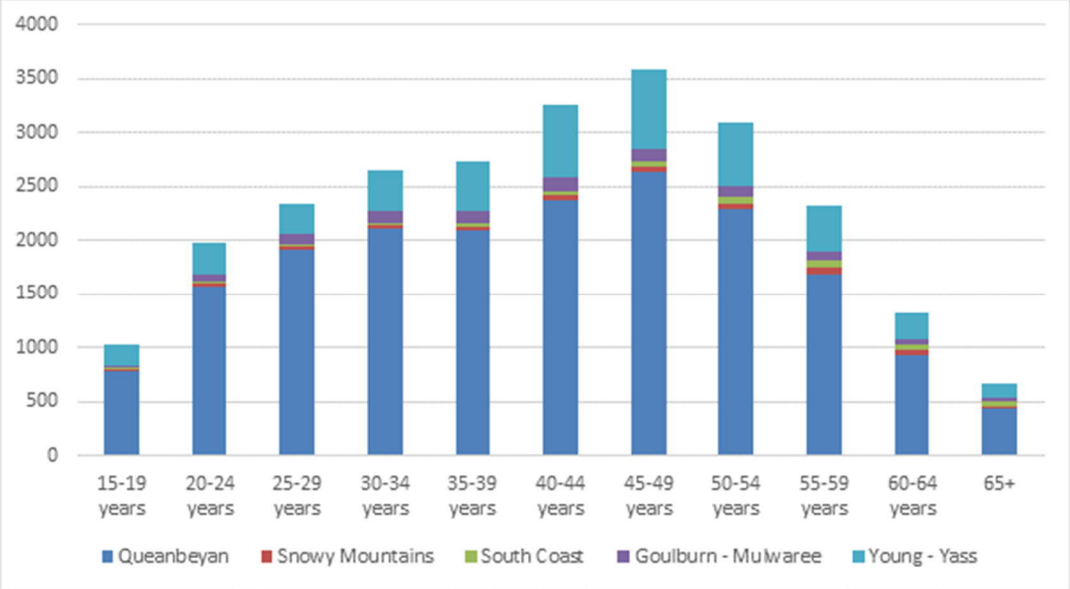
There is also significant movement of school student transport from NSW into ACT. There is negligible movement to the east (coast) or south (Snowy Mountains) from QPRC and a small amount of movement north to Goulburn.

Travel to the ACT is integral to economic growth and prosperity for the region, as employment, education, health, the airport and higher order services are often located in Canberra. Integrated planning approaches and reciprocal investment decision making for shared corridors and key connecting infrastructure need to be enabled. Improved connectivity by bus between Queanbeyan and Canberra is a priority.

NSW residents also access health and education services in the ACT, accounting for 7% of all school enrolments (ACT Government, September 2015) and 20% of all public hospital admissions (NSW Health, June 2013).

The vast majority of those working in the ACT commute from the QPRC region. This is illustrated in Figure 3.

Figure 3: Commuters to the ACT by age group and region of origin 2016



Australian Bureau of Statistics, 2016, Census journey to work

At least 65.2% of QPRC residents work outside of the QPRC region (see Table 7); most of these working in Canberra. The dominance of the ACT as an employment destination indicates Queanbeyan's function as a regional centre within the Canberra urban area.

Table 7: Destination location of QPRC resident workers in 2016

Work Location of QPRC Resident Workers	QPRC Residents	
	Number	%
QPRC area	9,033	30.8
ACT	18,481	63.0
Not within the QRPC or ACT	644	2.2
No fixed address	1,181	4.0
Total employed residents	**29,339**	**100**

Source: 2016 ABS Census

There are also a substantial number of people that travel to work in QPRC from areas outside of QPRC. An analysis of ABS 2016 Census data indicated that about 32% of QPRC workers live in ACT. In total, about 38.4% of QPRC workers live outside the region (Table 8). Of these, the vast majority of workers live in ACT (about 84.1%).

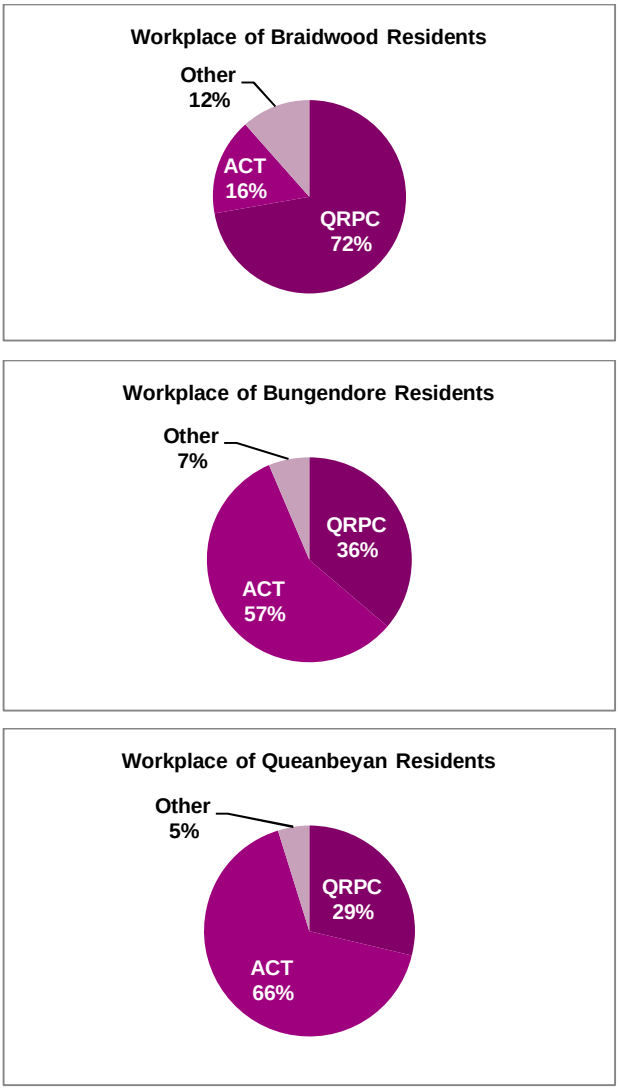
Table 8: Origin location of QPRC jobs in 2016

Status	QPRC Residents	
	Number	%
QRPC jobs for workers from the ACT	4,745	32.3
QRPC jobs for workers not from the ACT or QRPC	895	6.1
QPRC jobs for QPRC workers	9,033	61.6
Total jobs in QRPC	**14,673**	**100**

Source: 2016 ABS Census

A indication of the importance of ACT jobs to residents living in key QPRC towns is illustrated in Figure 4. This shows that both Queanbeyan and Bungendore have over 50% of their workers working within the ACT. Only 16% of Braidwood residents travel to work in ACT.

Figure 4: Workplace of QPRC residents by town 2016



Source: 2016 ABS Census

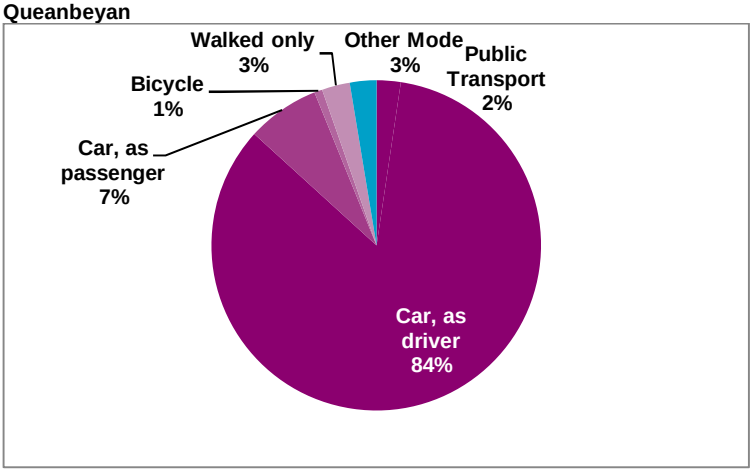
2.3 Mode Use and Car Ownership

2.3.1 Mode use

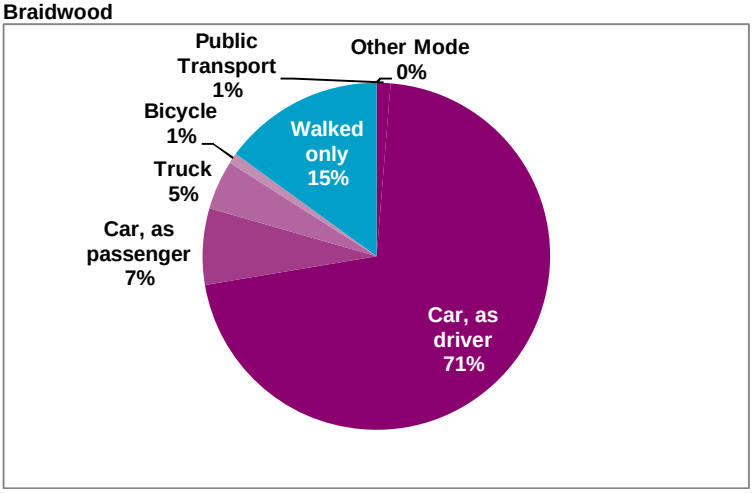
Figure 5 shows mode use for the journey to work in the main QPRC towns. It shows that use of public transport is negligible (1% of trips or less).

Figure 5: 2016 Census journey to work mode use in main QPRC towns

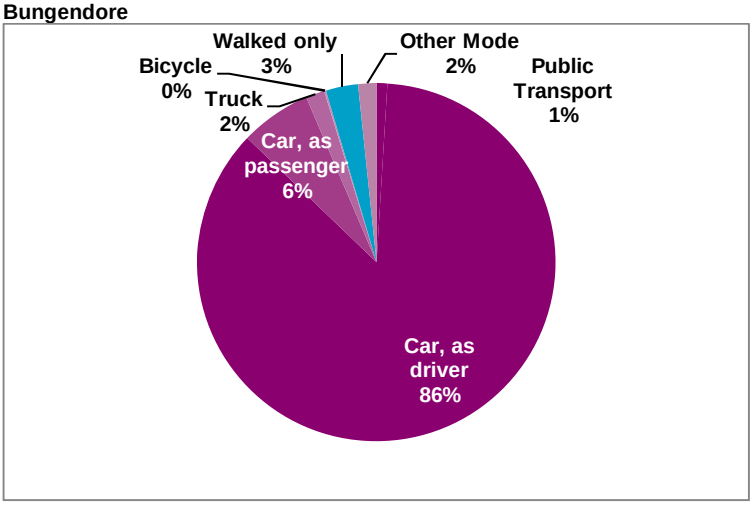
Queanbeyan



Braidwood



Bungendore



ABS 2016 Census (May, 2018)

In 2016, there were 427 people who caught public transport to work (train, bus) in the QPRC area, compared with 17,588 who drove in private vehicles (car – as driver, car – as passenger, motorbike, or truck). Only 135 (0.7%) travelled to work by bicycle and 597 (3.2%) walked to work.

Analysis of the method of travel to work of the residents in the QPRC area in 2016, compared to Regional NSW, shows that 2.2% used public transport, while 93.8% used a private vehicle, compared with 1.8% and 73.4% respectively in Regional NSW.

Local walking trips are reasonably high for Braidwood and moderate for Bungendore. This represents the smaller catchment areas and proximity of living to places of employment. Cycling is included in other mode and represents a very small portion of travel. Localised bus travel is very low within Queanbeyan.

2.3.2 Car ownership

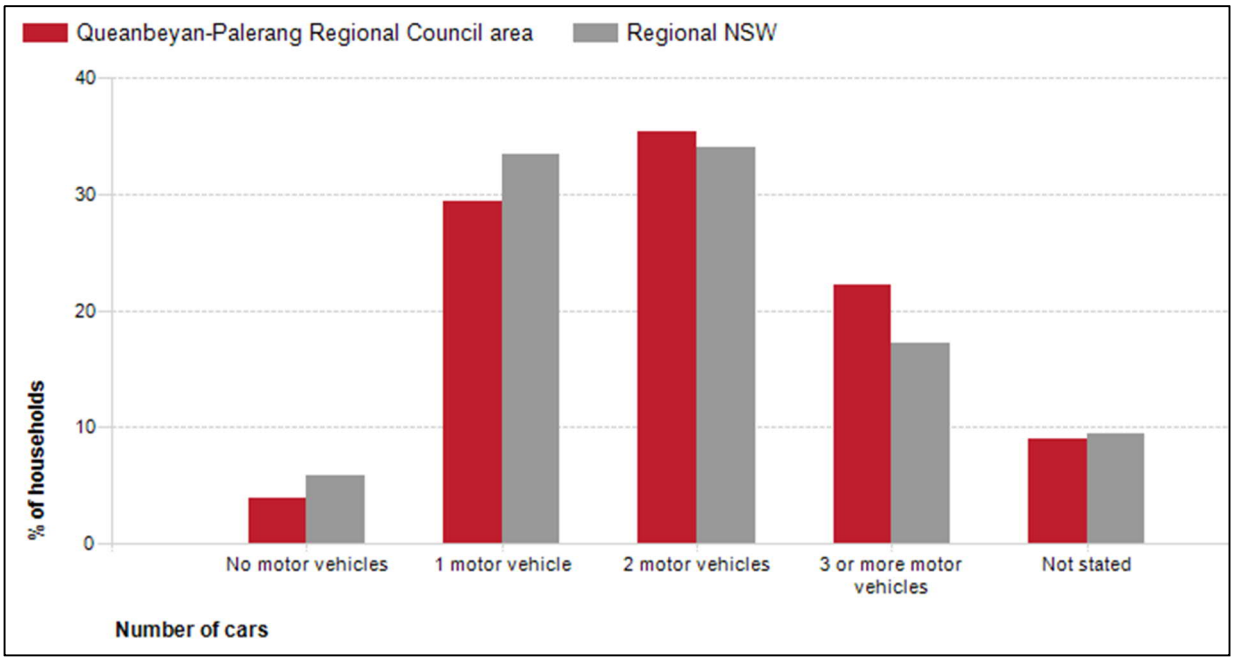
The ability of the population to access services and employment is strongly influenced by access to transport. The number of motor vehicles per household in the QPRC area quantifies access to private transport. Analysis of car ownership in 2016, indicates that at least 58% of households in the QPRC area had access to two or more motor vehicles, compared to 51% in Regional NSW (see Table 9 and Figure 6).

Table 9: Car ownership in QPRC

Number of cars	Number	%	Regional NSW %
No motor vehicles	843	3.9	5.8
1 motor vehicle	6,332	29.4	33.4
2 motor vehicles	7,615	35.4	34.0
3 or more motor vehicles	4,796	22.3	17.2
Not stated	1,947	9.0	9.5
Total households	**21,533**	**100.0**	**100.0**

Source: Australian Bureau of Statistics, Census of Population and Housing 2016

Figure 6: Car ownership in QPRC



Source: Australian Bureau of Statistics, Census of Population and Housing 2016

Analysis of the car ownership of the households in the QPRC area in 2016 compared to Regional NSW shows that at least 87.0% of the households owned at least one car, while 3.9% did not, compared with 84.7% and 5.8% respectively in Regional NSW. Of those that owned at least one vehicle, there was a smaller proportion who owned just one car; a larger proportion who owned two cars; and a larger proportion who owned three cars or more. Overall, 29.4% of the households owned one car; 35.4% owned two cars; and 22.3% owned three cars or more, compared with 33.4%; 34.0% and 17.2% respectively for Regional NSW.

2.4 Roads and Freight

2.4.1 Road network

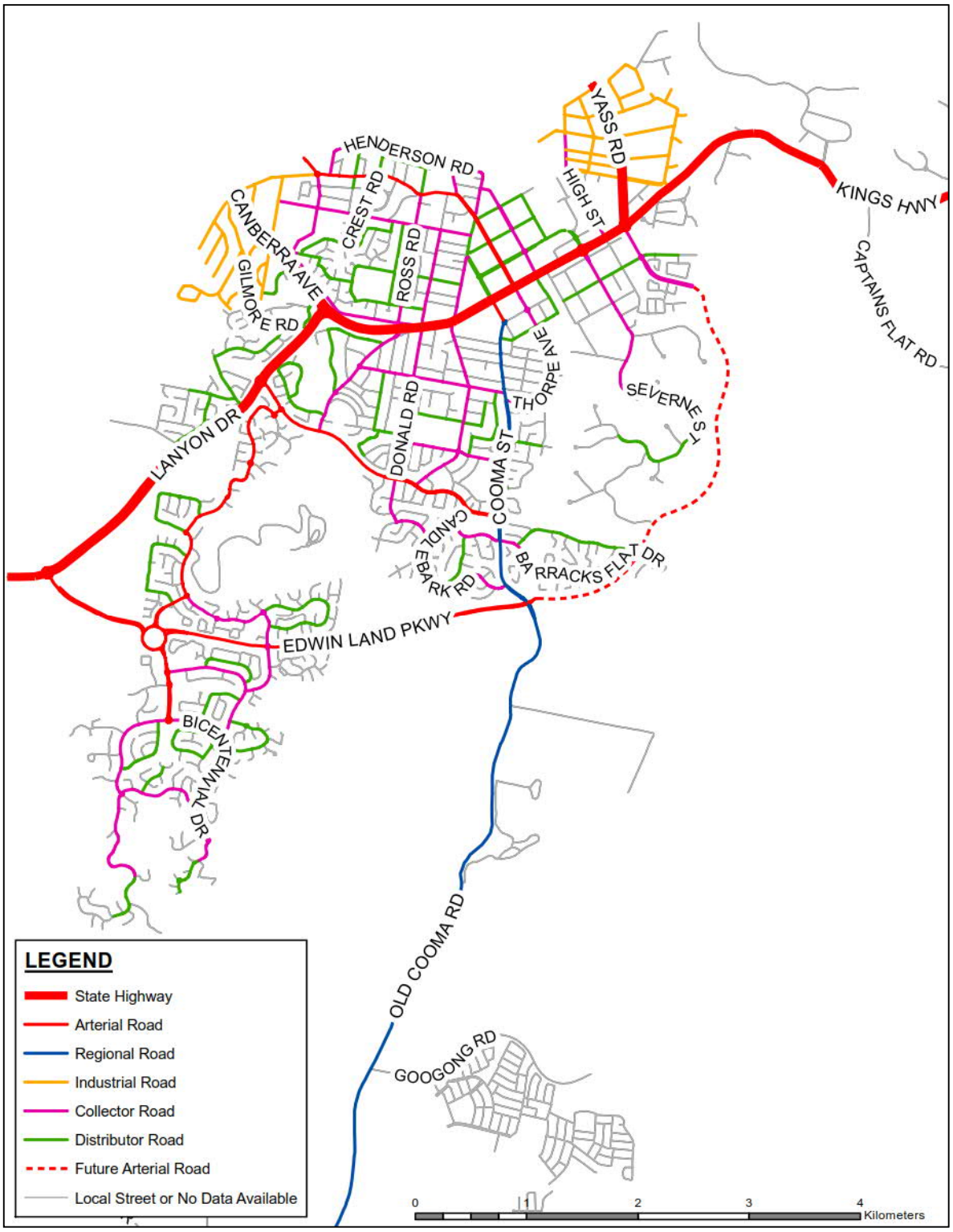
The regional/arterial road system that connects Queanbeyan to Canberra, Goulburn, Batemans Bay and Cooma is shown in Figure 7.

Figure 7: Regional road map

Source: Transport NSW (2014)

The road hierarchy in Queanbeyan is shown in Figure 8. The State Highways provide the major regional connections to the surrounding areas of ACT and NSW – these are managed and funded by RMS, but maintained by Council from funds provided by RMS. Any changes to the roads on State Highways need to be approved by RMS. Other roads are managed and maintained by Council, but Council may obtain grants for improvements to these roads (especially regional roads).

Figure 8: Queanbeyan road hierarchy

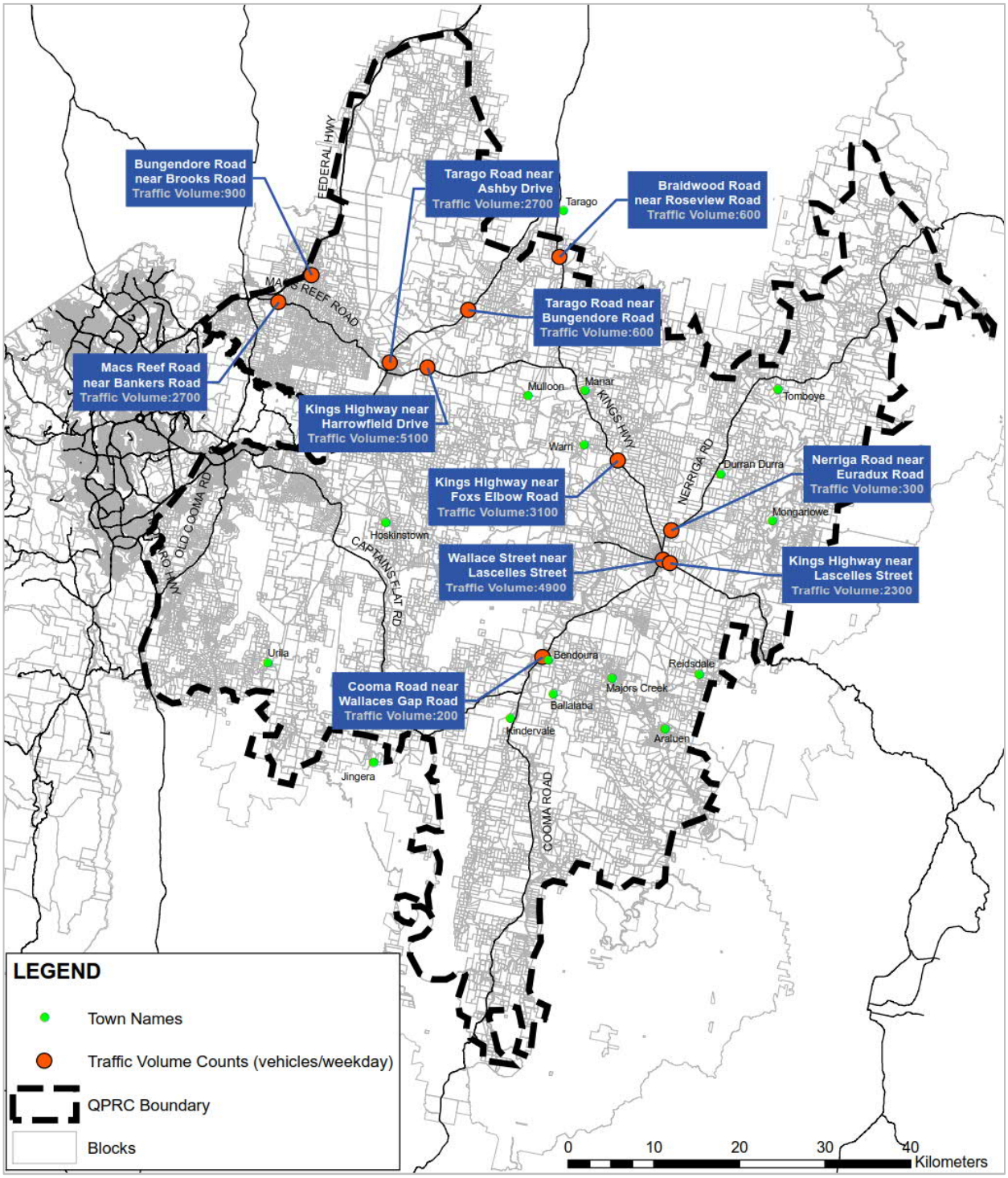


Source: AECOM (2017a)

Roads have a variety of roles and functions and have a wide range of users. Often, conflicts arise when trying to ensure that the needs of all road users are met. Road hierarchies can assist in defining the function of the road and in balancing the needs of various road users and allocating priorities.

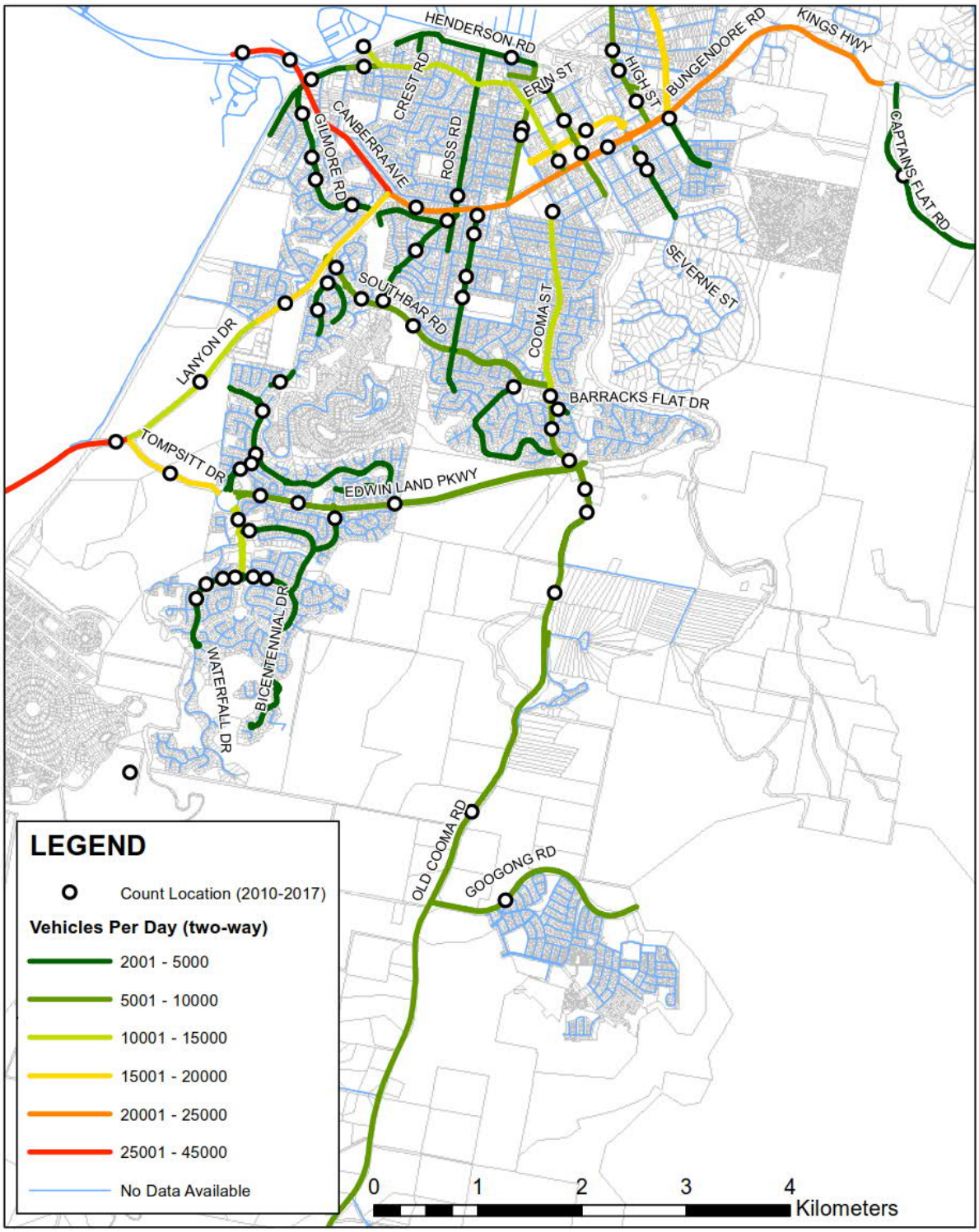
Recent traffic counts in vehicles per day for the QPRC region are shown in Figure 9 and in Queanbeyan in Figure 10. There is increased demand and congestion in the strategic road network during peak seasonal demands and holiday periods (e.g., Kings Highway, Monaro Highway).

Figure 9: QPRC daily traffic volumes



Source: RMS and QPRC data bases (May 2017)

Figure 10: Queanbeyan daily traffic volumes



Source: QPRC data base (May 2017)

In general, the road network and resultant traffic works well for private vehicles, but in many locations this is at the expense of other modes. Private vehicles are afforded priority over other modes of transport across all aspects of the road network. While this may be appropriate in some locations, the lack of priority for other modes affects the attractiveness of using these modes for travel.

Queanbeyan CBD has historically been characterised by high levels of through traffic, and a public realm that affords varying standards of accessibility, priority and amenity to non-car modes. However, a recent upgrade to Crawford Street has provided an attractive, permeable and generally pedestrian friendly environment. The road network provides a number of possible bypass routes around the CBD. This means that there are real opportunities to improve the 'place' function of the CBD and reduce through trips.

2.4.2 Crashes

A summary of crashes by severity for each major locality is shown in Table 10. A large number of fatality and injury crashes occur on rural roads, outside of towns, many on Kings Highway.

Table 10: Crash severity by locality

	Fatal	Injury	Non-casualty (tow away)	Total
Queanbeyan	2	157	145	**304**
Bungendore	1	46	52	**99**
Braidwood	1	27	30	**58**
Other QPRC	11	420	319	**750**
QPRC	**15**	**650**	**546**	**1211**

Source: RMS data base (May 2017)

2.4.2.1 Queanbeyan

Figure 11 shows recorded road crashes between 2012 and 2016 by severity of crash in Queanbeyan. Canberra Avenue and Monaro Street are displaying a high incidence of crashes and this is consistent with their higher traffic volumes. The number of crashes, fatalities and injuries are also summarised for key intersections in Table 11, for sites with five or more crashes between 2012 and 2016.

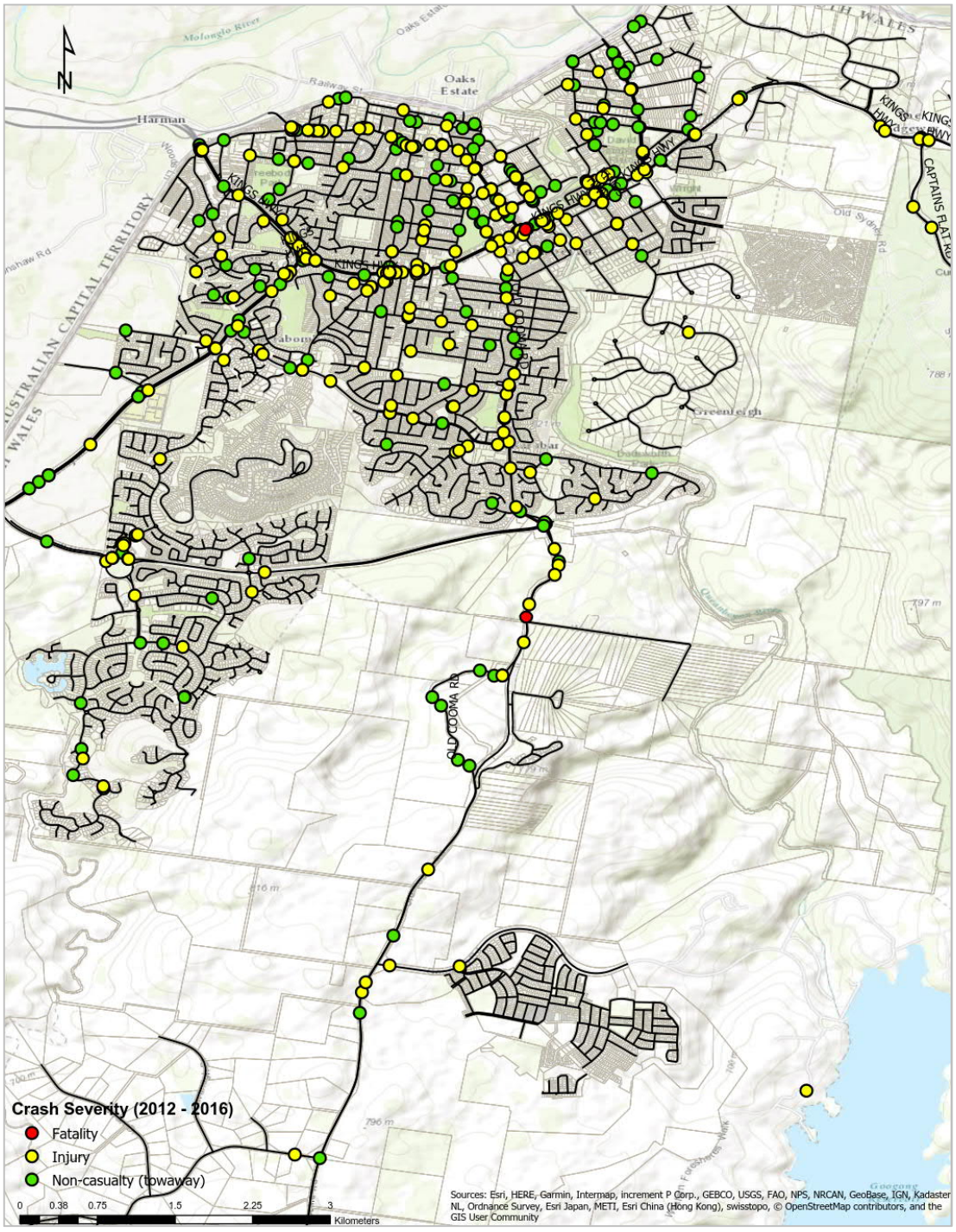
Table 11: Queanbeyan intersection crashes

Intersection	Fatalities	Injuries	Non_causalty	Total
Canberra Ave and Tharwa Rd	0	15	7	**22**
Atkinson St and Macquoid St	0	12	3	**15**
Collett St and Monaro St	0	4	9	**13**
Canberra Ave and Lanyon Dr	0	4	6	**10**
Ross Rd and Uriarra Rd	0	4	5	**9**
Monaro St and Crawford St	1	5	3	**9**
Canberra Ave and Donald Rd	0	7	2	**9**
Canberra Ave and Nth Kendall Ave	0	7	2	**9**
Nth Kendall Ave and Uriarra Rd	0	4	4	**8**
Bungendore St and Yass Rd	0	4	3	**7**
Morisset St and Crawford St	0	4	3	**7**
Lanyon Dr and Tompsitt Dr	0	5	2	**7**
Lowe St and Monaro St	0	5	1	**6**
Yass Rd and Aurora Ave	0	0	6	**6**
Atkinson St and Waniassa St	0	5	1	**6**

Intersection	Fatalities	Injuries	Non_causalty	Total
Captains Flat Rd and Kings Hwy	0	4	2	**6**
Uriarra Rd and Stornaway Rd	0	4	2	**6**
Uriarra Rd and Crest Rd	0	3	2	**5**

Source: RMS data base (May 2018); for sites with 5 or more crashes between 2012 and 2016

Figure 11: Queanbeyan crashes by severity

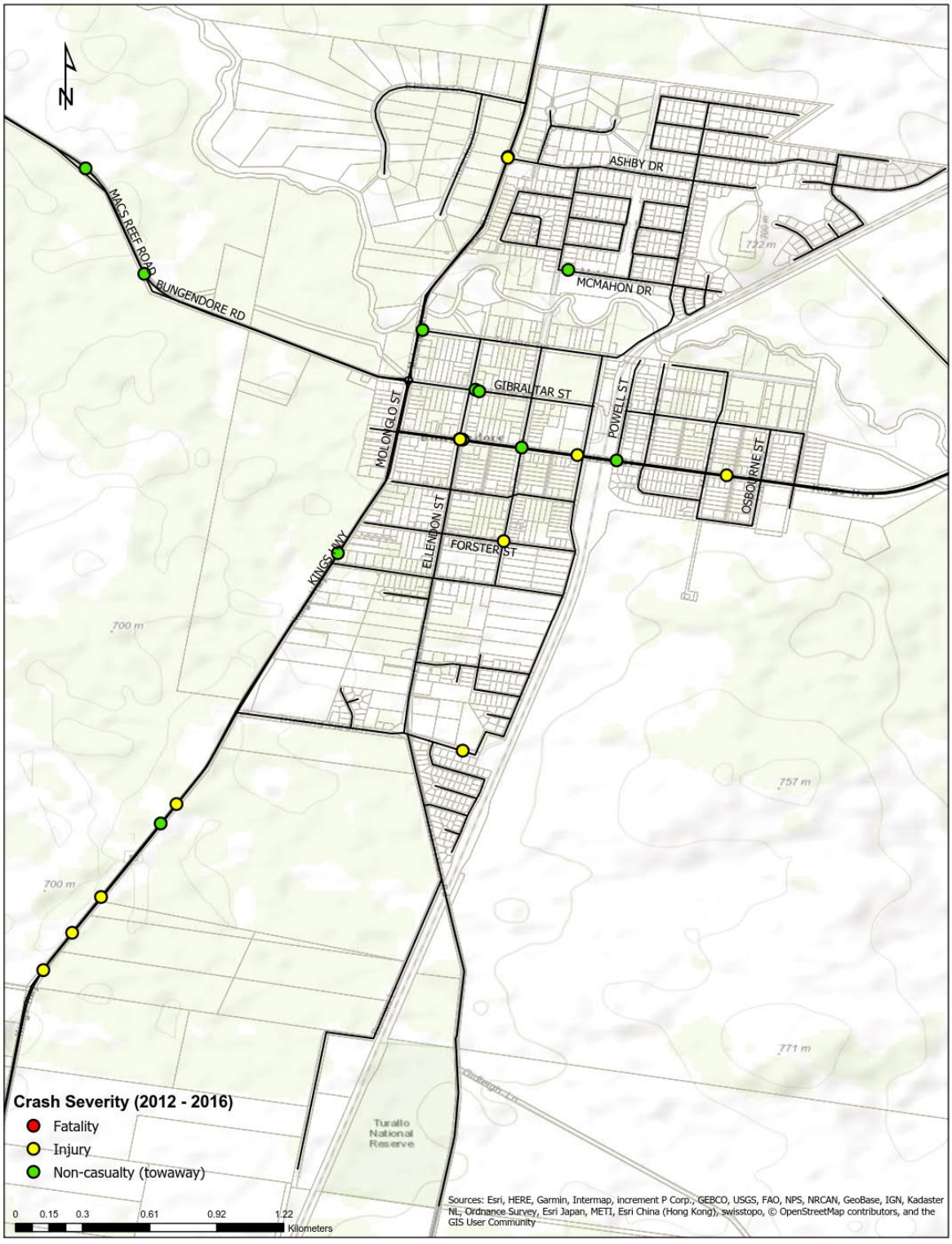


Source: RMS data base (May 2018)

2.4.2.2 Bungendore

The five year crash history for Bungendore is shown in Figure 12. There is no particular pattern apart from the Kings Highway having almost all the injury crashes.

Figure 12: Bungendore crashes by severity

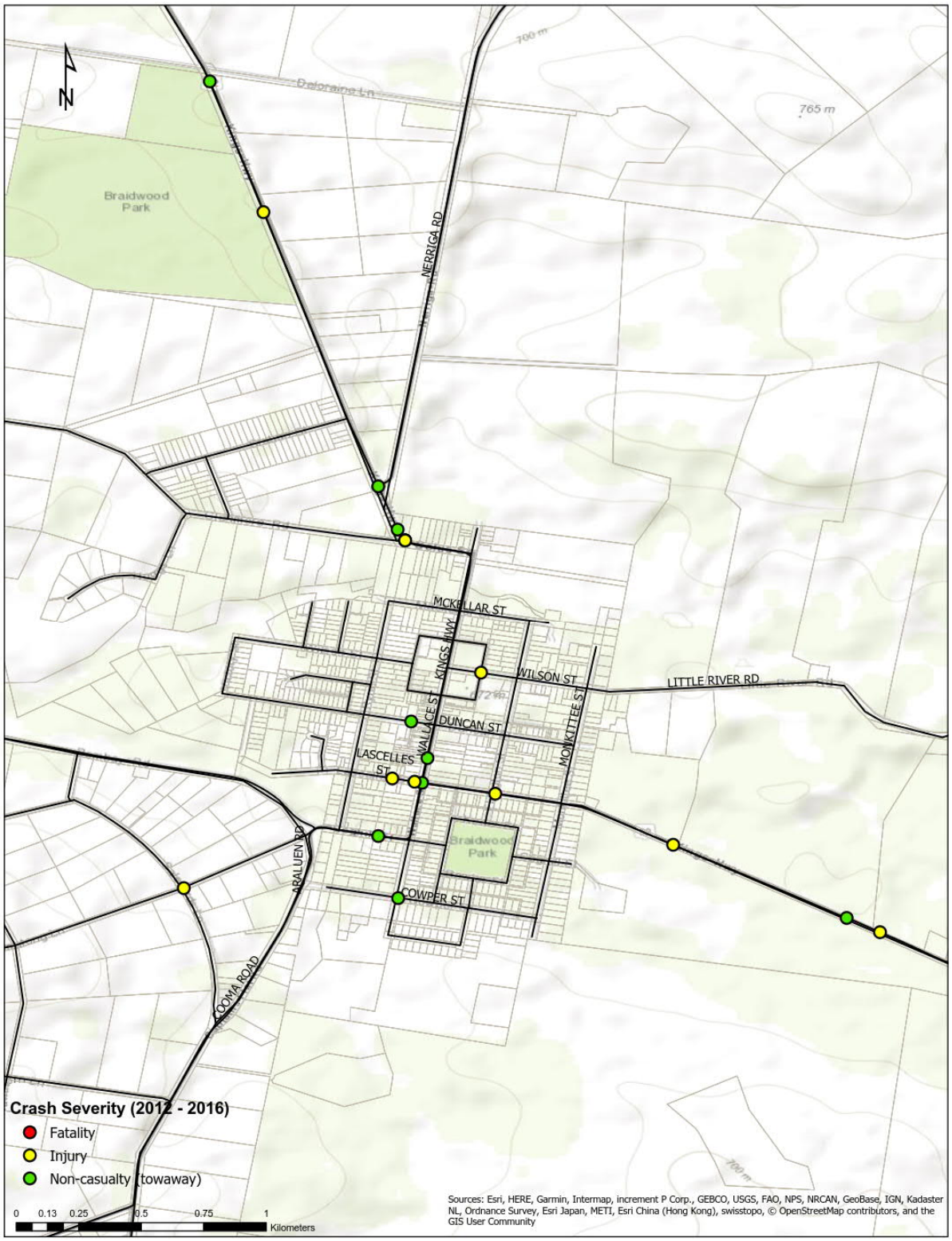


Source: RMS data base (May 2018)

2.4.2.3 Braidwood

The five year crash history for Braidwood is shown in Figure 13. The Kings Highway which travels through the town, has most of the injury crashes in this locality.

Figure 13: Braidwood crashes by severity

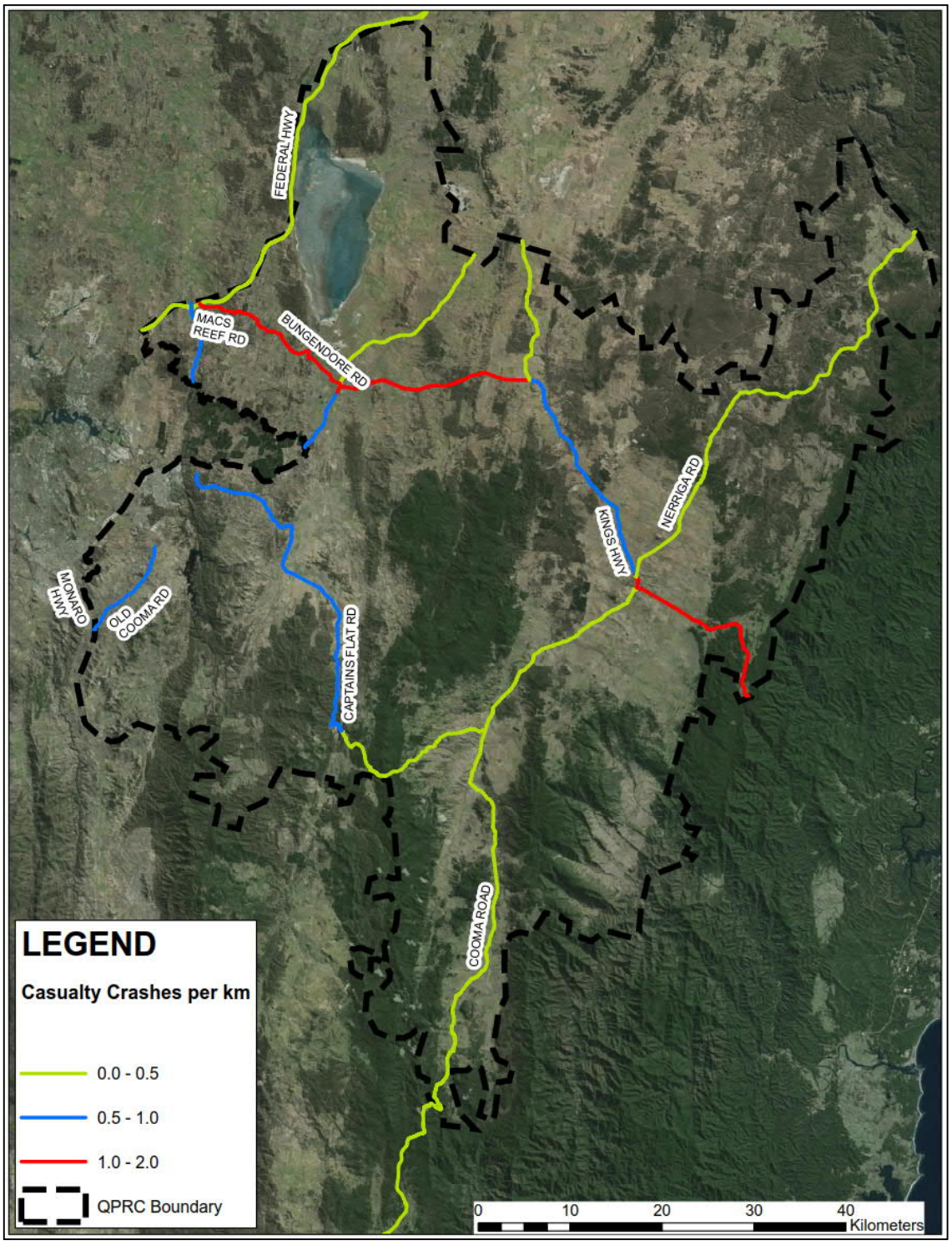


Source: RMS data base (May 2018)

2.4.2.4 Rural roads

Crash rates are an indicator of the need for road safety improvements. Figure 14 shows crash rates on rural roads in QPRC. The number of crashes, fatalities, injuries and crash rates are also summarised for key sections of rural roads in Table 12. This analysis shows that the highest crash rates occur on Kings Highway, Bungendore Road and Macs Reef Road.

Figure 14: Crash rates per kilometre on rural roads in QPRC



Note: Based on data provided by RMS for crashes occurring in the five year period from 2012 to 2016.

Table 12: Number of crashes and crash rates on rural roads in QPRC

Road	Section	Crashes	Crashes per km	Casualty Crashes	Casualty Crashes per km
Bungendore Rd	Bungendore to Macs Reef Rd	44	3.79	19	1.63
	Macs Reef Rd – Federal Hwy	4	0.84	1	0.21
Captains Flat Rd	Captains Flat to Kings Hwy	48	1.05	31(1)	0.68
	Captains Flat (town)	2	0.36	2	0.36
	East of Captains Flat	11	0.41	6	0.22
Cooma Road	QPRC	14	0.09	7	0.05
Federal Hwy	QPRC	113	0.68	56(1)	0.34
Goulburn Rd	QPRC	6	0.30	4(2)	0.20
Kings Hwy	ACT border – Bungendore	11	1.31	7	0.83
	Bungendore (town)	9	2.78	4	1.24
	Bungendore – Goulburn Rd	43	1.76	27(1)	1.10
	Goulburn Rd – Braidwood	38	1.21	15	0.48
	Braidwood (town)	8	3.04		1.52
	Braidwood – Monga	54	2.14	36(4)	1.43
Macs Reef Rd	QPRC	26	1.08	13	0.54
Nerriga Rd	QPRC	64	0.93	30	0.44
Old Cooma Rd	south of Googong Rd	17	1.16	10	0.68
Sutton Rd	QPRC	23	2.02	12 (1)	1.05
Tarago Road	QPRC	18	0.66	10	0.36

Note: Based on data provided by RMS for crashes occurring in the five year period from 2012 to 2016.

RMS determines the road safety performance of the network by monitoring the number of crashes that occur, with a focus on casualty crashes. This monitoring produces an 'average safety performance' for each of RMS's rural Road Network Management Hierarchy classes (RTA, 2008), which are shown in Table 13. The comparative crash rates for major rural roads in the QPRC region are also shown.

Kings Highway is generally a 4R road class, whilst Bungendore Road and Macs Reef Road is 3R, using RMS's road management hierarchy. The casualty crash rates on these roads are much higher than the NSW state average for their road classes.

A number of other roads in the region with lower crash rates, still have rates higher than the NSW state average. This includes Captains Flat Road, Sutton Road, Old Cooma Road, Goulburn Road and Tarago Road.

On Kings Highway crash rates are highest in the towns of Braidwood and Bungendore. This is because of the high number of intersections in the towns and increased traffic and parking activity.

Outside of these towns, the highest crash rates occurred on Kings Highway between Braidwood and Monga (1.43 casualty crashes per km), Bungendore Road between Bungendore and Macs Reef Road (1.63) and Kings Highway between Bungendore and Goulburn Road (1.10). A high proportion of crashes occurring on rural sections of Kings Highway and Bungendore Road are located on or near bends in the road, as illustrated in the Context Report (AECOM, August 2017b).

Table 13: NSW average casualty crash rate by RMS rural road hierarchy class

RMS rural road hierarchy class	NSW Average Casualty crash rate per km	QPRC Crash Rates Casualty crash rate per km
6R	0.333	Federal Hwy 0.34
5R	0.332	n/a
4R	0.195	Kings Hwy 0.83-1.43
3R	0.183	Bungendore Rd south of Macs Reef Rd 1.63 Macs Reef Rd 1.04 Sutton Rd 0.48 Old Cooma Rd 0.68
2R	0.070	Captains Flat Rd 0.22-0.68 Nerriga Rd 0.44 Tarago Rd 0.36 Goulburn Rd 0.20 Cooma Rd 0.05
1R	0.027	Captains Flat Rd east of Captains Flat 0.22

The unsafe section of Bungendore Road has recently been upgraded, including major road realignment and widening work. This is likely to have reduced the incidence of crashes along here.

The section of Kings Highway with a high number of crashes is near the descent to Clyde Mountain. Much of this section of road has double lines with no overtaking. Minor safety improvements have been undertaken in recent years, but these are unlikely to have a significant impact on crash rates and further work is likely to be needed to reduce crash risks and severity.

Crashes are generally spread along Macs Reef Road and are highest at its intersection with Federal Highway. This is due to the high speeds of traffic on the highway and high conflicting volumes.

2.4.3 Freight movement

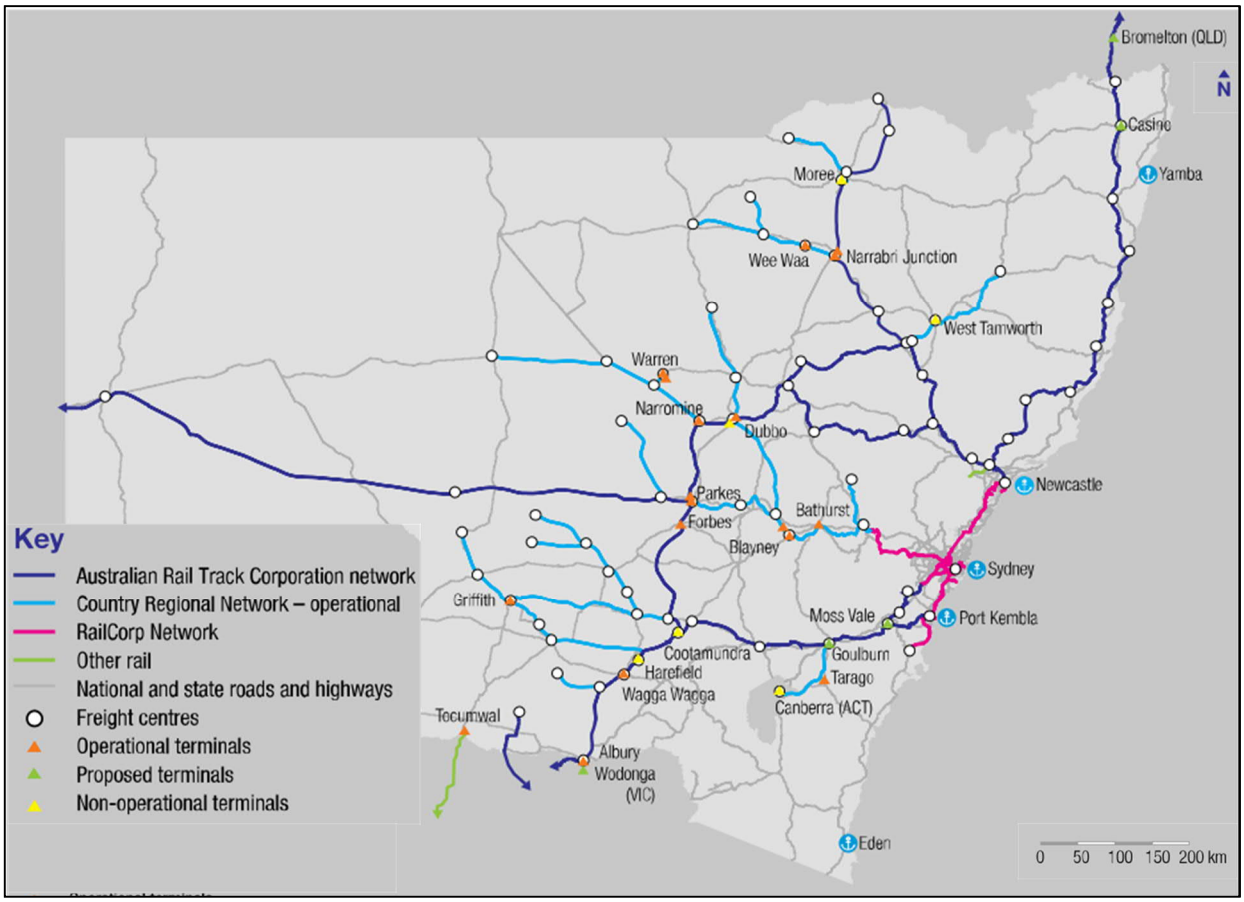
The growth of freight traffic (both road and rail based) is an important economic and planning consideration for future land use and transport planning in QPRC. The primary freight routes and freight terminals in NSW are illustrated in Figure 15. Tarago and Canberra serve QPRC.

The *NSW Freight and Ports Strategy* is the 20 year plan to ensure freight is at the forefront of the NSW economy. The strategy is the Governments response to the forecast doubling of freight volumes through NSW in the 20 year period to 2031. The key objectives of the strategy are the delivery of a freight network that efficiently supports the projected growth of the NSW economy, and balancing freight needs with those of the broader community and the environment.

Current approved heavy vehicle routes in Queanbeyan are shown in Figure 16 and in the broader QPRC region in Figure 17. The pattern of industrial land use leads to the freight flows that must be managed on the transport system. Some roads emerge as more or less significant freight routes. In this context, the current pattern of heavy vehicle routes in Queanbeyan is reasonable.

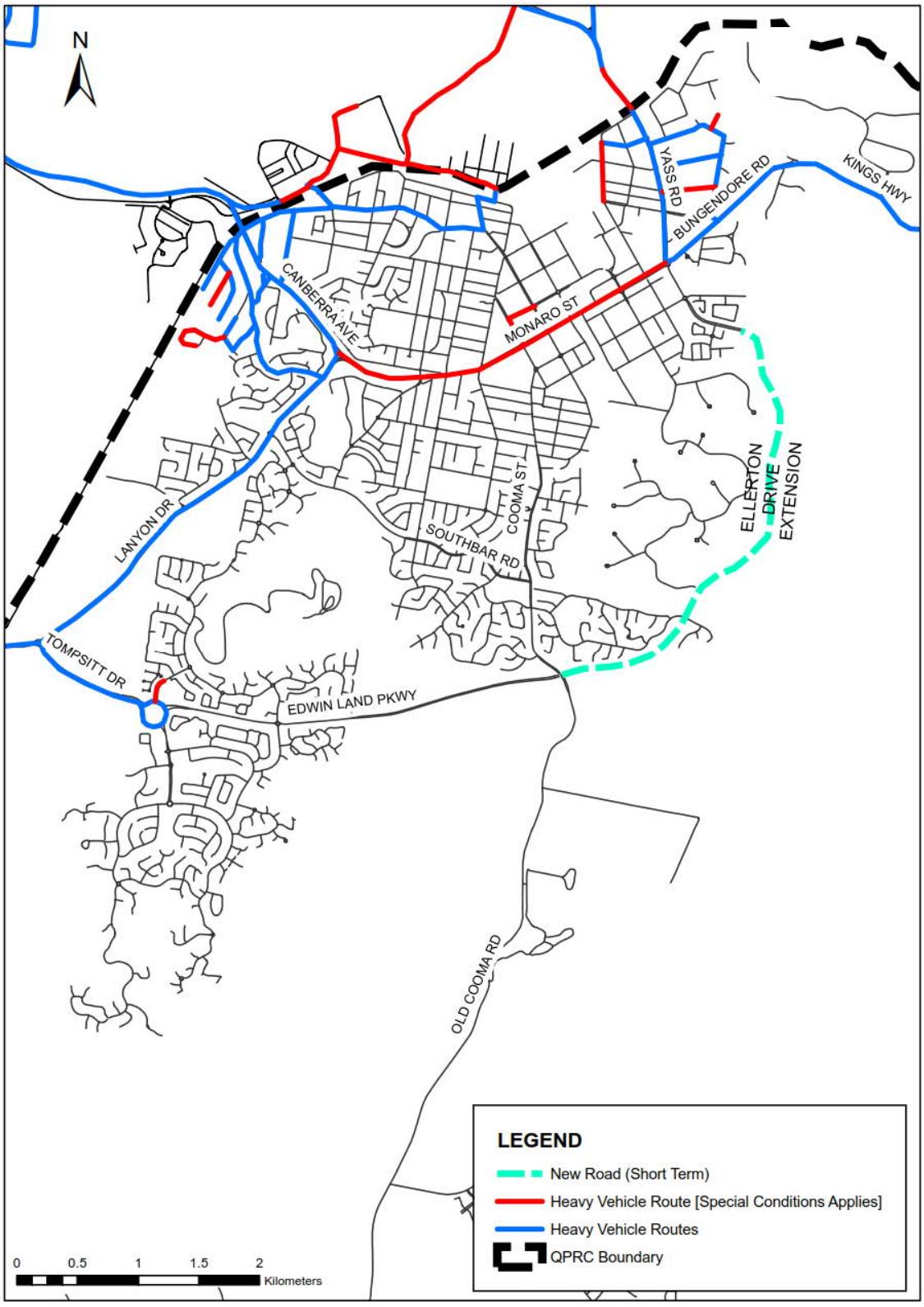
There will be a need to extend this network as Googong develops and Old Cooma Road is upgraded. The Ellerton Drive Extension provides an option for reducing truck volumes on Monaro Street, Queanbeyan CBD.

Figure 15: NSW regional intermodal terminal network



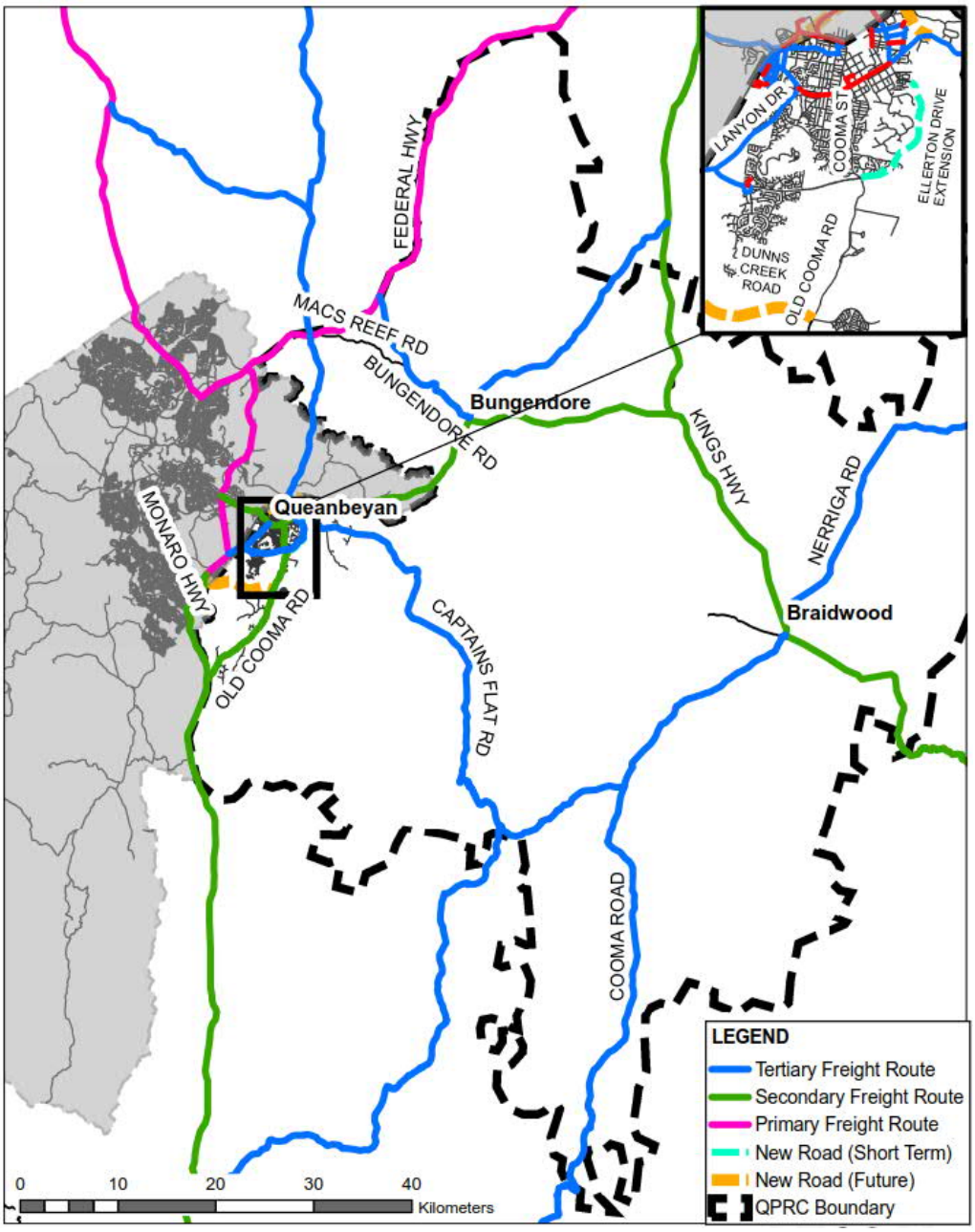
Source: Infrastructure NSW (2012)

Figure 16: Queanbeyan heavy vehicle routes



Source: Extracted from RMS website (October 2017)

Figure 17: Regional heavy vehicle routes



Source: RMS website (October 2017)

2.5 Public Transport

Queanbeyan is serviced by the following public transport:

- QCity urban bus network
- ACTION (from “Canberra Outlet Centre” park n ride at Fyshwick, ACT)
- NSW TrainLink (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)

2.5.1 QCity

QCity scheduled bus routes are shown in Figure 18 and Figure 19. QCity note on their website that passengers must not travel wholly within the ACT on weekdays. This is interesting given Oaks Estate (ACT) is only serviced by QCity, not ACTION. QCity route maps do not show bus stops.

The Queanbeyan bus interchange incorporates a park and ride facility. The interchange also services a number of school bus routes.

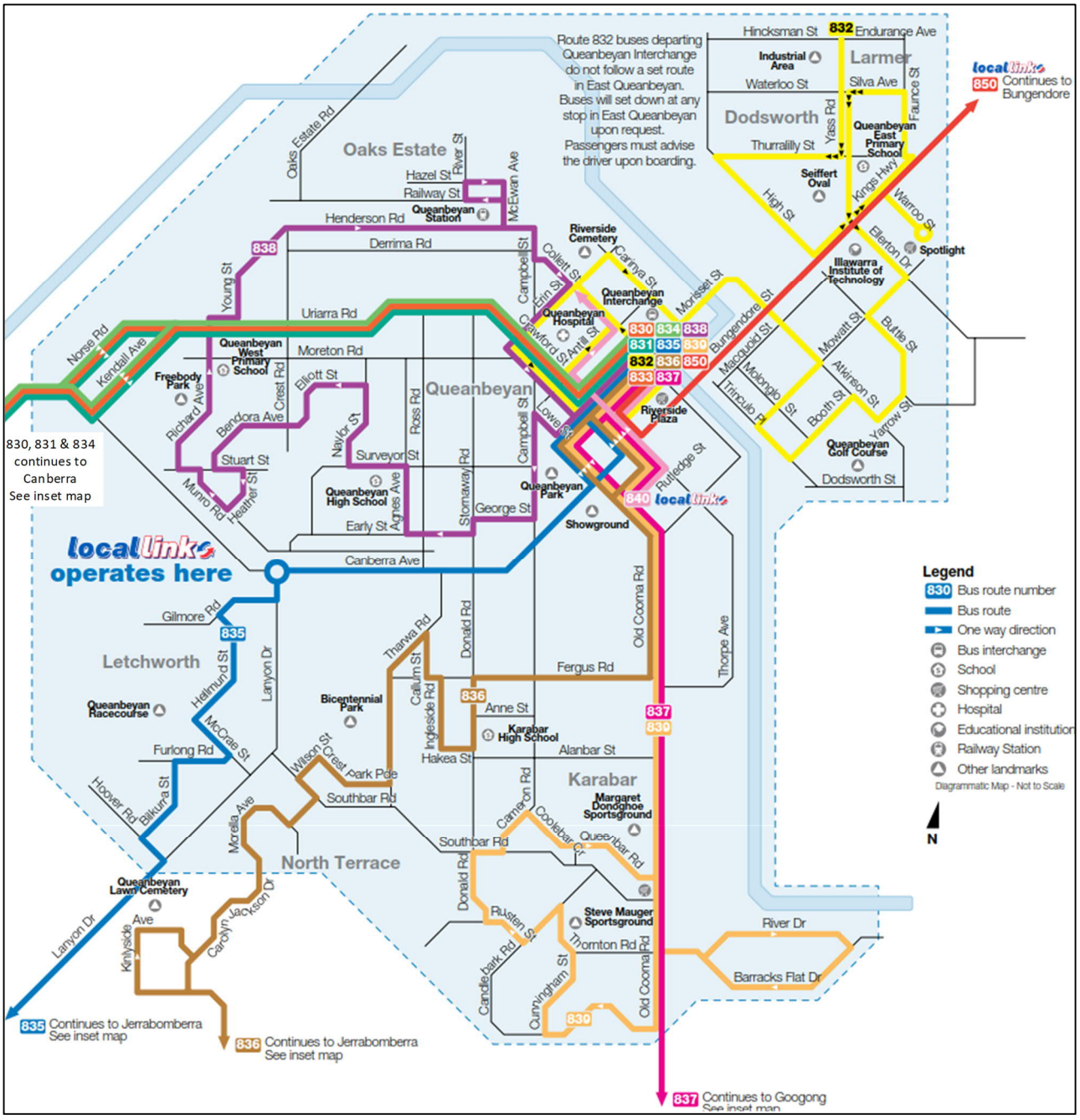
QCity advertise train and coach services between Bungendore and Queanbeyan. Some of these would continue onto Kingston but this information is not provided. It would be possible to commute from Queanbeyan to Bungendore to work and return after work but commuting in the opposite direction for normal work hours appears not to be supported by these train/coach services. QCity route 850 does provide this service and connects to the 8.05am 830 Civic and 831 Woden services.

There is also a large number of school bus runs servicing Queanbeyan and the region, provided by QCity and other local bus operators (see Figure 20). These school bus services are not restricted to school children and can also be used by the general public. The safety of rural bus stops serving school buses in NSW is currently being reviewed.

The existing bus network does not provide a legible or frequent service, and the span of hours (and days) is not sufficient to provide a viable alternative to private motor vehicles. There are a high number of bus routes with low frequencies and extensive duplication of routes. This implies there is an opportunity to rationalise the number of routes to create a simpler and more attractive bus network with higher frequencies, without significant additional cost burdens. An analysis of QCity bus routes shows that:

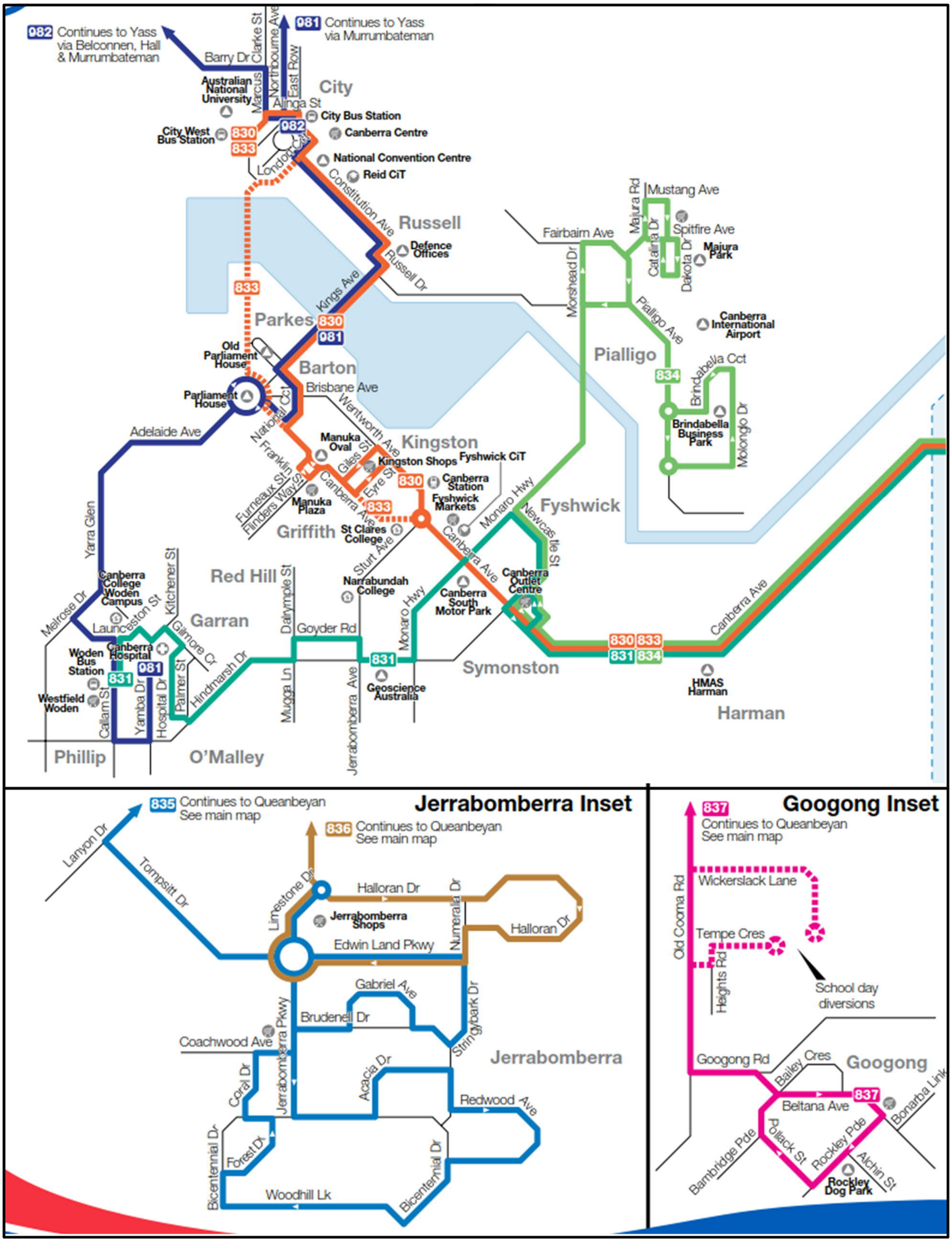
- Frequencies tend to be poor, with only five of the twelve services operating hourly or better services. Co-ordination between routes generally does not occur, incurring long wait times for most transfers and ensuring that the routes generally operate in isolation, rather than as a coherent network.
- Limited services operate on Saturdays, Sundays and public holidays.
- Bus services appear to primarily cater for daytime shoppers and act as a “safety net” for people that rely on public transport such as the elderly and school children.
- There is limited public transport services in rural localities increasing levels of isolation and disadvantage.
- Higher public transport fares in regional NSW can reduce access to jobs and services.
- Need for flexible and innovative transport to serve people in rural localities.
- Need for integrated public transport services cross-border to ACT.

Figure 18: QCity Queanbeyan bus services



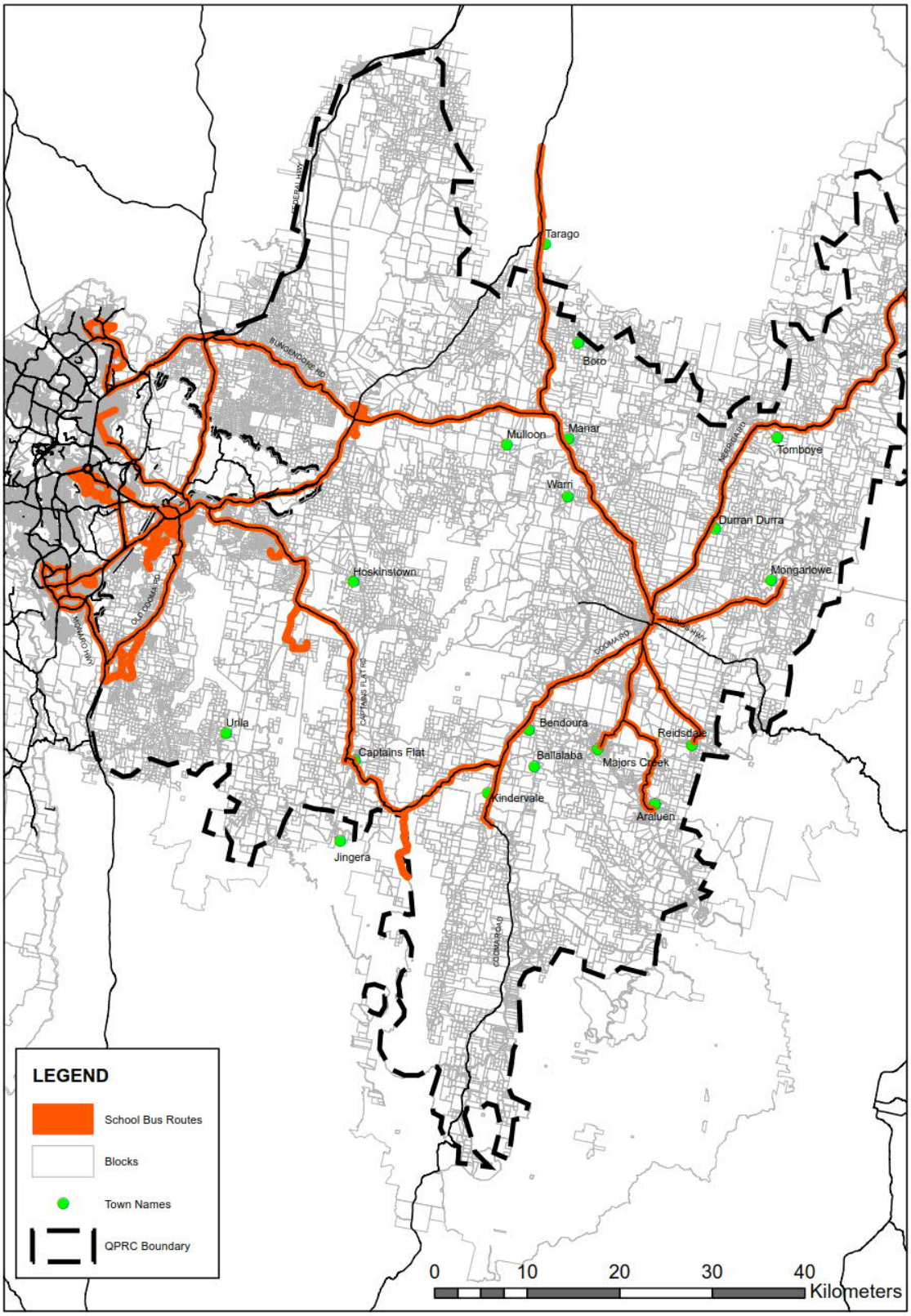
Source: QCity (October 2017)

Figure 19: QCity Canberra, Jerrabomberra and Googong bus services



Source: QCity (October 2017)

Figure 20: School bus routes



Source: Local NSW bus operators, June 2017

The QCity network is quite extensive. Its frequency is commercially matched to patronage. Some areas are poorly serviced but the services are based on usage. Fares are higher than those applicable in the ACT. NSW Government subsidies of fares have recently increased to bring them more in line with ACT fares.

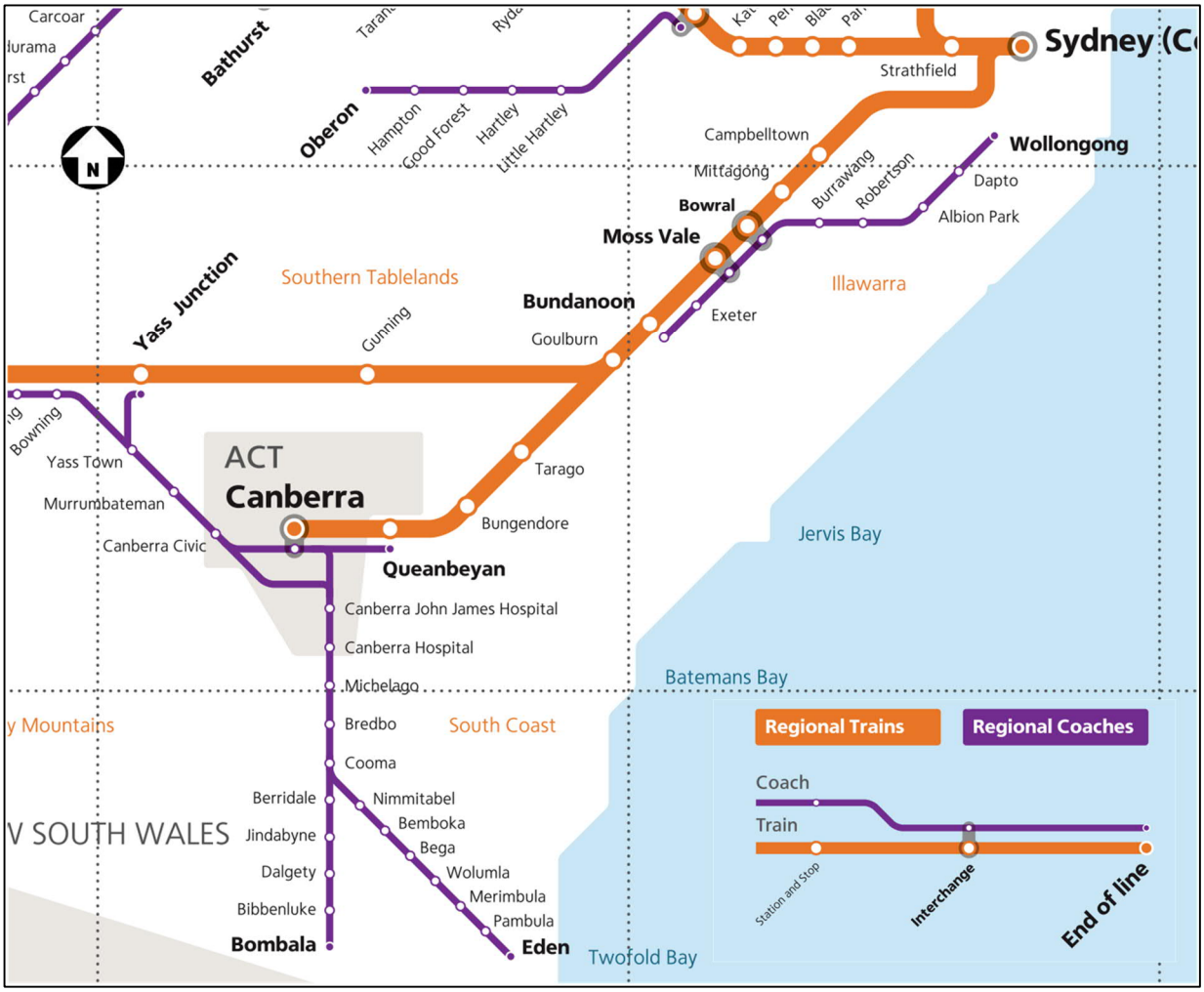
2.5.2 ACTION

ACTION operates the Red Rapid Route 200 – Gungahlin to Canberra Outlet Centre Fyshwick via Civic with Park and Ride near Canberra Outlet Centre. Potentially, this is available to residents of Queanbeyan to avoid parking hassles and charges. The service has a 15 minute frequency between 7 am and 7 pm. Both the frequency and operating time can be a constraint to increasing patronage. The service does not operate on weekends or public holidays.

2.5.3 Regional public transport services

The NSW Trainlink train and coach service network in NSW is shown in Figure 21. TrainLink operates a train or coach from Kingston to Queanbeyan and on to Bungendore seven days a week.

Figure 21: NSW Trainlink train and coach services



Source: TrainLink (May 2017)

2.5.4 Regional coach services

Queanbeyan is serviced by the following regional coach services:

- Yass *from Civic* via Transborder 981. Three inbound and three outbound trips per day, with a fourth trip in each direction operating via Belconnen.
- Yass Junction via NSW Trainlink Coach 781 (Cootamundra); a daily service.
- Cooma *from Kingston* via NSW Trainlink Coach 771/2 (Eden) or 775/6 (Bombala), daily to Eden and weekdays only to Bombala, providing two trips daily weekdays and one trip daily at weekends.
- Batemans Bay via Murrays Coaches 860 and Rixons Buses, daily.
- Goulburn *from Civic* via Greyhound Coach. One AM peak trip and two PM peak trips.

2.5.5 Rail

There are several daily rail services from Queanbeyan/Canberra to Goulburn and Sydney. The train stops at Queanbeyan, Bungendore and Tarago, as shown in Table 14.

Table 14: Rail services

Direction					
Station	*Service*	*Tarago*	*Bungendore*	*Queanbeyan*	*Canberra*
Inbound time	CLK631	10:13	10:37	11:06	11:22
	CLK633	15:14	15:38	16:07	16:29
	CLK635	21:25	21:49	22:18	22:31
Station		*Canberra*	*Queanbeyan*	*Bungendore*	*Tarago*
Outbound time	CLK632	06:50	06:59	07:29	07:53
	CLK634	11:53	12:02	12:32	12:56
	CLK636	17:25	17:34	18:04	18:28

Source: TrainLink (May 2017)

2013/14 counts of passenger boardings at various rail stations in the region show that rail patronage is relatively light on this rail link. Canberra was highest with an average of about 181 boardings per day, Queanbeyan 25, Bungendore 12 and Tarago 3 (TrainLink, 2017). This compares with 24,821 boardings per day at Central Station and 1,697 at Wollongong Station; the latter being the busiest station outside of Sydney.

2.5.6 Valmar community transport

Valmar is a not-for-profit entity supporting the elderly and more than 300 people with disabilities across south-east NSW and ACT. Among other services, Valmar provides aged care services through the Home and Community Care (HACC) program such as meals on wheels, social support, respite services, home maintenance and community transport.

2.5.7 Other public transport services

There are other point to point transport services available in Queanbeyan and region, including taxi and ride sharing (e.g. Uber). Currently, these carry a small number of travellers and serve a small market.

2.6 Active Transport

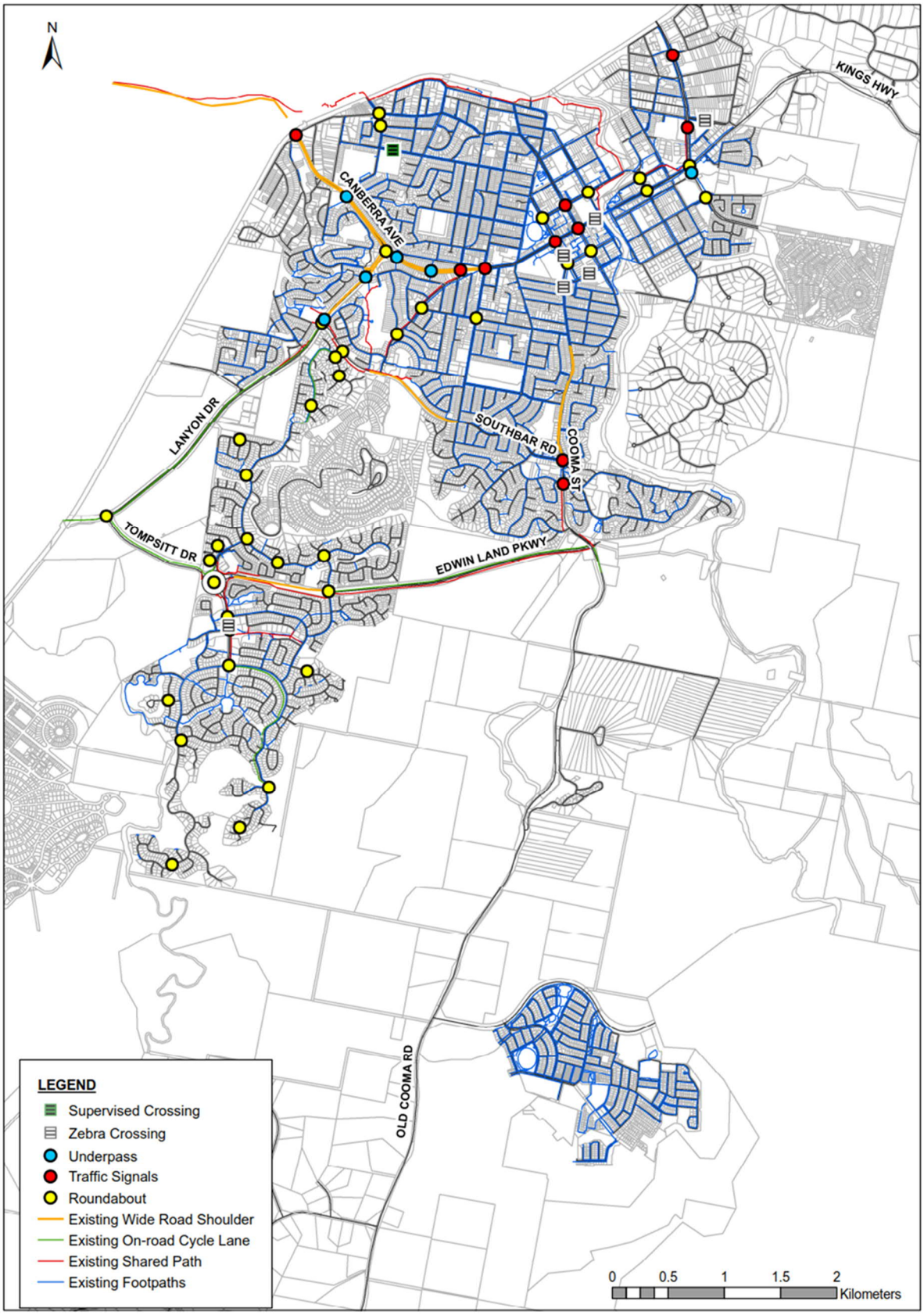
2.6.1 Queanbeyan

Figure 22 shows the current road layout, pathways, pedestrian facilities, bicycle facilities and key land-uses in Queanbeyan.

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.
- 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.

Figure 22: Queanbeyan existing street map and pathways



Source: AECOM, current as of December 2017

2.6.1.1 Pedestrian network

Queanbeyan is generally well-serviced by a network of footpaths with most streets within the CBD having footpaths on both sides and other areas with footpaths on one side of the street. There are limited off-road paths to provide connectivity between key destinations as well as being useful recreational facilities for the local community.

The pedestrian network is generally continuous, but lacks priority at most intersections. In addition, there are numerous significant barriers to pedestrian movements that create diversions for pedestrian movement. These are often associated with large roundabouts and many of the arterial roads in the city.

Recent improvements to the pedestrian network in the CBD have improved pedestrian priority, safety and amenity; however significant barriers to pedestrian movement remain in parts of and connecting the CBD to the surrounding residential catchments.

Schools have been identified as a key target for improvements to pedestrian networks to support kids walking and cycling to school.

2.6.1.2 Bicycle network

The cycling network lacks a number of key links, particularly to the CBD, ACT and the south of town to the new growth areas. As such, it does not provide a viable means of access.

Overall, the relatively low numbers of cyclists observed is consistent with the ABS Journey to Work data, which indicated that 1% of people who went to work on Census day in 2016 travelled by bicycle.

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

- 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.

2.6.2 Braidwood

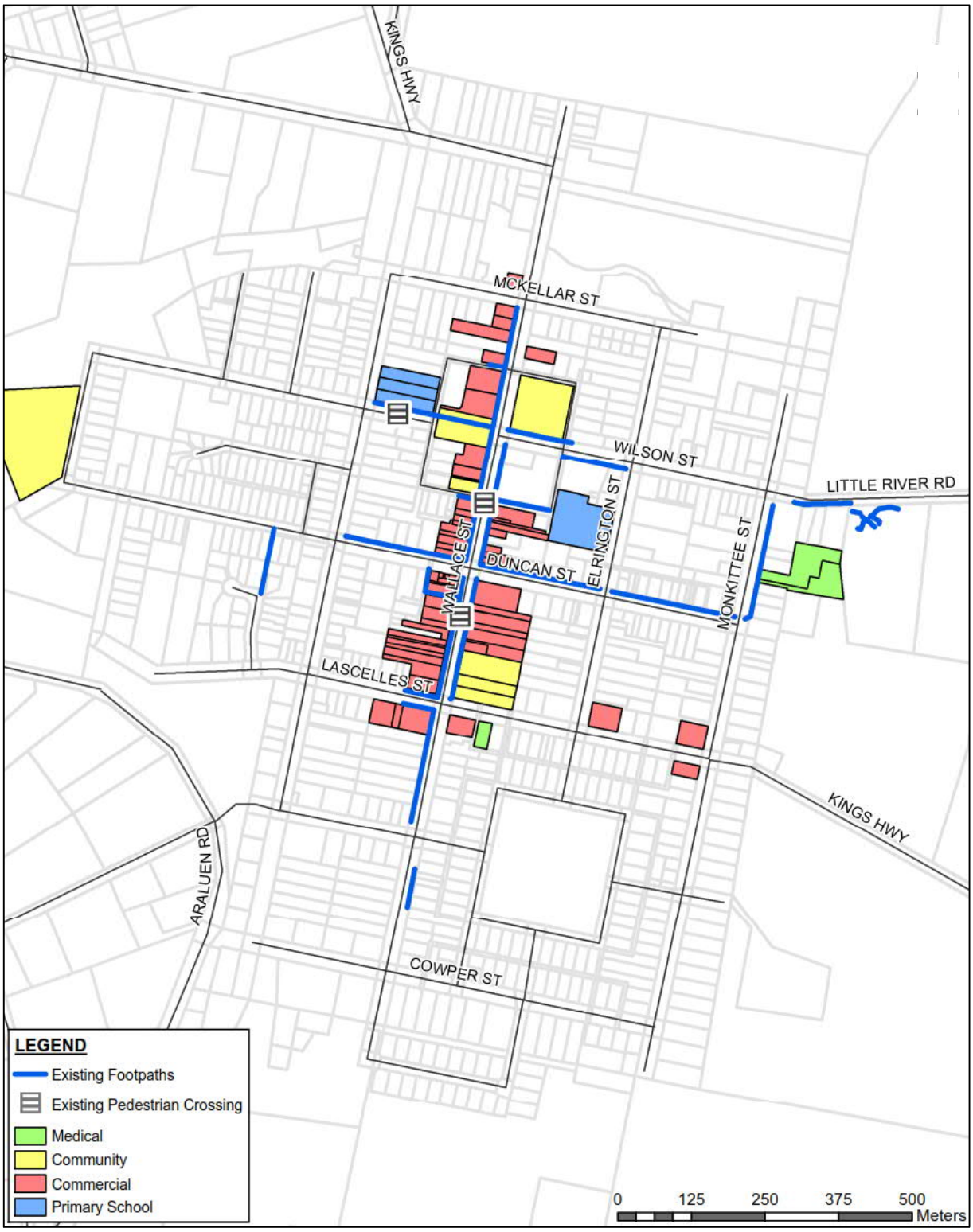
Figure 23 shows the current road layout, pathways, pedestrian facilities and key land-uses in Braidwood. Braidwood is generally well-serviced by a network of footpaths provided on both sides of most streets within the town. There are limited off-road paths.

The pedestrian network is generally continuous, but lacks priority at most intersections. In addition, there are numerous significant barriers to pedestrian movements that create diversions for pedestrian movement.

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

- Coronation Avenue: Missing footpath on northern side from Ryrie Street to ex- serviceman club.
- Council needs to consider disabled access compliance particular for heritage buildings to better define “deemed to comply” in the building requirements.
- Post Office in Braidwood has no disabled access.
- Kerb ramps have lips and bad angles that make it difficult for the wheel chair to get up.
- There needs to be more crossings and paths going to schools.
- There is no safe pedestrian or cyclist crossing over Monkittee Creek.
- Monkittee Creek Bridge access and crossing is in a very bad condition. Safety is a concern as children, bikes and prams cross this bridge. This bridge needs to be brought to a better condition and grade.
- The 80 km/h speed limit along Kings Highway is working well. However, it might be a good idea to add rumble strips.
- The footpath over Archer bridge on Cowper Street needs gravel. This footpath can get very muddy when it rains.
- There is no pram crossing near the toilets in Ryrie Park South until near the pub.
- There needs to be lighting in the park.
- Include paths on Coronation Street and Wilson Street.
- More paths and tracks to Mount Gillamatong.
- IGA supermarket needs a metal ramp for access and also a pram crossing.
- There is no path on Wilson Street, south side or Coronation Avenue.
- The Council Chambers and Office have doors at the top of the ramp with no flat section. It is difficult to open the doors while staying on the ramp.
- There needs to be a path along Park Lane South to provide a safer route for school children.
- There needs to be a path along Elrington Street adjacent to St Bedes school, especially between Wilson Street and Duncan Street.
- Concern regarding the stability of footbridge and footpath at the southern end of Garvey Street.

Figure 23: Braidwood street map and pathways



Source: AECOM, current as of December 2017

2.6.3 Bungendore

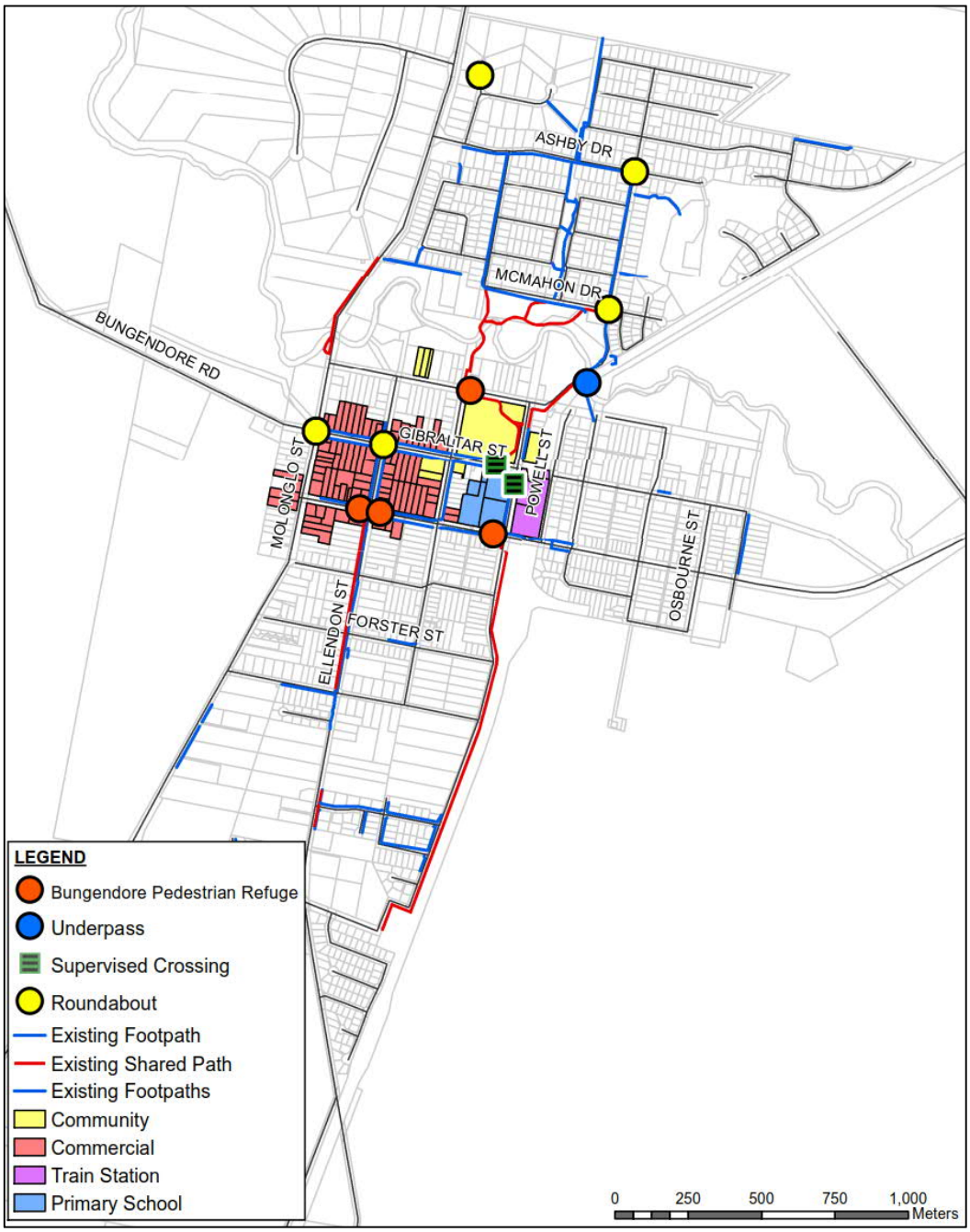
Figure 24 shows the current road layout, pathways, pedestrian facilities and key land-uses in Bungendore. Bungendore is generally well-serviced by a network of footpaths provided on both sides of most streets within the town centre. There are limited off-road paths.

The pedestrian network is generally continuous, but lacks priority at most intersections. In addition, there are numerous significant barriers to pedestrian movements that create diversions for pedestrian movement.

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

- A cycle link (shared path) is needed from Bungendore to Showground.
- Missing footpath links from along Ellendon Street from southern residential into the CBD.
- Complete shared path loop within park at front of Council.
- Turallo Creek Bridge has a path on opposite side of where the shared path is along Tarago Road.
- The cycling population is increasing and active travel should be encouraged.
- The provision of cycle racks and other infrastructure in the village should be encouraged.
- Bungendore is an ideal town for cycling because of the flat topography and it is relatively safe.
- It would help if bicycles could be taken on trains.
- Consideration of a footpath link from Elmsea Estate to Gilbraltar Street.
- Integrate a dirt trail along Turallo Creek to the flood mitigation work around Tarago Road. Consider extending dirt trail under the bridge at Tarago Road.
- Include cycle carriage on bus and train routes from Bungendore to Canberra.
- Footpath Forester Street (West) – integrate with Ellendon Street.
- There is uneven path over the railway and along the highway which is dangerous.
- Footpath under Rail Bridge at culvert near Dog Park to access east Bungendore under the rail tracks from integrated pathways.
- Existing footpath that runs from Malbon Street and across the railway crossing should be upgraded. There is a concern for safety for pedestrians with prams who currently have to step onto the road and then back onto the footpath.
- Upgrade the existing footpath along Molongo Street.
- Create a cycling route around the Bungendore town centre.
- Build a path along the creek.
- The shared path on Eleanor Street is too narrow.
- There is no footpath on Hyland Drive.

Figure 24: Bungendore street map and pathways



Source: AECOM, current as of December 2017

2.7 Car Parking

There is no data on the current supply and demand for parking in the various commercial centres in Queanbeyan, Bungendore and Braidwood. This needs to be addressed, especially for Queanbeyan CBD where significant future development may occur. Council is currently developing a carparking strategy. There is however proposed Council projects in response to community concerns for off-street carparks to be constructed in both Braidwood and Bungendore.

The lack of shade provision in car parks throughout the centre is an issue given the existing climate and the need to adapt to increasing extreme temperatures likely to be brought about by climate change. This is particularly relevant for the at-grade car parks during summer periods. Improving shade in these areas will promote better access for more vulnerable members of the community such as the elderly and young children, and ensure that the car parks are best placed to support the overall economic success of Queanbeyan.

The provision of connections from the car parks at the rear of the Monaro Street shops provide direct and convenient access throughout the CBD, and these laneways should be retained and enhanced wherever possible. The high level of pedestrian permeability is a major asset for the centre and ensures that the existing car parks can effectively service the CBD with minimal negative impacts being caused by car parking conflicting with pedestrian areas. However, the provision and maintenance of safe, activated, amenable links (including shade) throughout the car parks is an area for further action.

The Queanbeyan Development Control Plan (DCP) 2012 Part 2 (Queanbeyan City Council 2012b) outlines requirements for the provision of car parking and service delivery facilities for new development. In some instances the NSW Government's State Environmental Planning Policy (SEPP) takes precedence over the Queanbeyan DCP.

Amongst various requirements, it stipulates that car parking is to be provided on-site to cater for the increased demand brought about by the development of a site. However for sites within the CBD a monetary contribution paid in lieu of providing car parking on site may be acceptable.

In mixed-use developments, where peak demands for each land use component of the development are staggered, and this can be demonstrated to the satisfaction of Council, a reduction in the total number of spaces required may be accepted.

The current parking provisions are specified as minimum requirements. They are suitable for areas with low public transport provisions, but this may need to be reviewed in future.

3.0 Vision and Key Policy Directions

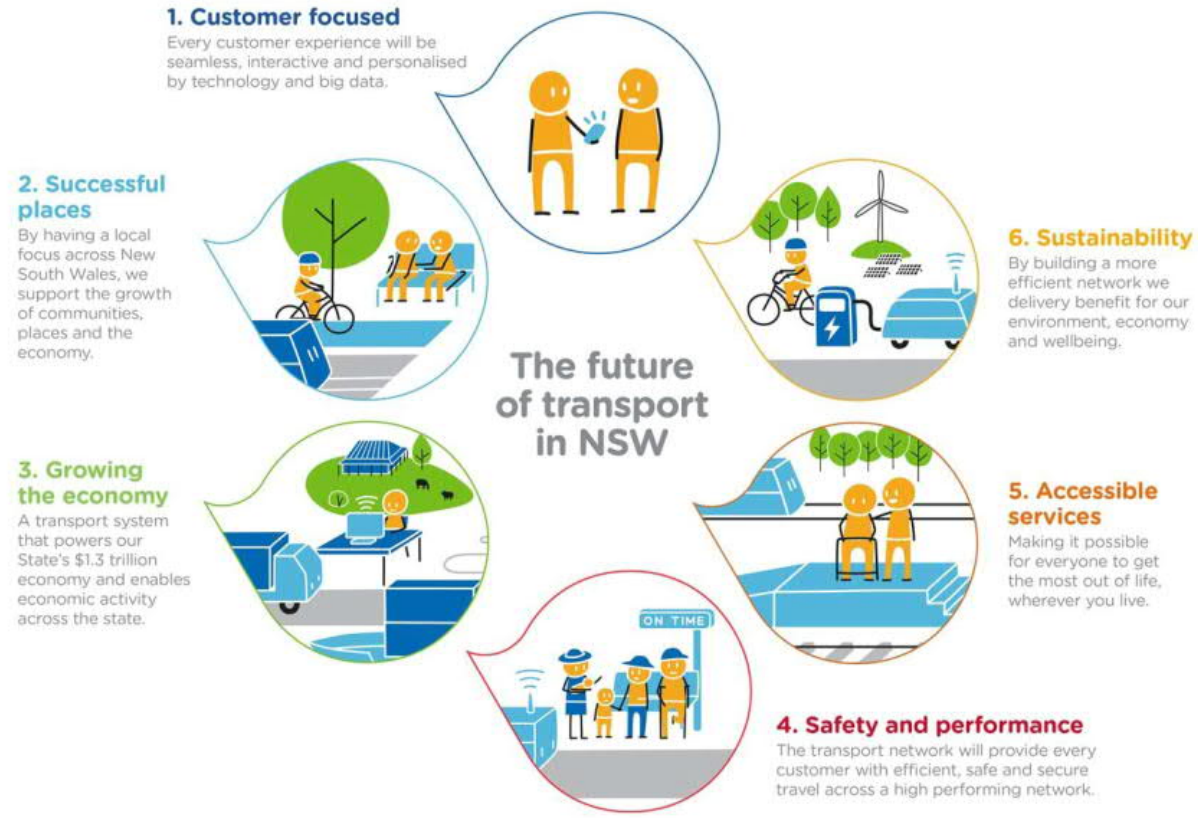
3.1 Current Policies

3.1.1 State Policy

3.1.1.1 Future Transport Strategy 2056

The *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 25. 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 25: Six customer and network outcomes

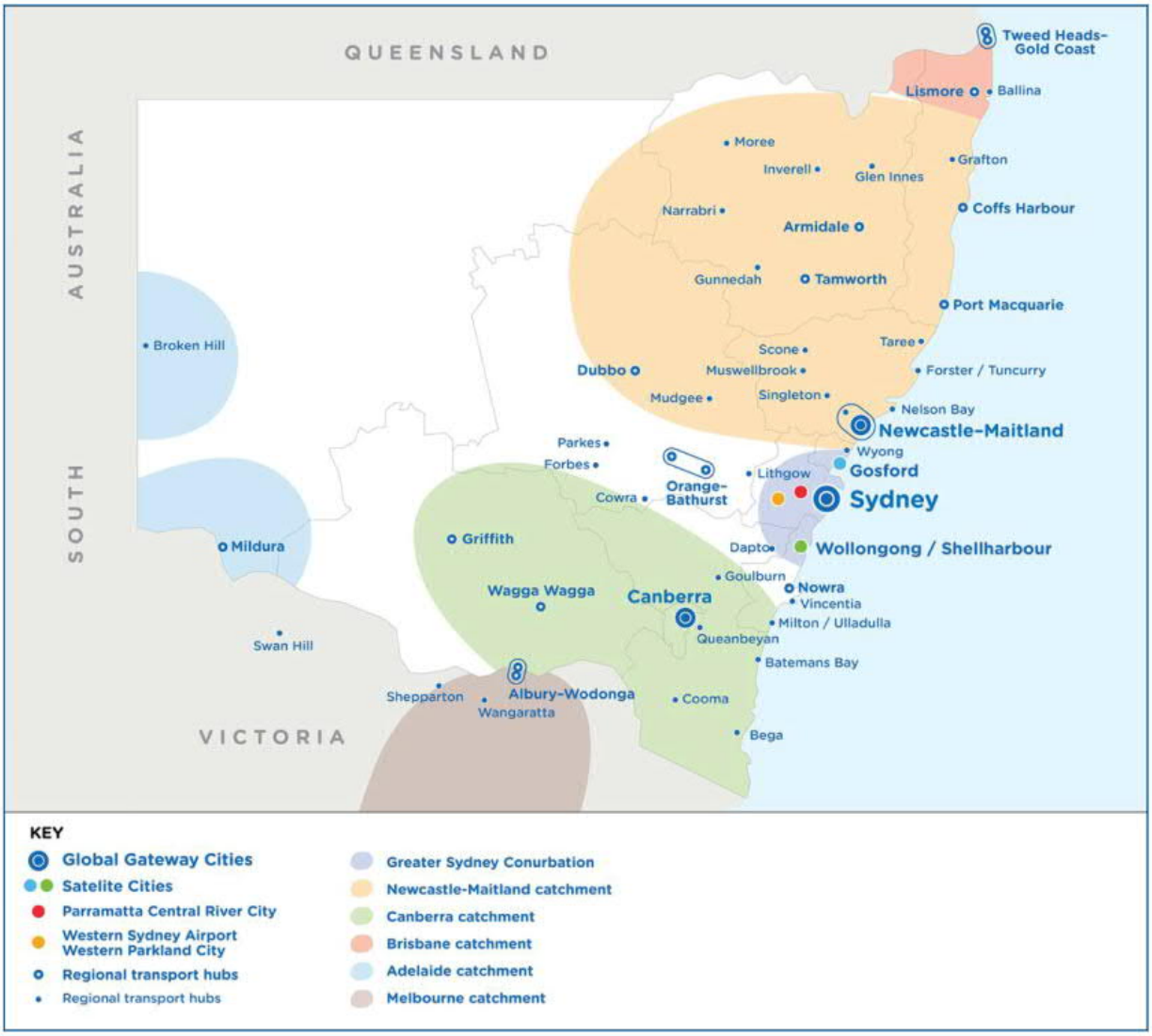


Source: NSW Government, Future Transport Strategy, 2017

The 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 26 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 26: Importance of Global Gateway Cities



Source: NSW Government, 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.

The *Future Transport Strategy 2056* was published by the NSW Government in late 2017 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 focusing 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.

3.1.1.2 State Infrastructure Strategy 2014

The *State Infrastructure Strategy* (SIS) is a 20-year infrastructure investment plan for the NSW Government that places strategic fit and economic merit at the centre of investment decisions. The SIS assesses infrastructure problems and solutions, and provides recommendations to best grow the State's economy, enhance productivity and improve living standards for the NSW community. It is updated every five years.

The infrastructure considered in developing the SIS includes:

- roads
- rail
- airports and ports.

A target area of the SIS is productive regional industries and connected regional communities. For regional transport, the strategic objective is to improve regional producers' access to markets through investments supporting freight productivity. The key challenges are:

- Manage a growing regional freight task efficiently.
- Improve road freight productivity, particularly on major road freight corridors.
- Tackle constraints and 'pinch points' on the local road network.
- Improve the regional freight rail network and move more freight by rail where economically viable.
- Make passenger transport investments that match the needs of a growing regional population.

The SIS highlights that:

- Regional freight supports production worth more than $80 billion each year to the NSW economy. Agriculture, forestry and fishing, manufacturing and mining account for most of the freight from regional centres.
- The regional freight network in NSW plays a critical role in supporting the national freight task, with 75 per cent of interstate truck freight in Australia using the NSW road network for some part of its journey.
- Around 260 million tonnes of the NSW freight task originates in regional NSW. Together, the Hunter and Illawarra generate two thirds of all regional freight volumes in NSW.
- The primary mode of transport for regional communities is private vehicle, with 90 per cent of the 7.5 million daily passenger trips in regional NSW occurring by car and only 1 per cent and 2 per cent respectively involving bus or train travel.

While road freight productivity has more than doubled over the past 40 years, it has now slowed. Infrastructure improvements along major road freight corridors are needed to allow larger vehicles to move between regional centres, communities and gateways safely and efficiently. These improvements include bridge upgrades, overtaking lanes and driver rest areas.

Local road infrastructure can constrain freight network connections, imposing higher costs on business and communities. Addressing these network 'pinch points' can enable more direct routes to market and allow the use of more efficient freight vehicle configurations. Without investment, these pinch points will continue to require diversions of freight traffic and more freight vehicles will be needed to carry the same volume of freight, imposing higher costs on business and the community. It is estimated that diverted freight travel will cost NSW businesses almost $1 billion over the next 20 years and require an additional 900,000 driver hours.

With strong population growth predicted for a number of regional centres over the next two decades, transport investment should focus on serving this growth and ensuring that regional connections support the new economic and employment opportunities generated by an increasing population.

3.3.1 Southern Regional Transport Plan

The 2014 *Southern Regional Transport Plan* provides a blueprint for the future and a strategic direction for the delivery of major projects in the south-east of NSW over the next 20 years. The Plan draws from a number of other NSW strategic plans and policies. It outlines specific actions and priorities for transport improvements at a local level.

The Plan identifies the following issues with the transport system serving the region:

- Limited public transport services in rural localities increases levels of isolation and disadvantage.
- Need for flexible and innovative transport to serve people in rural localities.
- Need for integrated public transport services cross-border to ACT.
- Increased demand and congestion of strategic road network during peak seasonal demands and holiday periods (e.g. Kings Highway, Monaro Highway).

NSW Government initiatives for the region outlined in the Plan include:

- Improving community transport services including funding for:
  - NSW Community Transport Program
  - Regional transport Coordination Program
  - Country Passenger Transport Infrastructure Grants Scheme
  - Home and Community Care Program (jointly funded with Australian Government).
- Investigating ways to improve the transport interchange at Queanbeyan
- Assistance with road restoration
- Implementation of safety improvements along Kings Highway
- Improving online public transport customer information for the region (including integration with ACT systems)
- Supporting community proposals for investigations into the feasibility of converting non-operational rail lines into tourist or active transport corridors (e.g. rail line from Queanbeyan to Michelago)
- Roll out the Walking Communities Program, Connecting Centres Cycling Program and Cycling Towns Program.

3.1.1.3 NSW South East and Tablelands 2036 Regional Plan (2017)

The NSW South East and Tablelands 2036 Regional Plan outlines a vision of a borderless Canberra region with a connected and prosperous economy, healthy and connected communities, environmentally sustainable housing choices and its diverse environment interconnected by biodiversity corridors.

According to the Plan, the region's prosperity relies on an efficient transport network, a healthy rural and natural environment, and a collaborative relationship with the ACT. Access to global gateways at the Port of Eden and Canberra Airport are providing greater exposure to national and international tourism and export markets. Improved connections to Port Kembla, Port Botany, the Port of Melbourne and Western Sydney Airport will give the region a competitive advantage.

Canberra Airport will drive economic growth in the region. It is expected to generate over 21,000 jobs by 2030 and contribute $2.42 billion per year to the regional economy. As there is no aircraft noise curfew, its international services are unconstrained. Its passenger terminal has capacity to offer more services, and the master planned freight precinct offers a realistic alternative to Sydney Airport.

The Plan highlights that some freight routes across the ACT border are inefficient, and this will intensify as the South East and Tablelands grows. Improving the ability to move freight across the ACT border will better enable agricultural producers to access export markets through the airport. Consistent information on freight movements across jurisdictions will improve the planning for and efficiency of the freight network.

The Plan notes that increasing the productivity of the freight network by improving travel times and freight capacity will bring considerable economic benefits. The road networks, particularly strategic transport links, need to support higher productivity vehicles. This can be achieved by removing height and weight restrictions on major routes, improving rest area options and addressing the constraint of narrow bridges. Major opportunities for the freight network include:

- Improving east-west B-double access along major highways and key regional and local roads connecting the South Coast to Sydney, Canberra and Melbourne
- Managing amenity impacts where key routes run through town centres, particularly in the Hilltops and Queanbeyan-Palerang local government areas
- Improving rail transport and investigating intermodal facilities and the potential to re-open non-operational lines to support connectivity to markets for passengers and freight
- Building on existing facilities to support intermodal connectivity where sustainable freight demand exists, non-operational lines could be brought back into operation.

3.1.2 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. This includes planning for infrastructure to support the growth and servicing of the community needs.

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
  - Develop a Memorandum of Understanding(MoU) with the ACT including integration of public transport, reduction of commuter traffic and Smart Hubs.
- Transport infrastructure
  - Ensure scheduled maintenance and capital works for roads are founded on reliable and justifiable data
  - Continue development 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.

3.2 ITS Vision and Goals

The vision and objectives for the ITS define the broad framework for ensuing actions. This was formulated as part of the Stage 1 consultation and is described below.

3.2.1 ITS vision

To build and maintain a safe, effective and environmentally sustainable transport system through: integrated transport and land-use planning, effective policy development and investment to support a connected community with affordable and convenient access to services, responding to emerging trends and making best use of new technology, promoting healthy communities through greater active transport choices, encouraging business development and regional prosperity and working together with neighbouring jurisdictions to form complementary plans and improved connectivity in the region.

3.2.2 ITS goals

Social and economic inclusion: Align the accessibility of transport to the needs of the community and the economy, developing better connected communities through improved travel links that are fast, convenient, safe and secure, and more travel choice for residents and visitors. Provide a range of options to meet transport needs including the provision of infrastructure and non-infrastructure solutions and improved services. Inform the community using a range of communication media of the various transport options available to them. Reduce obstacles to the accessibility for disadvantaged groups, through a strategy to improve infrastructure (physical access) and innovative methods to address access.

Safety, health and wellbeing: Design, construct and maintain transport infrastructure to meet acceptable standards to maximise the safety and security of all users of the transport system. Provide a range of options to meet community needs for health and wellbeing, focussed on the needs of the elderly and teenagers. Make QPRC a cycling friendly region with infrastructure such as separated lanes and road management improvements.

Economic prosperity: Encourage more efficient and lower impact freight and delivery for suppliers and businesses, through application of land use and planning instruments and close collaboration with government agencies and commercial interests. Promote and support government and private investment in road and rail infrastructure to ensure goods can be moved efficiently around the region while minimising adverse impacts on communities and the environment.

Environmental sustainability: Minimise the impact of transport on the environment by supporting growth in public transport, walking and cycling for trips in the region, as well as protecting habitat, biodiversity and landscape values. Create and promote effective policies and investments to support sustainable transport choices, encourage travel behaviour change, respond to emerging trends and to make best use of new technology, re-designing road space allocation, reducing greenhouse gas emissions from transport and containing the provision of off-street parking.

Integration: Progressively develop the transport system in collaboration with Government agencies and commercial interests, to achieve a seamless and connected network through planning and collaboration between a range of government and private providers. Promote and facilitate the integration of the public transport system through integrated transport and land-use policy development and working together with commercial interests and neighbouring jurisdictions to form a unified plan.

Efficiency, coordination and reliability: Support efficient and reliable door-to-door movement of people and goods in the region by progressively upgrading the mobility and carrying capacity of roads by prioritising access to public transport, walking and cycling. Promote innovative transport solutions will be used to improve travel reliability and connectivity by alternative modes.

3.3 Sustainable Transport System

Public transport, cycling and walking are traditionally understood as the key components of a sustainable transport network. However, modern sustainable transport planning extends well beyond accommodating these three modes and needs to encompass wider policy approaches that will reduce both the need to travel by car, and the desire to travel by car.

The following elements need to be considered and incorporated into the planning for QPRC to develop a successful sustainable transport system:

- Influencing land uses to reduce the need to travel and the distance travelled, encouraging the use of active transport modes. Mixed use development increases the opportunity for local access to goods and services within the neighbourhood. Higher density development increases this probability of finding friends, goods and services within a walkable area. Land use planning for high quality schools, childcare, shops, playgrounds and sporting facilities within the neighbourhood will reduce the total need for travel. Less unnecessary travel increases sustainability, social capital, and useful time.
- Influencing urban form and road network structure to optimise public transport effectiveness. It is critical to ensure that public transport services are able to follow direct and efficient paths between key internal destinations and external linkages. Public transport vehicles need to be able to travel along paths that are no longer than those that would be travelled by private cars. Roads intended for public transport services need to form the spine around which all other roads and streets must connect.
- Ensuring that road formations for public transport routes provide adequate capacity and priority for public transport vehicles to ensure efficient movement and separation from traffic congestion. This may include provision for the possible future upgrade of bus routes to ACT to light rail. Planning bus stop locations as an integrated part of the development of pedestrian and cycle networks, and ensuring that the access paths to the stops are logical, legible and appealing. Stop locations also need to be planned so that pedestrians are able to safely cross roads when accessing stops on the far side.
- Providing quality public transport facilities at town and local centres that are located so that they can be efficiently accessed without circuitous movement patterns. This can include locating these facilities on key frontages or within active spaces that also provide high visibility, creating a sense of presence.
- Developing appropriately located Park and Ride facilities. Park and Ride is undoubtedly an attractive option for many users of public transport services although their role is sometimes misunderstood by public transport purists. Park and Ride allows people to use public transport for a significant part of their journey, but still have the convenience of their own motor vehicle to move between home and a public transport stop. The placement of park and ride facilities is crucial, as the sites need to be positioned towards the interface between the community and the surrounding road network, so that motorists naturally travel towards it. It must also be located adjacent to a bus route offering frequent services, and on a road capable of handling the traffic it would generate in the morning and afternoon periods.
- Ensuring that stop and station infrastructure is provided at a high standard, allowing the public transport system to have an identifiable presence within the local community and to create an image of a professional, safe and appealing service being provided.
- Integrating a range of bicycle facilities into public transport stops and stations, and recognising the different needs of different cyclists. This can result in a range of bicycle facilities being provided from secure cages at major stations through to casual bike racks at local stops.
- Providing public transport services that meet the needs of the community as it develops. Servicing a growing community is challenging, particularly in the early years. By most standard planning principles, low population and low density communities do not generate high public transport ridership, making it difficult to justify the provision of service levels that will be useful and thus attractive. This is a common conundrum - the desire to provide quality service has to be weighed against the cost of its provision. The key to success is to provide as much service as can be justified, preferably above minimum standards, and incrementally and regularly enhance that service as the community grows.

- Planning for the operational needs of public transport services as an integrated part of precinct planning. Facilities such as bus layovers and turnarounds are critical elements in a successful public transport system. Failure to adequately plan for them can significantly impact the efficiency and effectiveness of public transport services. However, these facilities can be fundamentally unappealing in an urban environment, but if planned from the outset so that the local urban form can better accommodate their needs, many potential issues can be negated or reduced.
- Connecting parking facilities and bus/transport stops at rail stations.
- Designing path networks that accommodate the needs of different users. Much of the planning of bicycle paths in the past has failed to consider the different needs of different user groups. For example, regular cyclists who commute long distances often express a desire to travel in bike lanes provided on normal roads rather than use off road bicycle paths due to their desire to move swiftly and their increased confidence in negotiating traffic. However, casual cyclists including families with children generally prefer facilities fully separated from vehicular traffic. Path networks also need to accommodate the mobility needs of the different types of pedestrians including mothers with prams, people in wheelchairs and mobility scooters.
- Providing for alternative fuel technologies. Hybrid and electric motor vehicles are becoming commonplace and accommodating them is not particularly difficult. New houses can be pre-equipped with necessary charging points in the garages, and car parks at commercial and retail sites can also be equipped with these facilities. The Victorian Government's Guidance on Land-Use Planning for Electric Vehicle Parking and Charging, 2012 provides a good example of how appropriate provision and design can be addressed at the policy level. It provides guidance on numbers of car parking spaces, design and location. The preference is to prioritise these spaces and locate them close to entry points of shopping centres or other buildings.
- Providing for car share schemes. Car share schemes position cars in a variety of locations throughout the community, allowing their use on-demand by members of that scheme. In many cases, the availability of a car share vehicle can dissuade a business from buying a vehicle, or households from buying a second vehicle if their need is only sporadic. Car share vehicles can be deployed in residential areas, business precincts and at public transport stations and can allow a reduction of parking space provision by up to 20 spaces per car share vehicle available. There is emerging evidence that some users of car share schemes later progress to using public transport as they become aware of the incremental cost of car usage.
- Allowing the use of lower car parking rates. One of the easiest ways to encourage private car usage is to provide ample and free parking at destinations, and to build homes with large multi-car garages. In recent years there has been a trend towards reducing parking rates, in acknowledgement of the negative aspects of providing excess parking. Parking rates should not be determined in isolation of a sustainable transport strategy. It is imperative that people are provided with viable and attractive transport alternatives to the private vehicle before applying reduced parking rates to assist to achieve the desired outcome of reduced car usage levels.
- Developing Green Travel Plans for local residents and communities to help change community attitudes and behaviours towards more sustainable transport. The provision of quality services and infrastructure are an important step, but an active effort needs to be made to inform and promote them so that residents and visitors are aware of them and use them. Green Travel Plans (GTPs) are commonplace in the UK but have yet to be commonly adopted in Australia. Workplace Travel Plans are also an important tool for employers and workers to improve their wellbeing and commercial performance. Companies in NSW such as Optus have reported improved staff recruitment and retention.

3.4 Active Transport

There is a common and growing understanding of the causal link between good urban and transport system design that promotes safe walking and cycling, and a healthy community in terms of both physical and mental health.

Linking people to open space, public transport, education, shops and jobs via a quality network of walking and cycling routes has a number of positive benefits for communities. These include but are not limited to:

- Economic Benefits
    - Transport Efficiency – active transport can reduce the demand on the road system thereby reducing the need for road infrastructure reducing development and maintenance costs (an integrated multi-modal transport network in a greenfield development can reduce car dependence)
    - Parking Demand – active transport use can reduce the demand for very expensive parking
    - Land Use Efficiency – space requirements for active transport infrastructure to accommodate trips is less than that for private vehicles (pedestrian requires approximately 3 m^2, a cyclist 10 m^2 and a car travelling at 30 km/h requires 30 m^2 per km travelled) reducing land take and increasing the yield from land
    - Consumer Expenditure – active transport is low cost form of transport and can reduce the need for multiple car ownership in households reducing household transport expenditure and increasing disposable incomes
- Environmental Benefits
    - Emission Free Transport – active transport is free from greenhouse gas emissions and pollution
    - Noise Free Transport – active transport trips tend to replace private vehicle trips, reducing noise disturbances and discomfort
- Social Benefits
    - Increased Mobility – members of a community without full-time access to a motor vehicle are provided with a transport option to access services and facilities. When linked with public transport results in residents have greater access to retail and employment outside the centre resulting in higher levels of economic inclusion for all residents.
    - Health Benefits – active transport increases the level of physical activity in communities, also supporting mental health and ageing populations
    - Increased sense of community - the provision of a well- considered active transport network will encourage social interaction, community cohesion and increase liveability of areas. These factors can often have a positive influence over property values, business activity and can also help to reduce crime and other social problems in areas (Litman 2003).

Therefore, delivering a high quality walking and cycling environment in any community should be of a high importance.

The Australian Heart Foundation has encapsulated this emerging body of knowledge in Healthy by Design – a planner's guide to environments for active living (Heart Foundation 2012). The guide suggests design approaches to encourage active living in the following areas:

- Walking and cycling routes
- Streets
- Local destinations
- Open space
- Public transport
- Seating, signage, lighting, fencing and walls
- Fostering community spirit.

The guide includes a number of case studies that illustrate the outcomes in these areas. In particular, it is worth noting that the application of these principles can add significantly to the health benefits of any business case, and open up avenues for different funding opportunities.

The promotion of safe, active transport is usually achieved through the implementation of multi-component strategies that include speed reduction. High levels of safe walking and cycling for transport are incompatible with high vehicle speed as, for many trips or parts of trips, pedestrians and cyclists are required to share the road space with motor vehicles. International experience suggests that speed reduction is not the only change needed to increase safe active transport, but it is a key component.

The following key findings of the report are:

- Reducing motor vehicle speeds in areas with high pedestrian movement (existing or desired) is critical to creating a safe and attractive transport network. In particular, it is noted that the likelihood of a fatality increases rapidly at speeds over 30km/h.
- Low speed limits in neighbourhoods and town centres are becoming increasingly common around the world. Generally, speeds of 20-30 km/h are associated with safer streets and higher rates of walking and cycling.

'Safe speed' is often conceptualised in terms of vehicle speeds that minimise the risk of injury, but in the light of the multiple benefits of active transport, it may be more appropriate to think of 'safe speed' as that which delivers injury prevention outcomes as well as many additional health and social benefits.

Active, liveable cities and communities provide all people from children through to older adults with the right to move about in public spaces. Active living and community engagement is constrained when people retreat into their homes and cars through fear of traffic. Road safety improvements should not be dependent on people remaining indoors or in cars. The focus needs to be on removing traffic danger from people, not people from the hazardous environment that has been inadvertently created.

Reducing traffic speed is an effective way of righting this balance and encouraging people to engage in active transport modes with ease, resulting in significant improvements in the health and wellbeing of the population and the environment.

The World Health Organisation (WHO) outlines transport as a social determinant of health and its relationship to healthy outcomes in the following summary:

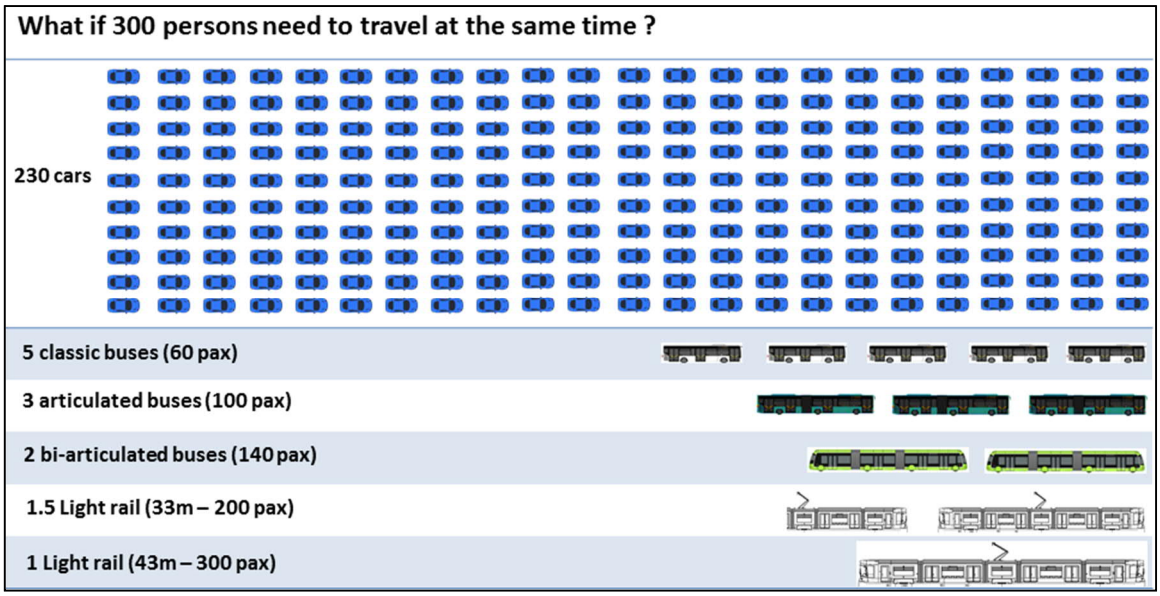
> *Healthy transport means less driving and more walking and cycling, backed up by better public transport.*
>
> - *Roads should give precedence to cycling and walking for short journeys, especially in towns*
> - *Public transport should be improved for longer journeys, with regular and frequent connections to rural areas.*

3.5 Public Transport

Without significant and focussed intervention, strategic model forecasts indicate the mode split will remain relatively consistent resulting in a large increase in the effective number of cars on the city's streets, intensifying local and broader road congestion.

Strategies need to be implemented to drive a shift toward more sustainable and efficient transport modes, through a combination of improving quality and attractiveness of these modes and discouraging private vehicle utilisation: bringing mode choice trends of Queanbeyan more in line with Canberra. The spatial efficiency of public transport modes in moving people, versus the private vehicle, is illustrated in Figure 27.

Figure 27: Spatial efficiency of moving people in cars versus public transport



Source: AECOM, 2016a

Note: assumes full public transport vehicles

Urban density is the greatest indicator of the potential for public transport to be successful. In inner-city areas, urban planning aims to increase the density of development around public transport stations or along public transport routes.

Achieving a high utilisation of public transport in a greenfield community located on the urban fringe such as Googong is a significant challenge. Typically, the market for residential property in an area like this will be focused on low density housing and although small pockets of medium density development might be achievable, other factors will affect the take-up of public transport.

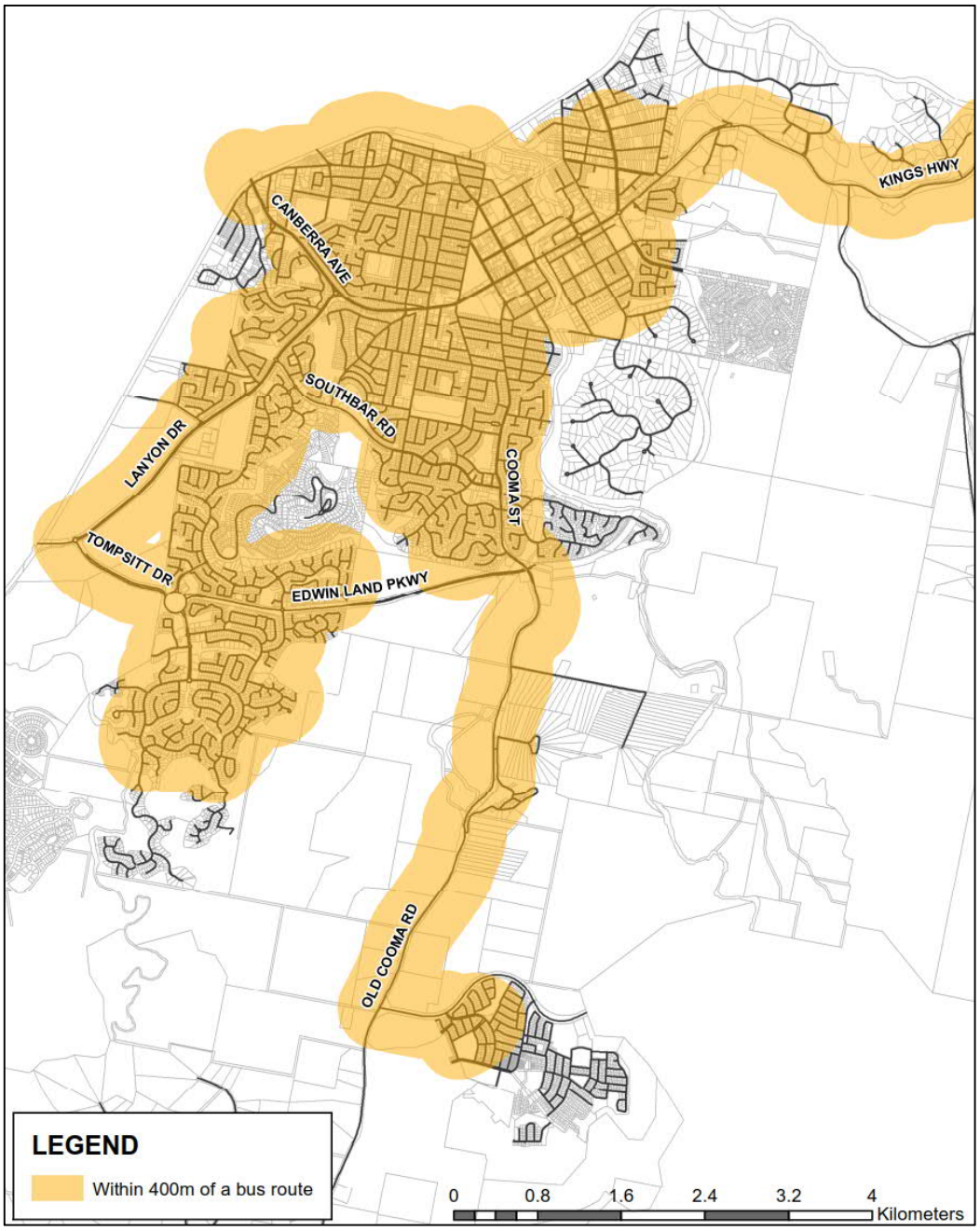
Density is not the only factor which creates successful public transport outcomes but also the mix of land uses. It is essential to create the right mix of residential density, retail opportunities, education and jobs in close proximity to frequent and useful public transport services. Opportunities exist to influence urban planning to maximise the number of people residing and working in close proximity to the public transport services, and in particular, the locations of every stop. If each stop is treated as a potential location for localised transit oriented development, with an intent to maximise local density close to the stop, higher density outcomes can be achieved in the locations where they matter the most.

Proximity alone will not be enough to ensure good outcomes, and needs to be supported by direct, legible and efficient pedestrian and bicycle access to the public transport service. This can be achieved by influencing the urban form of the community in terms of the location of the roads that public transport will use, stops, street network and path network. The overt provision of visible secure bike parking structures at generous rates and end of trip facilities such as change rooms and showers will enhance the legitimacy of cycling as a mode choice.

At a service level, one of the primary determinants of the success of a route is its frequency. High-frequency services that come often enough that people do not need to consult a timetable allow greater freedom and begin to offer convenience of travel closer to what owning a car does. However, high frequency services in urban fringe communities are uncommon and this is typically because the community has not been designed to be supportive of such service. Also, public transport services are heavily subsidised by State Governments and there is a limit to how much service the public purse can fund.

More than 90% of residents in urban areas should desirably have access to public transport within 400 m or a train station within 800 m (weekdays and Saturdays) and public transport within 800 m nights and Sundays. A high proportion of the urban area of Queanbeyan is within 400 metres of a QCity bus service as shown in Figure 28.

Figure 28: 400 m walk distance to QCity bus routes



Source: QCity (May 2017) and QPRC data base

Roads should encourage and accommodate:

- Safer and more convenient pedestrian access to public transport
- Better integration of cycling and public transport trips
- Enhanced bus operations through appropriate allocation of street space
- Bus stop and shelter designs integrated with streets
- Integration of built form with bus stops and stations
- Flexibility to have some parts of the network for exclusive use by public transport
- Changes to the ACT bus system.

3.6 Roads

3.6.1 Road space allocation

A systematic and strategic approach is critical to respond to observed issues with the transport network, and to ensure that the fine detail of the transport system responds to the defined strategic intent. In Victoria, the overall road network plan is articulated by a 'road use hierarchy' that provides the planning basis for decision making with respect to the road network (Vicroads 2011).

The Road Use Hierarchy articulates where the following modes have priority on the road network:

- General traffic and freight access
- Pedestrians (through a Principal Pedestrian Network)
- Bicycles (through a Principal Bicycle Network)
- Road based public transport routes.

In a road use hierarchy, streets are classified according to the places they serve. Those places determine the role and function of the street.

- Main streets
    - Activity is central to surrounding community;
    - Accommodates retail, employment, leisure, education etc.;
    - Active throughout the day and into the night
    - Not isolated to cities;
    - Residential amenity not normally an issue.
- Mixed-use streets
    - Mix of residential, commercial and retail;
    - Occasional services and community uses;
    - Wide variety of uses;
    - Must retain some residential amenity.
- Streets for living
    - Predominantly for living
    - Also contain incidental shops, school, home office;
    - Places to walk, meet, cycle, play etc
    - Also can convey vehicle traffic
    - Amenity for living a priority
- Industrial streets
- Streets used as roads

3.6.2 Liveable streets

In town centres, there is a strong emerging theme of creating streets for people, rather than roads for cars. This does not necessarily mean banishing cars entirely, but rather it involves reorganising space and designing to create a place for people to interact, rather than an efficient space designed for the efficient movement of vehicles and services.

The key influences on this movement are the “Naked Streets” (negotiated space) and “Shared Streets” which were pioneered in the Netherlands by Hans Monderman. The underlying psychology seeks to change behaviour and culture “from priority to equality”, and links with the Crime Prevention Through Environmental Design (CPTED) philosophy (refer movement corridors in 2056 Strategic Plan).

The practical application of a naked street involves the removal of all hard safety measures, including safety barriers, traffic lights, warning signs, speed humps, pedestrian crossings and road markings. These are all replaced with road surfaces that do not clearly distinguish between vehicle and pedestrian space, ambiguity in defining traffic rules, and a street environment that fosters eye contact and human interaction. The woonerf, a Dutch street network “focussed on the quality of life on the street” further define the naked street as a “street primarily meant as a social space, where people can meet, pedestrians and cyclists can move around freely, and children can play safely.” The woonerf was introduced to the Netherlands in the late 1960s and requires that drivers drive at or near walking pace, or under 20km/h. This is similar to a shared space introduced in a number of commercial centres in NSW and elsewhere in Australia.

Shared space relies on removing almost all delineation from the road space, and leaving only subtle cues as to the priority of the various modes. A key premise is that increasing uncertainty (creating ambiguity) for motorist’s increases certainty and safety for pedestrians. Traffic will move slowly enough for pedestrians and drivers to make eye contact, whereas the traditional highly delineated street does not allow for any negotiation over priority.

There are many examples of highly successful shared spaces in NSW, including Port Macquarie, Sydney and Bankstown CBD. An important feature of these spaces is that they generally have many other positive economic and social benefits apart from the transport benefits created by giving equal priority to pedestrians.

3.7 Freight

In NSW, the freight movement task is predominantly undertaken on a shared transport network where the movement of freight and the movement of people compete for space. With the exception of some dedicated freight networks, such as railways in more regional NSW used to transport coal and grain, the interaction of the movement of freight with the movement of people generally happens across the transport network. This includes roadways, railways, airports and waterways.

The *NSW Freight and Ports Plan* (2018-2023) is a supporting plan for *Future Transport 2056* with the goal of “moving goods in an efficient, safe and environmentally sustainable manner, providing successful outcomes for communities and industry”. Freight volumes are forecast to double in Greater Sydney over the next 40 years with a corresponding 25% increase in regional freight volumes.

Six priority areas are outlined in the draft Plan:

1. Strengthen freight industry and government partnerships.
2. Increase access for freight across the road and rail network.
3. Protect existing freight precincts and ensure sufficient future land use.
4. Facilitate introduction of technologies that reduce freight costs and impacts.
5. Reduce the regulatory burden on industry.
6. Ensure safe, efficient and sustainable freight access to places.

Development of the *NSW Freight and Ports Plan* has been guided by the 2013 *NSW Freight and Ports Strategy* which aims to ensure freight is at the forefront of the NSW economy over the next 20 years, and is intended to be reviewed at five year intervals.

A three stage action program is defined in the Strategy:

- Network efficiency – aimed at identifying and utilising latent capacity in the existing network and assets.
- Network capacity – aimed at setting out to establish and maintain a whole-of-network approach to identify actions that increase network capacity, and achieve the desirable balance of capacity and performance.
- Network sustainability – aimed at achieving a sustainable freight network that balances efficient freight movements with community expectations of safety, good neighbourhood amenity and positive environmental outcomes through the integration of land use and freight logistics planning.

The key objectives and principles of the strategy that relate to QPRC are:

- Objectives:
  - Plan for and deliver capacity at key freight gateways in a timely manner – to be achieved in QPRC through improved access to Canberra Airport. Canberra Airport plays a significant role in the region, particularly in the export market. A diverse range of products travel by air, including medical supplies, high-end electronic equipment, seafood, fresh fruit and vegetables.
  - Ensure future options are secured for freight network developments – QPRC's strategic planning provides protection of key freight precincts and freight corridor by recognising these resources within council's strategic plans particularly land use and network plans.
  - Protect and enhance access to markets for regional NSW.
- Principles:
  - Maximise efficiency of freight movements on the transport network – to be achieved in QPRC by protecting and enhancing access to key freight generating land uses.
  - Ensure continuity of international and interstate gateway capacity.
  - Minimise impacts of freight and logistics activity on safety, amenity and the environment – in QPRC, the existing arterial road caters well for existing freight movements. Future land use planning should ensure that these routes are protected and sensitive land uses are appropriately sited to avoid conflicts with freight traffic.
  - Accessing light rail and intermodal hubs.

In summary, QPRC will continue to expand its role as a major freight gateway to ACT and the surrounding region, and the existing transport network supports this aim. Future expansion of freight generating land uses can occur in existing designated areas such as Tralee, and future land use planning must seek to avoid conflicts between sensitive land uses and freight traffic.

3.8 Themes

The review of existing relevant policy documents clearly illustrates a number of themes that should inform the approach to future transport projects. These themes include:

- All investment decisions to make the most of the existing transport system and informed by a road user hierarchy.
- Promoting sustainable transport (walking, cycling and public transport) is important for a wide range of reasons. Increased use of sustainable transport has environmental and economic benefits through reduced greenhouse emissions and reduced space required for vehicle movement and storage.
- Socially connected, liveable communities – places where people walk, cycle and use public transport are likely to perform better on a range of social indicators.
- Healthy, active communities – there is a strong link between active transport and health.
- Transport efficiency – keep the whole transport network working well providing efficient movements for freight and business travel.
- Access for all members of the community – a large number of people in the community don't or can't drive, and the provision of attractive and viable alternative means of transport is a key factor in whether a community is affected by transport disadvantage, especially remote communities.
- Safety – making the transport network safer for all users.
- Social determinants of health including transport have a clear impact on healthy outcomes for communities and individuals. Giving people a greater transport choice in a quality built environment improves social connections, access to employment and equity.
- Planning for new development must consider providing for and promoting sustainable and active transport modes in accordance with the road user hierarchy.
- Future land use and transport planning should take account of significant freight generating activities, while protecting the amenity and safety of other land uses and road users.

These themes are reflected in the ITS goals described in Section 3.2.2.

4.0 Principles and Strategic Responses

This Chapter details the high level principles that have been developed to guide the implementation of the ITS. These principles support the provision of a transport system that offers genuine choices to users, and support the economic revitalisation of commercial centres.

4.1 Key Principles

In forming an ITS there are four broad areas of the transport system that need to be addressed:

- Transport network improvements for all modes of travel
- Creating a vibrant and safe CBD
- Partnership with ACT and NSW governments
- Community and stakeholder engagement.

The following provides an outline of some key transport planning principles that should apply to these areas.

4.1.1 Transport network improvements

In order to realise a transport system that provides viable and attractive alternatives to private vehicle travel, a number of fundamental changes are required that focus on improvements to the walking, cycling and public transport networks, while preserving the ability of private vehicles and freight to efficiently access commercial areas, key employment areas and the wider region. Given the historic focus on a car-based transport network, the majority of proposed network improvements relate to the walking, cycling and public transport networks. In particular:

- The adoption of a primary pedestrian and bicycle network for QPRC will ensure that these modes are strongly encouraged through a comprehensive network of appropriate standard facilities, including a range of off road and shared paths, and introduction of pedestrian and bicycle priority to overcome the many barriers formed by the arterial road network.
- High level recommendations for improvements to the public transport network, noting that public transport provision is a NSW Government responsibility in QPRC and that a comprehensive review of the existing network and detailed recommendations on changes to the network are dependent on agreements to be reached between the ACT and NSW Governments.
- The continued refinement and enhancement of ring roads in Queanbeyan, to ensure that the road network supports the overall ‘place’ function of the CBD, allows for efficient vehicle circulation around Queanbeyan and to the CBD where required (including provision for freight traffic) and suitable crossing facilities for pedestrians and bicycle riders.
- Planning for future highway bypasses of Bungendore and Braidwood, as part of ongoing planning processes in Council and RMS.

4.1.2 Creating a vibrant and safe CBD

The primary focus of this principle is Queanbeyan CBD, but it could equally apply to Bungendore and Braidwood CBD’s, as they evolve in future. Queanbeyan is the current focus as it is the largest commercial centre in QPRC.

A master plan has recently been developed for Queanbeyan CBD and is gradually being implemented. Council is also developing a parking strategy.

The renewal of the CBD is fundamentally dependent upon the creation of a vibrant, attractive and safe public realm where walking and cycling are the preferred modes of transport. This requires the following key interventions:

- Pedestrian based environment. Within the CBD, pedestrians should have priority for movement along and across streets.

- Links between CBD attractors – eg, laneways connecting carparks, pedestrian corridors and parks. All major land uses within the CBD should be effectively linked by high amenity, high priority pedestrian links.
- The CBD is characterised by many shopfronts with narrow frontages and numerous linkages to rear car parks. The quality and safety of these links is critical to supporting high levels of pedestrian activity in the centre, as many people will still choose to drive to the centre and should not be discouraged from doing so.
- End of trip facilities for bicycles (both recreational and commuter) will provide the right conditions to promote cycling as an attractive form of transport.

The quality and convenience of the transport network connecting to the CBD is critical to the overall attractiveness of the centre. This includes the following:

- Ensure that there is a network of principal pedestrian routes accessing the CBD from surrounding areas that have high pedestrian priority and amenity, and seamlessly link into the CBD.
- Provide new on and off road bicycle links to the CBD to cater for a range of cyclist types, from recreational to commuter and sporting cyclists.
- Advocate for improvements to the bus network so that it provides a higher frequency, legible service for residents to access the CBD throughout the day, evenings and weekends, including the aspects of accessibility and effective integration with land use attractors in the CBD.
- Identify and preserve priority public transport corridors within and through the CBD.
- Continue to provide a high standard of vehicle access to consolidated car parks, which service the central business area, noting that in most cases cars will have less priority than other modes of transport, but should still be afforded access.
- Ensure that existing and future ring roads operate to minimise through traffic in the CBD (maximise ‘place’ function of CBD transport network).

4.1.3 Partnership with ACT and NSW Governments

A large proportion of travel to work and freight travel involves cross-border movement into and out of ACT. The ACT Government holds responsibility for the planning, implementation and operation of the ACT public transport and arterial road networks, whilst the NSW Government is responsible public transport and arterial road networks in QPRC.

The development of a strong partnership with ACT and NSW Governments is crucial to creating better transport connections between ACT and QPRC and could be fostered via the creation of a workplan to develop and document in a Memorandum of Understanding. It is fundamental to the development of an integrated transport system that provides real travel choice across the region, especially improving the public transport network can only be achieved through working in close partnership with the ACT and NSW Governments.

An effective partnership with ACT and NSW Governments is one that promotes an open exchange of information, sharing of resources and buy-in from all parties to a shared vision for the transport network and agreement on the most effective means of planning and delivery. A number of ACT and NSW Government Departments and agencies must be consulted when determining the future shape of the QPRC transport network.

4.1.4 Community and stakeholder engagement

Ongoing and continued engagement with the community and business is critical to the successful implementation of the ITS, and to ensure that the solutions proposed are relevant and targeted to meet the needs of users. The local community in QPRC refers to residents, business owners, students, shoppers and other visitors to the region. To date, the community has been successfully engaged in this current project through a number of activities.

The design, development and implementation of projects as part of the ITS should embody the following principles of stakeholder engagement:

- The overall ITS objectives should be tested and validated against the broader vision for QPRC defined in Council's overarching community strategy documents.
- The community should have a meaningful decision making role about projects that affect them.
- Prioritisation of projects and identification of issues should be undertaken in collaboration with the community, transport industry and other affected stakeholders.
- A working group should be established by Council to monitor the implementation of the ITS.

4.2 Strategic Responses

The strategic responses have been developed from issues raised in the initial round of consultation for each of the key elements of the transport network in QPRC:

- Road network
- Active travel (walk and bike)
- Public transport
- Freight
- Parking
- Integrated land-use.

Only the main issues identified from earlier consultation are listed. A more detailed list of issues is included in the consultation reports (AECOM 2017a, 2018a).

4.2.1 Active travel

The main issues and responses in relation to active travel are shown in Table 15.

Table 15: Active travel main issues and strategic responses

Main issues of concern	Proposed strategic response
• Widths and quality of path surfaces • Missing links or kerb ramps • Accessible paths in Queanbeyan CBD, Braidwood, Bungendore and Captains Flat townships • Few on-road cycle lanes on urban roads and many narrow and poorly maintained shoulders on regional roads • Lack of end of trip facilities, especially at bus interchange and rail stations • Poor integration with public transport • Cross-border integration • Yass Road rail bridge • Lack of family / recreation links • Poor mapping and information on existing paths • Limited cycle network and facilities	1. Identify a connected and accessible path hierarchy and way finding strategy for active travel 2. Support increased provision of end of trip facilities, especially at bus interchange and rail stations 3. Prioritise people and pedestrian movement within Queanbeyan CBD, building on the current CBD masterplan work 4. Introduce lower speed limits in high pedestrian activity areas such as Queanbeyan CBD 5. Implement a program to promote active transport use and facilitate community participation 6. Implement improved cross-border linkages for active travel 7. Improve amenity and pedestrian facilities in Queanbeyan CBD and the townships of Braidwood, Bungendore and Captains Flat (happening) 8. Construct on-road cycling and off road shared path facilities along Ellerton Drive Extension to improve connectivity across Queanbeyan River and local neighbourhoods (happening) 9. Construct on-road cycling and off road shared path facilities along Old Cooma Road to improve connectivity between Googong and Queanbeyan (happening)

A number of responses are already in hand or part of ongoing programs. Specific projects to support the responses are developed in Chapters 5 and 6. More details are included in the associated Pedestrian and Bicycle Study reports.

4.2.2 Public Transport

The main issues and responses in relation to active travel are shown in Table 16. A number of responses are already in hand or part of ongoing programs. Specific projects to support the responses are developed in Chapters 5 and 6.

Table 16: Public transport main issues and strategic responses

Main issues of concern	Proposed strategic response
• Integration between the ACT and NSW (buses, routes, fares, information) • Integration between rail and bus (buses, services, information) • Lack of services to isolated communities (e.g. for health needs) or new urban areas (e.g. Googong) • Affordability of bus services bus services • Frequency and reliability of services • Lack of real time information on transport options • Future rail connections and services in the region • Integration of various community and point to point transport services with public transport • Rail stations need to be upgraded • Lack of bus shelters • Lack of services to Braidwood and Bungendore	1. Resolve barriers to extend ACTION Red Rapid service to Queanbeyan interchange, including planning for future bus priority (being examined by ACT/NSW Governments) 2. Resolve barriers to integrate ACT and Queanbeyan fare structure and subsidies (being examined by Transport for NSW) 3. Investigate new bus services and park and ride facilities to service Googong and Jerrabomberra directly into the ACT 4. Review public transport connections to regional train stations 5. Inform community of existing public transport services (e.g. many residents don't realise that they can use the many school bus services that run throughout the region) (happening, Transport for NSW) 6. Seek to implement a real time information system for public transport (already in ACT) 7. Integration of community and point to point transport services into the public transport network (happening, Transport for NSW) 8. Develop a strategy for bus and coach passenger shelters for region 9. Develop a strategy for integrated bus routes between ACT and NSW 10. Seek to implement a commuter rail strategy for travel between Bungendore and Kingston (ACT), with consideration of a potential new rail station at Australian Headquarters Joint Operations Command (HQJOC)

4.2.3 Integrated land-use

The main issues and responses in relation to active travel are shown in Table 17. A number of responses are already in hand or part of ongoing programs. Specific projects to support the responses are developed in Chapters 5 and 6.

Table 17: Land-use main issues and strategic responses

Main issues of concern	Proposed strategic response
• Land-use planning has resulted in dispersed development • Land-use plan does not encourage public transport use	1. Land-use planning to support improved public transport 2. Identify corridors for increased development densities 3. Promote increased densities and mixed-use development in vicinity of Queanbeyan CBD and major existing and future commercial centres, including Googong, Braidwood and Bungendore Centres

4.2.4 Road network

The main issues and responses in relation to the road network are shown in Table 18. A number of responses are already in hand or part of ongoing programs. Specific projects to support the responses are developed in Chapters 5 and 6.

Table 18: Road network main issues and strategic responses

Main issues of concern	Proposed strategic response
• Amount of traffic on Monaro Street in CBD • Reduced access when Queanbeyan River floods • Cross-border road capacity and traffic congestion in peaks • Limited access to Googong • Traffic congestion, access and safety on the main streets of Braidwood and Bungendore • Safety blackspots on regional roads and State highways • Traffic congestion and safety at intersections generally, but especially at the intersections of Lanyon Drive / Tompsitt Drive and Barracks Flat Drive / Cooma Street • Access to the coast via Nerriga Road (for tourism, freight and recreation) • Council is only doing the transport strategy to push the Ellerton Drive Extension agenda • Maintenance of gravel roads	1. Construct Ellerton Drive Extension across Queanbeyan River to provide all weather access and an alternative route for traffic to the Monaro Street CBD route (happening) 2. Conduct a study to investigate options for improving the amenity and pedestrian movement in Queanbeyan CBD 3. Support the ACT in the duplication of Pialligo Avenue (study being conducted) 4. Ensure the alignment adopted by QPRC for the proposed Dunn's Creek Road is preserved, together with a link to Monaro Highway in ACT 5. Duplicate Old Cooma Road from Googong to Ellerton Drive extension (happening) 6. Support a master plan for upgrading the main streets of Braidwood and Bungendore (happening in Braidwood) 7. Lanyon Drive / Tompsitt Drive roundabout be replaced by signals (happening) 8. Continue to review need for intersection improvements 9. A Kings Highway route strategy is being developed by RMS 10. Upgrade Nerriga Road (happening) 11. Continue to review blackspot crash locations and seek blackspot funding 12. In consultation with RMS, continue to update Council traffic studies and recommendations as new data becomes available including any increase in public transport usage (happening) 13. Develop program for maintenance of Council roads 14. Develop plan to assist access for future red rapid service extension along Canberra Avenue to Queanbeyan

4.2.5 Car parking

The main issues and responses in relation to active travel are shown in Table 19. A number of responses are already in hand or part of ongoing programs. Specific projects to support the responses are developed in Chapters 5 and 6.

Table 19: Parking main issues and strategic responses

Main issues of concern	Proposed strategic response
• No parking information or plan for Queanbeyan CBD • Parking requirements for new development does not encourage use of non-car modes	1. Review parking supply and demand and restrictions in Queanbeyan CBD and surrounds, as well as other key centres in Queanbeyan, Braidwood and Bungendore (happening in Queanbeyan) 2. Review potential changes to Council's parking code requirements for new development, so as to encourage the use of alternative modes 3. Identify surface car parks in Queanbeyan CBD for future multi-use development 4. Examine options to introduce new information technology to improve parking access and efficiency in Queanbeyan CBD (currently being investigated as part of CBD Parking Plan)

4.2.6 Freight

The main issues and responses in relation to active travel are shown in Table 20. A number of responses are already in hand or part of ongoing programs. Specific projects to support the responses are developed in Chapters 5 and 6.

Table 20: Freight main issues and strategic responses

Main issues of concern	Proposed strategic response
• Truck access to coast via Nerriga Road • Too many trucks on Monaro Street in Queanbeyan CBD • Trucks through Braidwood and Bungendore • Safety at bridge and blackspot locations • Through traffic (trucks) to/from Canberra	1. Upgrade Nerriga Road (happening) 2. Develop options to reduce trucks using Monaro Street 3. Establish corridors for future bypasses of Braidwood and Bungendore 4. Develop a program to upgrade safety blackspots on regional road network 5. Facilitate upgrade of the standard of the State highway network 6. Develop a strategy to manage truck movements through Queanbeyan 7. Integrate freight movements in ACT and NSW heavy vehicle route plans

5.0 Network Development

This chapter describes the key actions in relation to network development. It is based on an analysis of available traffic and transport data, reports and community feedback. The actions generally link with the ITS objectives, goals and principles described in Chapter 4.

The implementation plan indicating the schedule of works and priorities for network development is provided in Chapter 6.

5.1 Roads and Freight Network

5.1.1 Context

In terms of the current situation, the main good and bad features of QPRC's road system are:

- Good features
  - Relatively low levels of traffic congestion on existing roads
  - Relatively small amount of truck movements in the region
  - Free and generally ample car parking at centres.
- Bad features
  - Kings Highway bisects Queanbeyan, Bungendore and Braidwood causing relatively high traffic conflicts in peak periods
  - Significant traffic congestion on roads to /f rom ACT
  - Limited opportunities to service future traffic growth from Googong
  - Relatively high number of crashes on Kings Highway east of Braidwood
  - Traffic disruption when Queanbeyan River floods
  - Lack of on-road bicycle facilities.

The needs for road improvements flow from the bad features of the road system. These have been identified in more detail during consultation, an analysis of traffic data and a review of previous technical studies.

5.1.2 Future traffic demand

The most recent traffic modelling for the area that provides an indication of likely traffic growth in the area was undertaken by Traffic Design Group (TDG) in 2014. This predicts an average increase in traffic on Queanbeyan's roads of about 1.7% per annum to 2031. The traffic model constructed for QPRC is a behavioural model that uses proposed residential developments and strategic development demographics to model future use of the transport network.

TDG examined a number of options for road improvements to cater for this growth in traffic and their recommendations form the basis of much of the road network improvements described below. The capacity/patronage of the current transport network and a desire to deliver a minimum Level of Service (LOS) D was used throughout the modelling to determine the need for different road improvement options.

Much of the growth is expected to occur as a result of development of Googong and to a lesser extent South Jerrabomberra. This will place greatest pressure on Old Cooma Road (OCR), Cooma Street and Queens Bridge. The construction of the Ellerton Drive Extension (EDE) will take pressure off Cooma Street and Queens Bridge, whilst the duplication of OCR will provide increased capacity south of EDE.

5.1.3 Actions

Actions to address the identified needs are generally expressed in terms of infrastructure projects, but can also relate to changes in policy. The road infrastructure actions to address the issues identified in this study are summarised in map form in Appendix A. The bases for these actions are described under separate headings relating to the different types of actions.

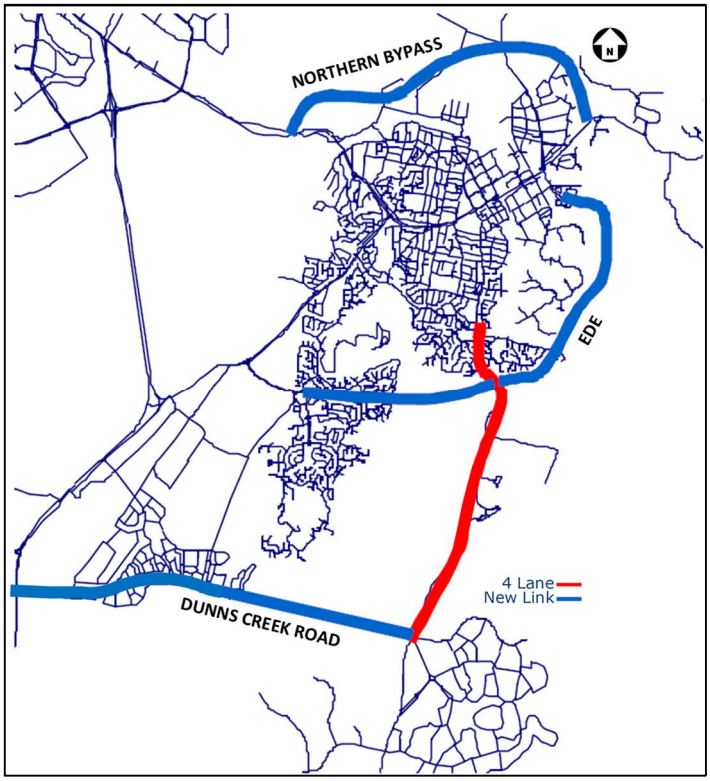
5.1.3.1 New roads

There are three major new road proposals that have been considered in the past or being implemented:

- Ellerton Drive Extension (EDE)
- Dunns Creek Road
- Northern Bypass.

The approximate locations of these new roads are shown in Figure 29.

Figure 29: Potential future new roads in Queanbeyan



Source: (Gabites-Porter 2010)

Note: Alignment of Dunns Creek Road has changed since this modelling was done – see Figure 30

Previous modelling studies by TDG have shown that the EDE is required in the short term due to expected road capacity issues, whilst the other two roads are long-term options. In 2015 Council undertook a reasonable amount of engineering and environmental work to inform the preferred alignment for Dunns Creek Road and the required construction funds.

Ellerton Drive Extension

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 (see Figure 29).

EDE provides an eastern, alternative route around the Queanbeyan CBD and is designed to accommodate B-Double movements. 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.

EDE is expected to carry about 7,600 vehicles per day by 2031 (TDG 2014). The road design provides for a two lane road (one travel lane in each direction) with climbing lanes in areas with steep grades.

The key features of the extension include:

- One lane in each direction with climbing lanes
- Bridge crossing over Queanbeyan River and Barracks Flat Drive
- Shared off-road cyclist and pedestrian pathway
- Provision of space for on-road cyclists
- Additional access points for Fairlane Estate
- Emergency egress for Greenleigh Estate at Lonergan Drive and the East Queanbeyan reservoir
- Stormwater drainage system, including pavement surface drainage
- Three fauna under-passes and three rope crossings
- Potential for a pedestrian undercrossing at Jumping Creek Estate
- Noise mitigation measures
- Edwin Land Parkway Intersection upgrade.

The Australian and NSW Governments have provided $25M each in funding for the extension. The extension is estimated to cost $86M with the remaining funding to be sourced via a low-interest loan from Council and will be fully repaid, including interest, by developer contributions.

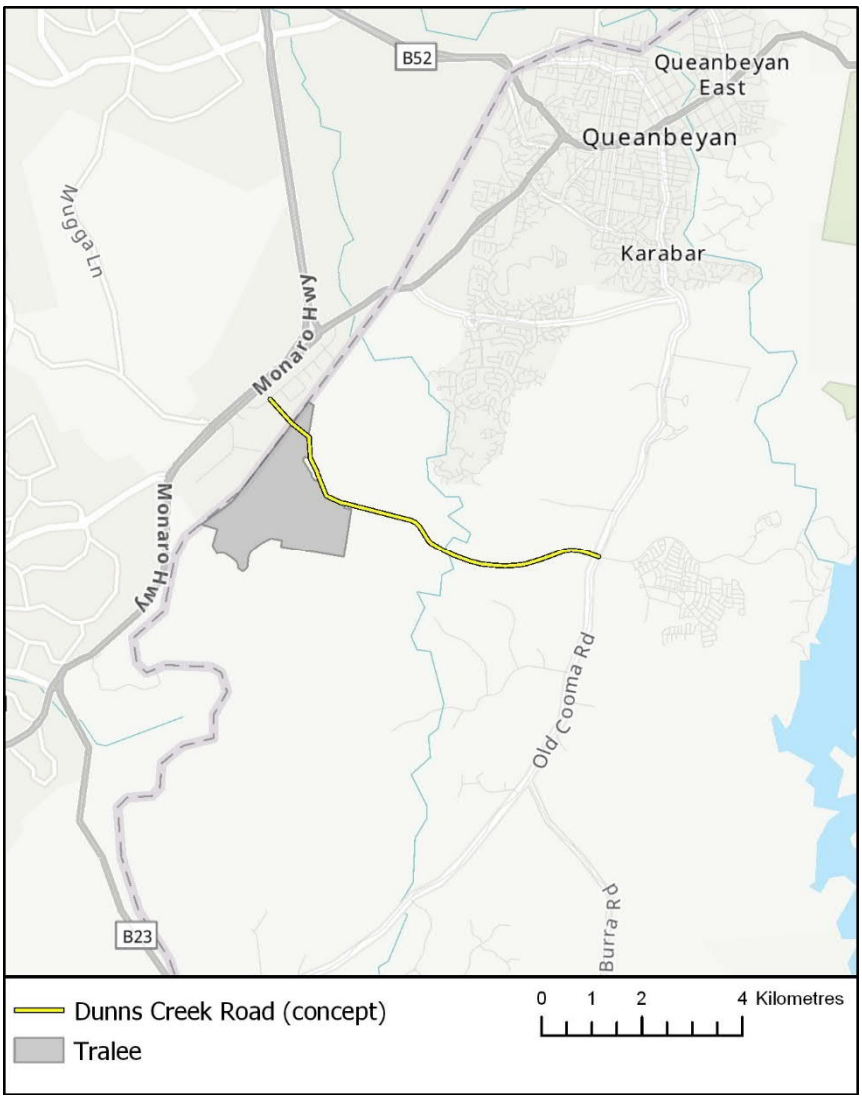
Some preliminary works were undertaken during January 2017. These works included the removal of selected trees and termite mounds along the route and were approved by State and Federal Environment departments.

Roads and Maritime undertook a tendering process in early 2017 and have appointed a contractor in September 2017 to construct the project. Construction of the extension is expected to be completed by mid-2020.

Dunns Creek Road

Dunns Creek Road has been considered in the past as an alternative east-west connection from Googong to Monaro Highway and would take pressure off Old Cooma Road and Edwin Land Parkway. GHD (2015a) undertook an engineering and environmental investigation of alternative routes for Dunns Creek Road for the connection between Old Cooma Road and Monaro Highway, as shown in Figure 30. The primary intention of this this work was to determine the potential cost of the project and needs for land acquisition to reserve a future route for the road.

Figure 30: Dunns Creek Road alignment



Source: (QPRC, 2019))

Traffic modelling by TDG (2014) showed that Dunns Creek Road is not required unless 1710 additional households in Googong are approved, which is not expected until after 2031. A report for Council by GHD (2015a) found that Dunns Creek Road would cost in excess of $200M to construct, will have a bridge in excess of 500 m long, will reduce the connectivity of regional and local bio-links, will remove large quantities of Box-Gum Woodland and several threatened fauna species, will have potential impacts on sites of Aboriginal heritage and will require additional work in the ACT to provide a feasible connection with the ACT road network. It cannot be justified without additional future development west of Old Cooma Road.

GHD did not consider the details of a connection to Monaro Highway and no road reserve exists for such a connection in ACT. Additional investigation is required to determine an appropriate route, design and cost to connect to the Monaro Highway. This work is subject to reaching an agreement with the ACT Government on a suitable connection point.

Council needs to ensure that the alignment adopted for the proposed Dunns Creek Road is preserved, together with a link to Monaro Highway in ACT and that Council lobbies the ACT for this link.

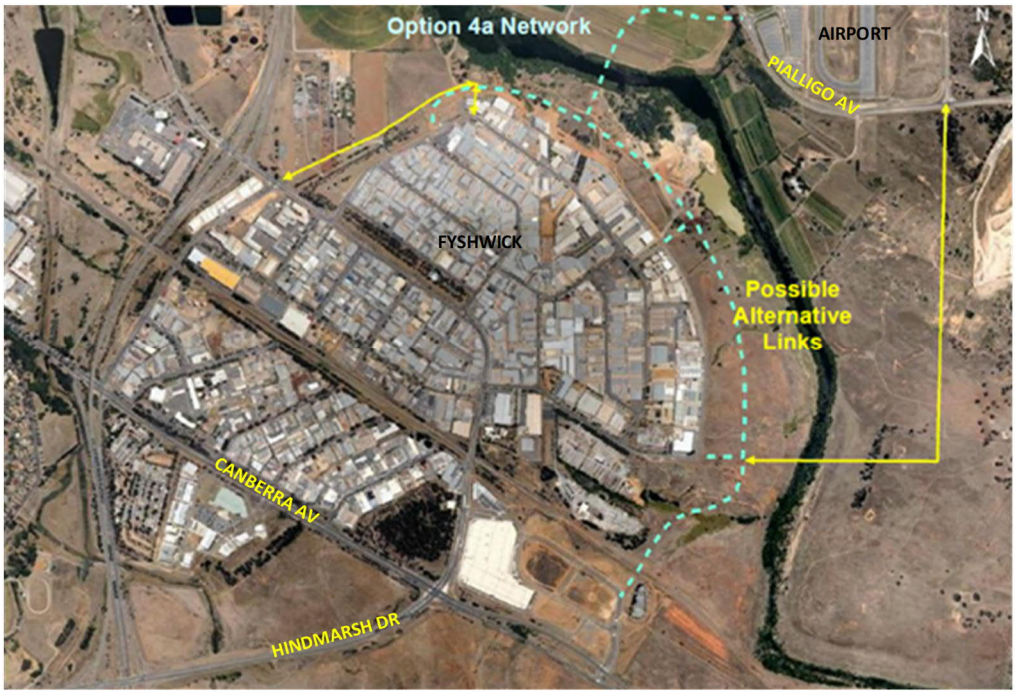
Northern Bypass

The Northern Bypass has been considered in the past as a connection between Kings Highway, Pialligo Avenue and Canberra Avenue. This would take additional traffic off Monaro Street, especially heavy vehicles. A 1995 study by Ove-Arup examined a range of possible by-pass options and the outcome was that the northern bypass was not feasible. More recently, traffic modelling by Gabites-Porter (2010) found that the Northern Bypass cannot be justified.

There has been no investigation of route feasibility for the Northern Bypass and with development that has occurred in ACT and NSW in recent years it is difficult to envisage it being a feasible option. A Northern Bypass of Queanbeyan may need to rely on potential connections via Kowen, previously shown in ACT structure plans but not being considered in current planning for ACT.

The demand for the proposed portion of the Northern Bypass between Pialligo Avenue and Canberra Avenue would be reduced if a new connection is made to Fyshwick via Pialligo Avenue, as indicated in Figure 31. This is likely to have a noticeable impact on truck volumes on Monaro Street and can be more easily achieved and with less impacts than the link between Pialligo Avenue and Canberra Avenue adjacent to Oaks Estate.

Figure 31: Potential future road links to Fyshwick and Symonston industrial areas



Source: URS 2010

5.1.3.2 Road duplication and widening

Major road duplication or widening projects being considered that could benefit QPRC travellers include:

- Duplication of Old Cooma Road
- Duplication of Pialligo Avenue
- Widening of Monaro Highway.

Old Cooma Road

A decision has recently been made by the NSW Government to help fund duplication of Old Cooma Road between Googong and EDE. This work is likely to occur in 2018 and 2019 and will connect to traffic signals being built by the developers of Googong at Googong Road.

Consideration is also likely to be given to extending the work further south to include construction of a new access to Googong. A roundabout is proposed at this location (see Figure 32). The section of road between this new access and Googong Road is likely to need to be duplicated in the longer-term, when Googong nears full development.

Figure 32: Future arterial access from Googong to Old Cooma Road

Source: AECOM (2016b)

There are also plans to duplicate Old Cooma Road (Cooma Street) north of EDE, between EDE and Southbar Road. A design has been completed for this section of road, but it may not need to be constructed for at least 10 years (TDG 2014).

Pialligo Avenue

Pialligo Avenue is in ACT and connects to Yass Road and EDE in Queanbeyan. It provides a direct connection to Canberra airport and to Federal Highway via Sutton Road.

Funding is available for the ACT Government to undertake an investigation of duplication of Pialligo Avenue, and potentially consideration of a new connection between Pialligo Avenue and Kings Highway (part of the Queanbeyan Northern Bypass). This work is in progress.

Council should support ACT in the work to justify the future duplication of Pialligo Avenue, as well as potential future links to Fyshwick from Pialligo Avenue. A new link to Fyshwick would mean that the southern portion of the Northern Bypass would not be needed. These aspects could be considered as part of the Pialligo Avenue project.

Monaro Highway

There is a need to consider potential future widening of Monaro Highway between Isabella Drive and Morshead Drive (to be funded by ACT/Federal Government), to cater for increased traffic from Tralee and Googong, as well as planned future development in ACT. This should include consideration of the future connection of Dunns Creek Road to Monaro Highway at Isabella Drive and future industrial land development around Symonston and Fyshwick. Currently, there is no funding for such a study.

5.1.3.3 Road and bridge upgrades

All major roads in QPRC are continually monitored in relation to road maintenance and safety needs. Funding has recently been announced for upgrading Nerriga Road. This includes sealing the road between Charleyong and Braidwood and replacing the Charleyong bridge.

Other road upgrade projects that have recently been funded in the region include:

- Nerriga Road – funding has been approved for the realignment and re-construction of the existing unsealed sections
- Captains Flat Road - funding approved for rehabilitation works between Molonglo River Drive to Kearns Parade.
- Cooma Road – funding approved for bridge replacement on Cooma Road at Shoalhaven River crossing, Bendoura.
- Molonglo Street / Malbon Street (Kings Highway) – funding approved to construct roundabout.
- Lascelles Street, Braidwood - funding approved for upgrade of kerb and guttering, road pavement, underground drainage and footpaths.
- Bungendore commercial area - funding approved for upgrade of kerb and guttering, road pavement, underground drainage and footpaths.
- Captains Flat township - funding approved for landscaping, tree planting and park/playground works within Captains Flat village and immediate approaches.

Other road works or studies that are currently being undertaken include:

- Braidwood
  - Construct kerb and extend paved area on western side of bridge over Gillamatong Creek and consider the need and options for future widening of the bridge.
  - A local area traffic management study of smaller roads which act as shortcuts around the town to the highway (Elrington Street, Monkittee Street and Little River), impacting the amenity of schools, hospital, homes and residential care facilities, and consider a pedestrian path crossing Monkittee Bridge.
  - Channelisation of the Wallace Street / Duncan Street intersection to shift the side-street hold lines to improve vehicle sight distance and to assist pedestrian crossability at this location. It would also provide an opportunity for improved streetscaping.
- Rural roads
  - The upgrade of Monaro Highway. The Federal Government has recently allocated $100M for road widening, including additional lanes and intersection improvements in ACT. This is being matched by $100M in funds from ACT Government. The NSW Government has also allocated $20M for additional overtaking lanes south of the ACT border.
  - Road safety audits and the development of road safety improvement strategies for roads with the highest casualty crash rates in the QPRC region (other than Kings Highway): Macs Reef Road, Bungendore Road, Sutton Road, Old Cooma Road (south of Googong Road) and Captains Flat Road. These roads were identified as concerns in a detailed analysis of crash data on rural roads.
  - RMS is currently undertaking a route strategy study of Kings Highway to determine the needs for future road improvements and priorities.
  - Consider paving Captains Flat Road east of Captains Flat, subject to traffic volume on road
  - Consider undertaking investigation of new bridge at Majors Creek and road safety improvements

5.1.3.4 Intersection upgrades

The recent consultation and previous traffic studies have highlighted the need for the need for intersection improvements in QPRC. Most of these are in Queanbeyan and are summarised by issue and proposed action in Table 21. The action column often refers to the basis for the recommended improvement (prior study), or the fact that the improvement is funded and ready for short-term implementation, or identifying the need for investigation of options where no previous study or recommendation exists.

Table 21: Proposed intersection improvements

Intersection	Issue	Action
Barrack Flat Dr / Cooma St	Long queues at newly installed traffic lights	Review potential retiming of signals and changed layout to increase intersection capacity after EDE opening, in conjunction with study at Southbar Rd.
Canberra Ave / Cameron Road	Congestion, access and safety concerns	Design for new signals completed. Construction funds are to be split between RMS and QPRC.
Candlebark Rd / Cooma St	Access and safety	Review need for channelisation of this intersection after EDE opening and as part of the design of the future Cooma Street duplication.
Crawford St / Antill St	Access and safety	Application submitted for 2018/2019 Blackspot Program for new traffic signals, including pedestrian facilities.
Crawford St / Campbell St / Erin St	Access and safety	Application submitted for 2018/2019 Blackspot Program for banning right turn from Campbell St West and new pedestrian refuge on Crawford St.
Jerrabomberra Circle	Access and safety	Council has developed a preliminary design for replacing the current roundabout with a set of traffic signals which would include pedestrian lights. The design was placed on public exhibition in November 2015 but there was concern about the installation of signals. It is recommended that further investigation and design work be undertaken to provide pedestrian signals on the eastern leg of John Dedman Parkway.
Kings Hwy / Molonglo Street	Access and safety	NSW Govt funding to construct roundabout here in 2017/18.
Kings Hwy (Bungendore Rd) / Yass Rd	Capacity and safety	Recent modelling by RMS suggests the roundabout operation will improve post-opening of EDE. RMS will continue to monitor the operation of the roundabout prior to making improvements to the intersection. Nevertheless, mid-block signals should be considered here to assist safe movement of pedestrians across Kings Highway, as well as improving the operation of the roundabout during peak periods.
Lanyon Dve / Canberra Ave	Capacity and safety	Possible part-time signals by 2018 according to a study by TDG (2014). Recent modelling by RMS suggests monitoring the operation of the roundabout prior to considering the implementation of signals.
Lanyon Dve / Gilmore Rd	Safety	Government funding to ban right turn out of Gilmore Road will be implemented when required.
Old Cooma Rd / Googong Rd	Access and safety	Developer installing new signals in 2018/19
Old Cooma Rd / NH2 Access	New access to NH2 (Neighbourhood 2)	Roundabout to be built by developer to provide access to next stage of Googong development
Southbar Rd / Cooma St	Delays and capacity	Review potential retiming of signals and changed layout to increase intersection capacity after EDE opening, in conjunction with study at Barracks Flat Dr

Intersection	Issue	Action
Surveyor St / Ross Rd	Safety	Undertake study to review options to improve safety here
Tompsitt Dve / Lanyon Dve	Congestion and safety concerns	Government funding available for reconstructing this intersection as signals (currently roundabout) in 2018/19.
Uriarra Rd / Ross Rd	Safety and access	Application for new signals in 2018/19 Blackspot Program submitted - design complete.
Uriarra Rd / Frederick St / McKeahnie St	Safety and access	RMS design complete for new signals. Awaiting funding.
Uriarra Rd / Crawford St	Safety	GTA (2011) study recommended right turn ban here. Awaiting funding.
Uriarra Rd / Stornaway Rd	Safety	Application for right turn ban in 2018/19 Blackspot Program submitted.
Wallace St / Lascelles St, Braidwood	Safety	Undertake study to review options to improve safety here, including changed priority or roundabout. The latter is likely to be more effective.
Yass Rd / Hincksman St / Endurance Ave	Access and safety	Design completed for new signals. Recommended to be implemented by 2024 (TDG 2014).
Yass Rd / Shropshire Ave	Safety	Right turns from Shropshire Ave to be banned when signals installed at Hincksman St (TDG 2014)
Yass Rd / Silva Av / Waterloo St	Safety	Right turns from Silva Av and Waterloo St to be banned when signals installed at Hincksman St (TDG 2014)

As noted in Section 4.2.4, Council will need to continue to review need for intersection improvements, including blackspot crash locations and continue to seek blackspot funding.

5.1.3.5 Queanbeyan CBD roads

Successful CBD transformations have placed a strong emphasis on pedestrian-focused environments and orientation. Connections into and around the CBD to enable easy access for people, vehicles, bikes and public transport enable more activity and enhance the city's appeal. This should include slowing CBD traffic to 40 km/h and providing an alternative route around the CBD for some heavy traffic once the Ellerton Drive Extension opens. A 40 km/h speed zone has been successfully implemented in many of Canberra's commercial centres, to encourage safe pedestrian movements and reduce traffic noise.

Hames Sharley has been engaged to develop the Queanbeyan CBD masterplan and recommends a number of changes to the CBD's road system in order to transform the CBD. The work is expected to incorporate and build on the previous masterplans for Queanbeyan City that included:

- New gateway treatments on road approaches to the CBD, to establish a welcoming environment and unambiguous sense or arrival, with the primary treatments at:
  - Monaro Street (Queens Bridge)
  - Monaro Street at its intersection with Lowe Street
  - Crawford Street at its intersection with Antill Street
- Maintaining the through traffic function and carrying capacity of Monaro Street but improving streetscape amenity for pedestrians
- Improve the attractiveness of Antill Street – Collett Street as an alternative traffic route to Morisset Street - Crawford Street, including new traffic signals at the intersection of Antill Street with Crawford Street

One of the recommendations coming out of the master plan and the review of issues in Chapter 4 was the need to conduct a study to investigate options for improving the amenity and pedestrian movement in Queanbeyan CBD.

5.1.3.6 Parking

Car parking infrastructure is an important adjunct to the road system, particularly for commercial centres in Queanbeyan, Bungendore and Braidwood. No data exists on the performance of the car parking serving these centres, in relation to the supply and demand for parking by location and type of parking. This needs to be addressed in the Queanbeyan Car Parking Strategy 2018 – 2028.

Queanbeyan CBD is the focus of the public transport system in the QPRC region. The supply and management of parking in the CBD is a key consideration for enabling a change in public transport usage to the CBD. Parking must support the precincts and encourage more people to spend more time in the CBD.

The Strategy identifies car spaces that can be recycled into the public domain with interconnected corridors and to upgrade car spaces that benefit from smart parking approaches.

The current low public transport frequencies and high costs do not favour consideration of pay parking in the foreseeable future. However, the parking strategies look to leverage the parking spaces and new roads to provide park and ride facilities. Pay parking is one management tool that could be considered when the ACT public transport system is integrated with the QPRC system and public transport is more accessible. Some of the actions worth pursuing as part of this Plan are summarised in Table 22.

Table 22: Queanbeyan CBD car parking management actions

Strategy	Action
Prioritise local businesses through shifting emphasis to shorter term parking within the CBD	Review parking supply and demand and restrictions in Queanbeyan CBD and surrounds.
	Reduce maximum duration for on street parking to short-stay within the CBD.
	Prioritise on-street parking for short term parking, parking for people with disabilities, loading zones, and visitor pick-up and set-down (private, community and coach) in the CBD.
Shift long-term public parking to outer core	Seek opportunities to develop additional off-street parking beyond outer core of CBD.
	Seek opportunities to provide long term ‘Park & Walk’ or ‘Park & Pedal’ locations connected to CBD by walking and cycling facilities.
Seek to maintain sufficient supply of publicly available short term parking spaces in close proximity to CBD	Review provision and design of disabled parking bays.
	Review options for the potential redevelopment of Council-owned public car parks and changed parking needs (being considered as part of the CBD Parking Plan).
	Encourage strategies to minimise temporary loss of publicly available parking, loading and set down areas during construction of significant inner city developments.
Review and update Council’s parking code	Review potential changes to Council’s parking code requirements for new development, so as to encourage the use of alternative modes.
Use communications, such as Smart Parking, to make CBD parking experience understandable, convenient and pleasant for users	Examine options to introduce new information technology to improve parking access and efficiency in Queanbeyan CBD.
	Link public parking messaging to Council’s vision and priorities, adopted plans, and public transport and walking and cycling strategies.
	Implement wayfinding linked to real time information on the current availability of parking spaces and or navigational links.
Be future-ready, smart and flexible to adapt to changes and disruption caused by technology	Negotiate parking management contracts which allow for policy and technological changes to meet the goals and objectives of the strategy.
	Consider automated car parking technologies to improve capacity and operations in design for existing and future public car parks.
	Prepare for autonomous vehicles and other disruptive technology through periodic review of the strategy.

5.1.3.7 Freight

Future freight demand

A previous study by Sd+D Consult for RTA (2010) provides forecasts of growth in truck movements in the region. It used data from 2009 as a basis for future predictions. A comparison of 2009 and 2031 forecasts is illustrated in Figure 33.

It shows that the primary freight corridor in the vicinity of the QPRC region is Hume Highway and Federal Highway into Canberra. Although not shown, it is likely that Sutton Road is also an important link to Queanbeyan from Federal Highway. To the north, there is also a secondary route from Hume Highway through Tarago, via the Goulburn – Braidwood Road and Tarago Road. Monaro Highway is the key freight link to the south, with similar truck movements to Tarago Road.

Old Cooma Road is likely to become an important tertiary freight route into Queanbeyan in the longer-term. There will also be greater freight movement on Nerriga Road once it is sealed and a new bridge built across Mongarlowe River at Charleyong (current project).

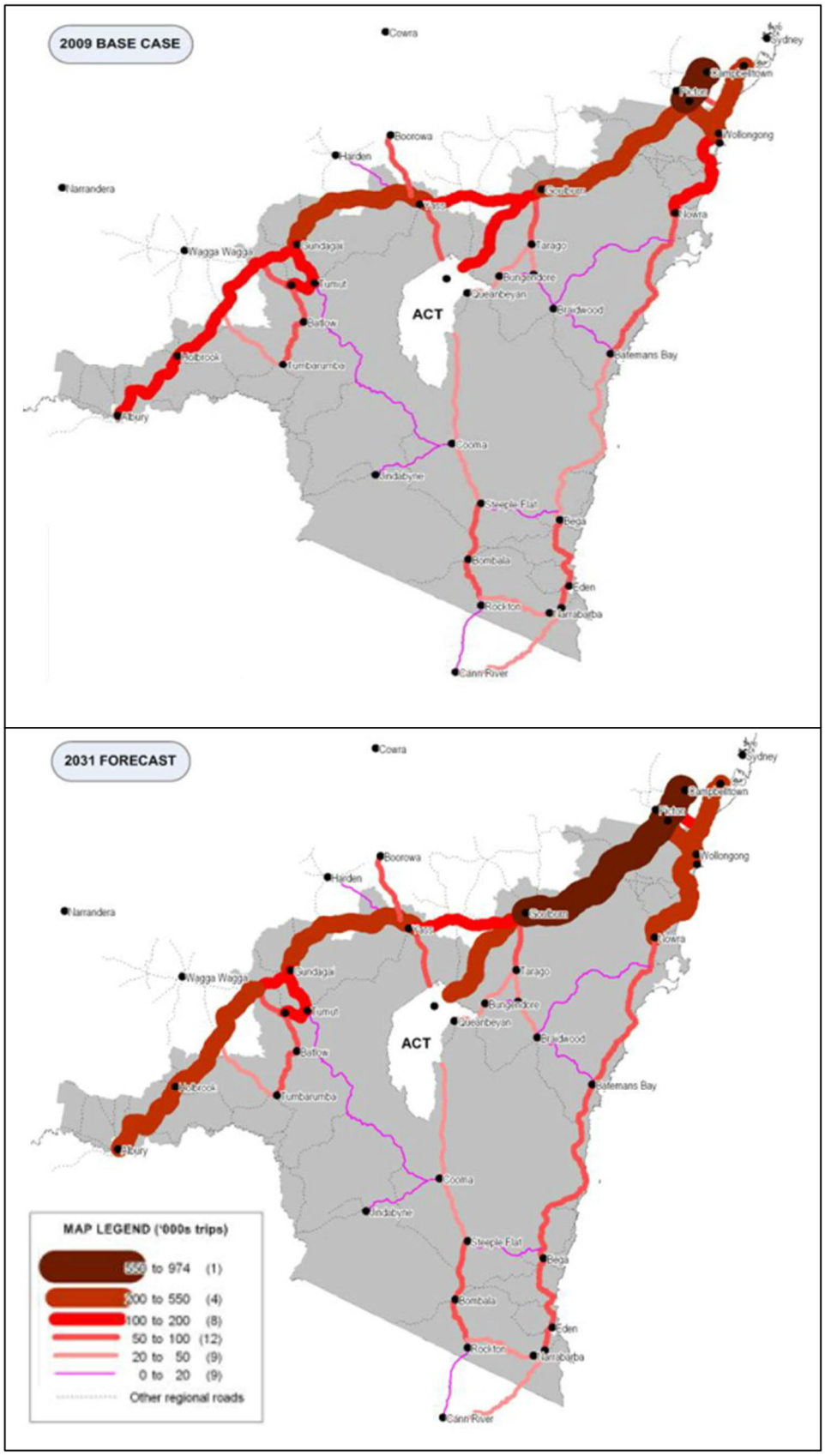
Canberra Airport is positioned to become a central freight hub for the region with the expected commencement of an overnight express service to meet the increasing demand for time-sensitive, door-to-door freight. With an excellent road connection to Sydney and 24-hour curfew-free status, Canberra Airport, unlike the other major curfew-free airports on the east coast (Melbourne and Brisbane), can provide night time freight services to Sydney because it is only three hours away by road. Freight arriving at night in Canberra arrives in Sydney at the beginning of the business day.

At the time this report was produced it was estimated that the initial phase of the freight hub will commence with one to three jets or large turboprop freighter aircraft per night growing to five aircraft within two to three years of commencement. The growth of the overnight airfreight hub beyond the initial stages may occur in any or all of the following ways over the next 20 years:

- More direct services to domestic destinations, such as the de-linking of Tasmanian services from Melbourne services, and services to Alice Springs/Darwin and north Queensland.
- Addition of direct overnight trans-Tasman flights to Auckland, with possible future connections to other parts of New Zealand.
- Turboprop and piston-engine freighter services to regional NSW/Victorian destinations replacing services that currently operate directly into Sydney and/or Bankstown Airport. This could involve up to three additional flights per night.
- Commencement of a parallel freight hub by a second major national overnight freight operator.
- Commencement of direct international freight services to Canberra to link in with overnight express freight services.

This would add between seven and ten new additional flights each night, generating at least 40 extra truck trips per day to/from the airport and the region (ACIL Tasman 2011).

Figure 33: Forecast growth in truck movements in region



Source: Sd+D Consult (July 2010)

Freight network hierarchy

Overall, it is desirable to achieve a safe, sustainable and efficient road transport system. On different roads, the balance of efficiency will vary. The State Road system is the system of major roads that permit general access for all legal classes of vehicles, and allows movement and access to all facilities across the region. However, on some State Roads the primary function may be the movement of people while on others it may be the movement of goods.

The transport system needs to maximise benefits for the community and economy. To achieve this, there is a need to recognise competing needs for road space, and deliver a balanced response. In some places in the road system, the needs of buses are crucial, and some priority for buses may be considered. In other places, the needs of freight that are dominant, and special consideration is required to ensure that our economy remains efficient. In many places, the needs are more general and the traffic stream may be left to find its own balance.

Transport NSW (2011) has defined three types of freight routes to assist with planning for the management heavy vehicle movements:

- Primary freight routes
    - Connects regions, and services strategically important ports, airports, industrial areas, freight terminals, intermodal terminals and hubs
    - Typically carry high volumes of heavy freight vehicles (>4000 heavy vehicle AADT) and concentrations of road freight including high concentrations of long distance, high capacity trucks.
- Secondary freight routes
    - Connects within regions, and services significant clusters of major business and freight origins and destinations within a region.
    - Carry medium volumes of heavy vehicles (1000-5000 heavy vehicle AADT) and concentrations of road freight.
- Tertiary freight routes
    - Connects within major subregion, and services groupings of business and freight origins and destinations within a subregion.
    - Carry lower volumes of heavy vehicles (< 2000 heavy vehicle AADT) and road freight volumes.

This hierarchy can assist in decision making about the development, operation, maintenance and standards on each road. By defining a freight road hierarchy on the State Road system specifically to serve the needs of freight and the freight industry, guidance to practitioners can be given about the relative importance of giving freight movements specific priority, benefits or advantages while balancing the needs for facilities for other classes of road users.

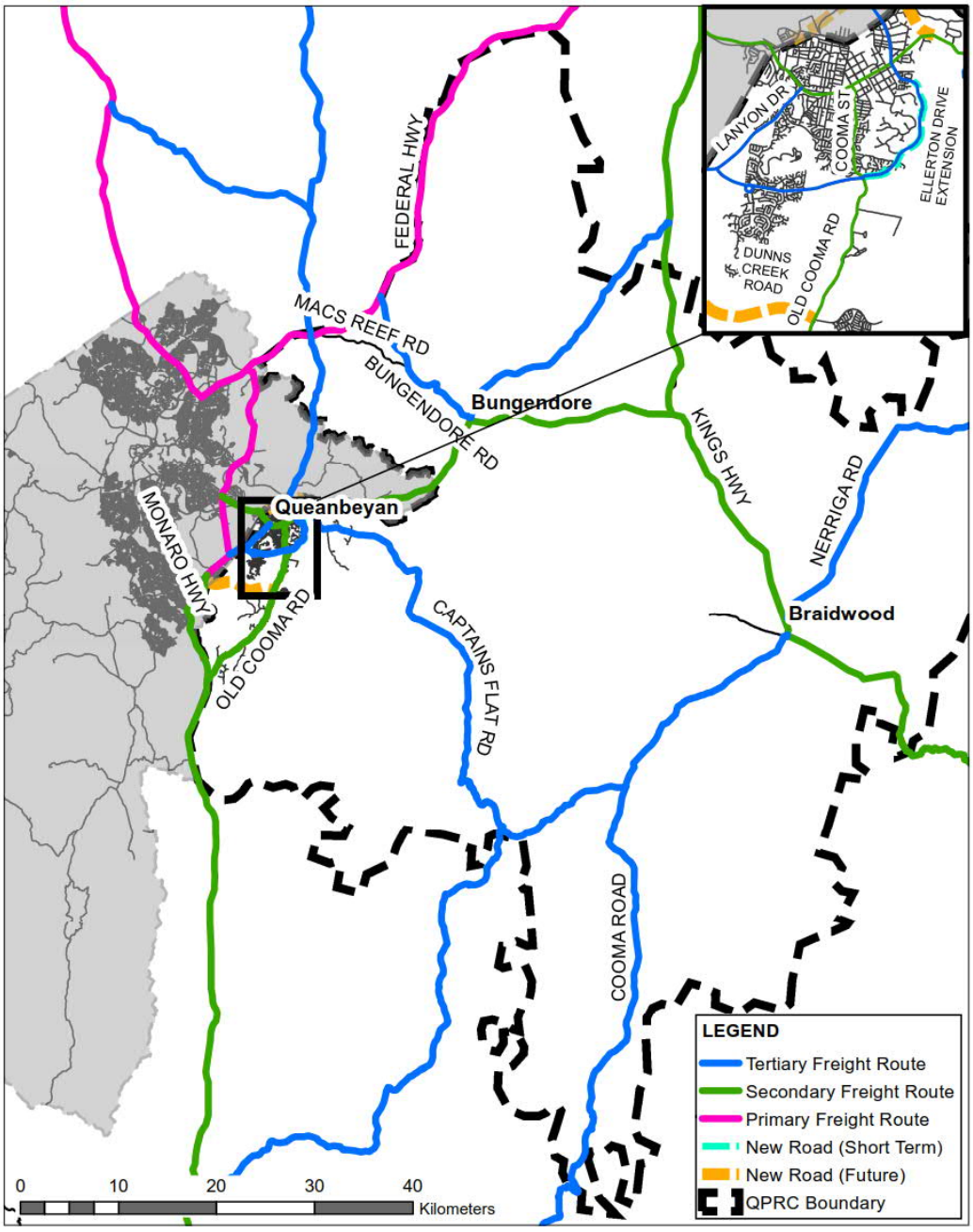
The suggested freight route hierarchy for Queanbeyan and region is shown in Figure 34.

Management of freight movement

The vast majority of freight in the region is transported by road. The relatively small amount of freight that arrives via rail or air is distributed by road from the airport or rail stations.

The draft freight route hierarchy should be reviewed and a recommended hierarchy adopted by Council. This provides a basis for decisions regarding design standards and management of freight movements. One of the important decisions in relation to the route hierarchy is the future role of Monaro Street and an alternative route via EDE, Edwin-Land Parkway, Tompsitt Street and Lanyon Drive. To better understand this choice it will be important to conduct surveys of heavy vehicle movements around Queanbeyan, including traffic counts and origin-destination surveys.

Figure 34: Freight route hierarchy



The incorporation of an intermodal hub (to be situated in the proposed Tralee commercial precinct) into the freight task will allow better solutions to the issues with first mile / last mile within the region.

RMS and QPRC play an important role in ensuring that network planning is in place and the infrastructure and land needed to carry and store goods, connect services and suppliers functions as reliably and efficiently as possible while at the same time having a positive impact on the community and urban amenity. At a broad level this means ensuring our infrastructure and transport networks (road, rail and air) are well planned and sufficiently designed for larger vehicles and trucks associated with bulk goods movement. At a more localised level, there is a particular need to better understand and manage the access and interface issues, including delivery, loading and parking requirements at local shops as well as noise and amenity impacts.

Key actions in relation to freight management are summarised in Table 23. These largely relate to data collection needs and future policy strategies and complement current ACT policies.

Table 23: Freight management actions

Strategy	Actions
Understand the freight task	Conduct surveys of heavy vehicle movements, including traffic counts and origin-destination surveys around Queanbeyan
Plan for future freight activities	Review and adopt a freight route hierarchy for QPRC and map 'last mile' routes
	Identify and protect future freight activities, corridors and local freight access.
Upgrade road and bridge infrastructure	Identify road network constraints that limit heavy vehicle movements in the region or adversely affect safety (e.g., bridge overhead clearances, widths and load limits)
	Develop a prioritised infrastructure upgrade program to meet the needs of future freight activities and larger freight vehicles, including decoupling stations and heavy vehicle parking
	Review supply and management of loading zones both on street and within developments, particularly in Queanbeyan CBD
	Develop options to reduce trucks using Monaro Street
	Establish corridors for future bypasses of Braidwood and Bungendore
Better regulation and enforcement of heavy vehicle movements	Investigate options for larger freight vehicle access to local destinations and also for limiting such access where urban planning may require
Build community involvement	Engage the community in understanding freight management needs, treatments and opportunities
Connect with regional stakeholders	Work with Australian, state and local governments and industry to take a strategic approach to protect and enhance freight routes and facilities in the region (e.g., freight hubs, fuel stops, rest stops, decoupling locations and weigh stations)
	Integrate freight movements in ACT and NSW heavy vehicle route plans

5.1.3.8 Other road matters

A number of additional policy responses or actions have been developed for roads in response to issues raised during consultation, as noted in Section 4.2.4. These are:

- In consultation with RMS, continue to update Council traffic studies and recommendations as new data becomes available including any increase in public transport usage (happening).
- Program for maintenance of Council roads by hierarchy.
- Develop plan to assist access for future red rapid service extension along Canberra Avenue to Queanbeyan.

5.2 Public Transport

5.2.1 Context

A large proportion of travel to work involves cross-border movement into and out of ACT. The ACT Government holds responsibility for the planning, implementation and operation of the ACT public transport and arterial road networks, whilst the NSW Government is responsible public transport and arterial road networks in QPRC.

The development of a strong partnership with ACT and NSW Governments is fundamental to the development of an integrated transport system that provides real travel choice across the region, especially improving the public transport network can only be achieved through working in close partnership with the ACT and NSW Governments.

Most of the actions for arterial roads and public transport cannot be implemented by QPRC, but by other Government authorities (Transport NSW, RMS); QPRC can work with these authorities to help implement these changes and can only advocate for such changes.

In terms of the current situation, the main good and bad features of QPRC's public transport system are:

- Good features
  - A relatively good public transport coverage of the urban area of Queanbeyan.
  - Bus interchange near CBD has park and ride and is being upgraded.
  - Reasonable accessibility to public transport.
  - Commuter connections to Bungendore.
- Bad features
  - Limited regional connections to Braidwood, Cooma and Tarago.
  - Public transport has higher costs than in ACT (this has been partially addressed through recent changes to fare subsidies for QCity Transit).
  - Public transport is not well integrated with ACT public transport system (buses, services, information).
  - Timeliness of schedules and connections.
  - Integration between rail and bus (buses, services, information).
  - Affordability of cross- border bus services.
  - By 2031 more than 50% of Queanbeyan residents will live south-west of Mount Jerrabomberra with constrained transport access.

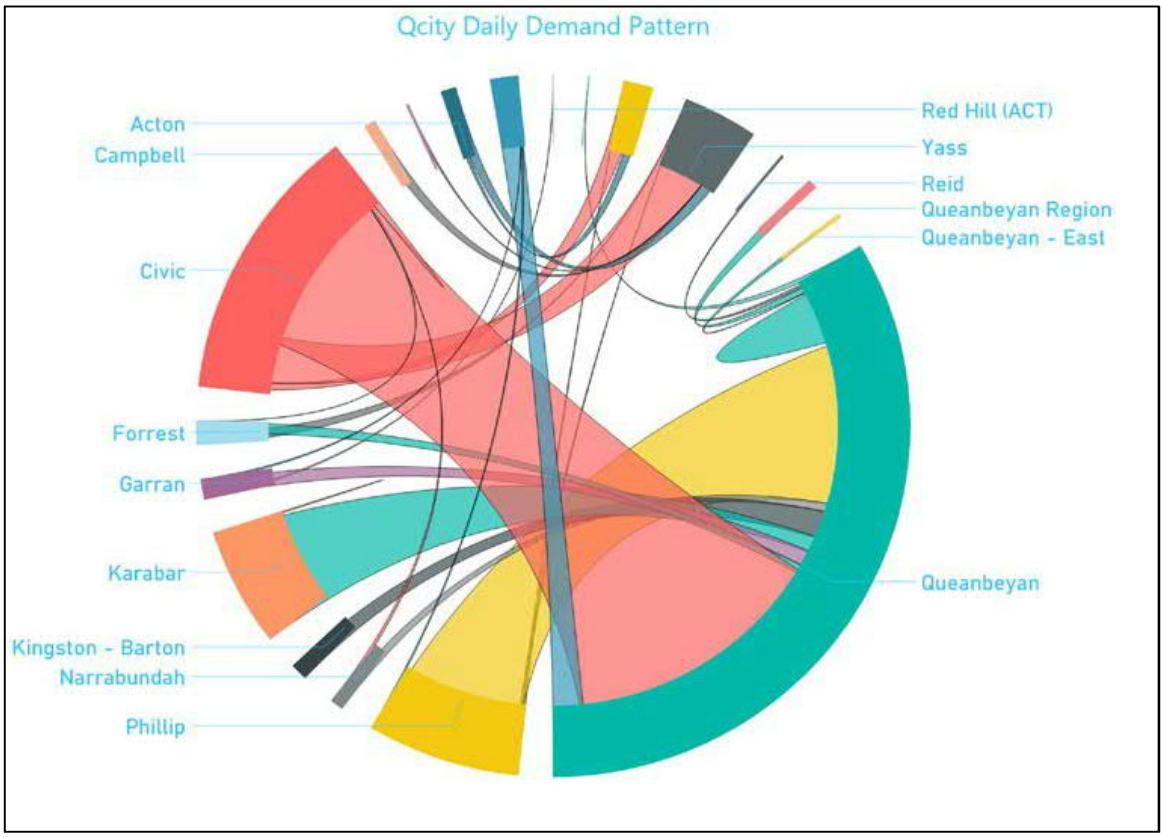
The needs for public transport improvements flow from bad features of the public transport system. These have been identified in more detail during consultation and a review of previous technical studies.

5.2.2 Future public transport demand

MR Cagney (2017) have recently analysed QCity ticket data for cross-border movements into ACT. This is summarised in Figure 35. It shows that the most significant demand for QCity services occurs between the Queanbeyan and Civic. There is also, although smaller, demand for services within the Queanbeyan region, reflecting the necessity for an integrated network. Within the ACT there is also demand for travel between Civic and Woden, Gungahlin, Belconnen and to a lesser extent Erindale.

Public transport passenger data extracted from ACT Strategic Transport Model indicates that passenger numbers between Queanbeyan and the ACT will increase 6.5% per year (compounding) between the 2016 and 2021 model years, and will increase by 5.0% per year (compounding) between the 2021 and 2031 model years. This is considerably higher than the expected traffic growth (1.7% per year) and is likely to reflect an integrated fare system.

Figure 35: Origin and destination of QCity trips



Source: MR Cagney (2017)

In January 2018 the NSW government provided increased fare subsidies to QCity bus services. The impact of the resulting passenger fare reduction is yet to be determined.

The current mode share for journey to work public transport trips between Queanbeyan and ACT is about 2.5%. MR Cagney (2017) indicates that a future public transport mode share of 8 to 10% could be achievable by 2031, with integration with ACT services and increased frequencies. With integrated fares, increased patronage will allow for bus frequencies to be increased.

5.2.3 Actions

Actions to address the identified needs are generally expressed in terms of infrastructure projects, but can also relate to changes in policy. The infrastructure actions to address the issues identified in this study are summarised in map form in Appendix A. The bases for these actions are described under separate headings relating to the different types of actions.

A review of existing documents and consultation has identified a number of strategic responses or actions in relation to public transport (Section 4.2.2). The most noteworthy recent report in relation to public transport in the region was prepared by MR Cagney for ACT Government in May 2017 - a draft report on Cross Border Public Transport Issues and Options. The report to ACT Government, and its recommendations is being assessed by the ACT Government as part of the ACT's broader strategic transport planning activities. The report made numerous recommendations, some of these are:

- Extend the Red Rapid service into Queanbeyan and permit greater ACT patronage of the QCity network.
- Provide a seamless cross border public transport system with one ticketing and fare arrangement across all public transport modes including the future light rail network.
- Improve Park and Ride facilities along the Canberra Avenue corridor.
- Provide appropriate subsidies for these services.

Detailed recommendations that accord with the considerations of this project are included below, where appropriate.

5.2.3.1 New bus routes and services

Queanbeyan

An independent review of Queanbeyan bus routes and community feedback indicated the potential for improvements to the network by providing better connections to Canberra. The suggested improvements need to be evaluated in more detail by QCity and Transport NSW, prior to seeking approval for additional routes into Canberra from ACT Government.

Queanbeyan's bus routes are focussed on Queanbeyan interchange. Hence, bus passengers from the growing areas of Googong or Jerrabomberra who want to travel to Canberra, which is the majority, have to travel an indirect route and change buses in Queanbeyan interchange. Unlike in outlying suburbs of Canberra, there are no peak hour express routes.

To help overcome this weakness and better integrate bus services between Queanbeyan and Canberra it is proposed to initiate three new direct bus services from Googong and / or Jerrabomberra, as follows:

- Short-term (1-4 years)
    - Express peak hour service to Parliamentary Triangle and Canberra City from Googong and Jerrabomberra via Old Cooma Road, Edwin Land Parkway, Tompsitt Drive, Lanyon Drive, Monaro Highway and Canberra Avenue, then following the ACTION Red Rapid Route to City to connect with future light rail and other public transport services
- Medium-term (5-14 years)
    - Route to Woden from Googong and Jerrabomberra via above route and Hindmarsh Drive, to connect with future stage 2 of light rail to Woden and other ACTION public transport services
    - Route to Canberra Airport, Russell and City from Googong via Old Cooma Road, the new Ellerton Drive Extension, Yass Road and Pialligo Avenue
- In long-term (15+ years)
    - Route to Erindale and Tuggeranong from Googong via a future Dunns Creek Road, Isabella Drive, Ashley Drive and Erindale Drive

The routes via Ellerton Drive Extension would require the construction of additional bus stops, not allowed for in the current design. The preferred location for these should be investigated.

Two additional routes are also proposed from Queanbeyan interchange:

- In the short-term, an extended ACTION red rapid service from Fyshwick via Canberra Avenue and Uriarra Road, replacing the existing QCity routes 830, 833 and 834. The timing of this will depend on an agreement between the ACT and NSW Governments and bus operators, currently being considered. This change will have the biggest impact of all proposed route changes, especially if similar fares to those in Canberra are adopted for this service.
- In the medium-term, a new route to the Airport, Russell and Canberra City via Yass Road and Pialligo Avenue. This would be subject to duplication of Pialligo Avenue, for which funding is likely to be sought in the short-term.

It is desirable to relocate the routes of the Canberra services only from Morisset Street to Antill Street when the intersection of Crawford Street and Antill Street is signalised. A bus stop exists on Antill Street close to Aldi and Woolworths, but it would be difficult to locate another stop opposite there; instead it is proposed to provide a new bus stop on Crawford Street, opposite Aldi.

The change in route for Canberra services would solve the AM peak bus congestion problem on Morisset Street adjacent to Riverside Plaza. Congestion causes buses to back-up blocking the pedestrian crossing between Riverside Plaza and Woolworths.

More frequent services are required in peaks and on weekends, to be more in line with Canberra's Frequent Network. A first step for this is to extend the red rapid service to Queanbeyan interchange. In the medium- to long-term, a rapid service could be provided to Jerrabomberra and Googong.

Increased services on weekends could be provided using a demand responsive service, similar to that which currently exists for Bungendore.

Bungendore

Bungendore is serviced by rail, coach and bus services with relatively low frequency of service. No new services are proposed and any increase in frequency is likely to depend on increased demand, unless the NSW Government decides to further subsidise additional services to Bungendore from Queanbeyan.

A QCity demand responsive service (route 850) runs each weekday from various stops in Bungendore to Queanbeyan and return. This endeavours to respond to needs through QCity's Travellerinfo system.

Braidwood

Braidwood is serviced by bus and coach services. There are coach services between Braidwood, Queanbeyan and Canberra, typically running twice a day. There are also a number of school bus services.

5.2.3.2 New rail services

One strategy to improve public transport options for travel from rural areas east of Queanbeyan and reduce traffic loads on Kings Highway and Bungendore Road - Macs Reef Road is to investigate the feasibility of a future commuter rail service between Bungendore and Kingston (ACT), via Queanbeyan. This could also consider a new rail station at the Australian Headquarters Joint Operations Command (HQJOC).

5.2.3.3 Park and ride facilities

Bungendore

The potential for a park and ride car park near to Bungendore Station should be investigated as part of a study of the feasibility of a future commuter rail service between Bungendore and Kingston. This could be used by rail or bus travellers.

Queanbeyan

In general, park and ride facilities should preferably be provided in the periphery of an urban area on lower value land, rather than in a commercial centre or CBD. Important criteria for locating a park and ride facility include:

- Proximity to a higher speed frequent bus routes
- Availability of suitable land for car parking with good car and pedestrian access (or an existing under-utilised car park during weekdays, such as adjacent to playing fields)
- Adjacent to existing or proposed active transport facilities.

There is an existing park and ride facility on Tom Price Street in Fyshwick used by Queanbeyan commuters. It is served by the Red Rapid every 15 minutes to Canberra City. The car park currently has a gravel seal and should be sealed and line-marked if considered a permanent facility. There are also no signs on Canberra Avenue advertising the existence of the facility and this should be addressed. This facility is likely to remain popular when the red rapid service is extended from Fyshwick to Queanbeyan. There is a risk that the Tom Price Street site will be used as a development site in future and an alternative park and ride facility will need to be found in the same general vicinity.

The location of the Fyshwick Park & Ride facility could potentially undermine several cross-border services, so opportunities for Park & Ride within Queanbeyan would be beneficial to intercept car trips before crossing into the ACT.

There is also an existing park and ride facility adjacent to Queanbeyan bus interchange. This location is likely to become more popular when the red rapid service is extended to Queanbeyan interchange. Other potential locations for future park and ride facilities in Queanbeyan include:

- Off Edwin Land Parkway, near Jerrabomberra
- Near the corner of the intersection of Old Cooma Road with Edwin Land Parkway
- Near the northern end of Ellerton Drive
- In the future NH2 (Neighbourhood 2) of Googong.

There are three potential sites off Edwin Land Parkway, near Jerrabomberra (see Figure 36):

- Site A has significant land available for car parking adjacent to the oval off Lerra Street. The road would need to be widened to provide bus layby and pedestrian refuge facilities. This is most easily implemented in the short-term and could service a new express route from Googong, via Jerrabomberra to Inner Canberra, as well as local travellers from Jerrabomberra. This site's feasibility would need to be investigated in a detailed site investigation study.
- Site B would be adjacent to the shopping centre car park and would need to be accessed via Limestone Drive. The existing car park could be expanded to provide additional space for shoppers and park and ride travellers, but the existing ICON watermain in the northern verge would limit what might be achieved. The road would need to be widened to provide bus layby and pedestrian refuge facilities, with an option for possible pedestrian signals. The signals would also assist safer movement to the shops. This site is not likely to be a desirable location.
- Site C could be a longer-term option if Jerrabomberra Circle is converted to a new 4-way signalised intersection, as recommended by SMEC (2015). The southern end of Jerrabomberra Circle could then form an access to the future car park (see Figure 37), with bus stops developed along Edwin Land Parkway on either side of the newly formed signalised intersection. The signals would provide a safe crossing point for bus passengers and other pedestrians and cyclists.

Figure 36: Indicative locations for future park and ride car parks near Jerrabomberra

Figure 37: Potential reconstruction of Jerrabomberra Circle

Source: SMEC (2015)

Two potential sites have been identified near the corner of the intersection of Old Cooma Road with Edwin Land Parkway (see Figure 38):

- Near south-west corner of the intersection of Old Cooma Road with Edwin Land Parkway (Site D). The site could be accessed off Old Cooma Road, with bus stops developed on either side of the newly formed signalised intersection. A potential left-in/left-out access / egress may be feasible off Edwin Land Parkway. The nearby signals would provide a safe crossing point for bus passengers and other pedestrians and cyclists.
- Near north-west corner of intersection (Site E). This site could perform a similar role to Site D, in terms of accessing different future bus services via the signals at the nearby intersection. The primary access for this site would be off Candlebark Road. A potential left-in / left-out access / egress may be feasible off Edwin Land Parkway. The presence of Barracks Creek and topography here makes this site difficult.

This facility has the potential to be used by travellers wanting to board bus services along Old Cooma Road from Googong, either travelling west to Jerrabomberra and Inner Canberra, to Queanbeyan CBD interchange, or a future service via EDE to Canberra via Pialligo Avenue. Thus it is a potential site that could be considered in the medium-term (say 5-10 years), as bus services from Googong grow.

Figure 38: Indicative location for future park and ride car park near Old Cooma Road

Two potential longer-term sites have been identified near the northern end of Ellerton Drive (see Figure 39):

- Site F would utilise an existing gravel car park off Old Sydney Road, which could be upgraded to make more efficient use of the space and to provide a higher quality facility. It can potentially double as a parking facility for the adjacent playing fields on weekends. Bus stops could be located along Ellerton Drive, either side of the roundabout with Old Sydney Road.
- Site G offers more flexibility in relation to space available and could be readily accessed off Mowatt Street. There may be a better alternative use of this site and locations closer to Edwin Land Parkway are likely to better utilised.

This facility has the potential to be used by travellers wanting to board bus services along EDE to Canberra via Pialligo Avenue. This location is likely to service limited bus services in the forseeable future and thus is a potential long-term site.

Figure 39: Indicative locations for future park and ride car parks near Ellerton Dr

In future, a park and ride facility should also be considered adjacent to the proposed school and Googong Commons in Neighbourhood 2 of Googong. The car parking for Googong Commons could be largely used by park and ride travellers during the week and recreation users on weekends. There may be an overlap of parking demands with the school and training evenings, but this can be factored into the required parking supply.

5.2.3.4 Interchange and station facilities

Queanbeyan bus interchange

Recent upgrades to the existing Queanbeyan interchange have been completed with the primary purpose to improve pedestrian safety at the interchange. The existing bus interchange features:

- Formalised bus stands with seating and awnings
- Toilet facilities
- Bike storage and change room facility
- Taxi rank
- Vehicle parking for 253 spaces including 14 disabled parking bays and 12 dedicated motorcycle parking bays
- CCTV Infrastructure.

Train stations

Feedback during consultation indicated that coach parking and passenger facilities at the Queanbeyan and Bungendore train stations should be reviewed. This should be the subject of a future investigation in consultation between QPRC and Transport for NSW. Any upgrades to these facilities should also include carparking to serve travellers between Canberra, Queanbeyan and Bungendore.

5.2.3.5 Bus priority

The highest number of buses and bus passengers occurs at Queanbeyan Interchange and the nearby stop on Morisset Street. The interchange experiences its peak usage during the school zone periods of 7.45 am – 8.45 am and 3.30 pm – 4.30 pm with up to 30 buses entering from Morisset Street and departing from Collett Street. There is congestion at the Morisset Street bus stop adjacent to Riverside Plaza, especially in the AM peak, resulting in the occasional blockage of the pedestrian crossing by queued buses.

A bus priority lane has been suggested along Morisset Street because of the relatively high volume of buses along here and difficulty turning right onto Crawford Street. A preliminary plan for this is shown in Figure 40. This could work for buses proceeding straight ahead along Morisset Street into Lowe Street, but it would not assist the ACT bound services.

To reduce congestion on Morisset Street it is recommended that the ACT-bound buses be re-routed via Antill Street, when new signals are installed at the intersection of Crawford Street and Antill Street. Bus stops already exist near Aldi that can service this change in route.

Figure 40: Possible future Morisset Street bus lane

Source: QPRC (2016a)

QCity indicates that there are two other locations in or nearby to Queanbeyan that are of concern in relation to delays to buses:

- Cooma Street / Barracks Flat Drive signals
  - The operation of this intersection needs to be investigated by RMS, but is likely to be postponed until after the opening of EDE.
- The Harman bus stop on Canberra Avenue
  - The operation of this bus stop and adjacent merge needs to be investigated by ACT Government to improve the safety and operation of buses exiting this bus stop. An option for resolving the safety problem would be to run the buses into Harman, turning around and stopping near the entrance, rather than stopping on Canberra Avenue.

An investigation of options for further bus priority measures along Canberra Avenue should be conducted prior to the future extension of the red rapid service to Queanbeyan. Traffic modelling would be required to investigate additional priority measures and likely impacts on bus travel times and reliability.

5.2.3.6 Pricing and ticketing

Background

MR Cagney (2017) has recently reviewed issues affecting public transport movements between ACT and NSW. A key objective of their study was to recommend initiatives and actions for moving towards a seamless cross-border public transport system between the ACT and NSW. MR Cagney consider that the main barriers to cross-border public transport are the different regulatory environments in ACT and NSW – fares is only one component, although an important one.

The ACT Government is committed with working with councils in surrounding regional towns and the NSW Government to improve transport connectivity between Canberra and the region. The ACT Government (2012) publication 'Transport for Canberra – Transport for a Sustainable City 2012 -2031 plan' states that:

> *The ACT will continue to work towards more effective cross border transport services to achieve a seamless connection between jurisdictions—seamless fares, seamless service, seamless timetables, and seamless public transport planning.*

The Office of the Cross-Border Commissioner was established by the NSW Government in 2011 to facilitate the progression of issues that communities face as a result of being located near state or territory borders. However, it has limited power and can only advocate for a common approach to public transport regulation. IPART and Transport for NSW have greater power in relation to making changes in regulations.

There is strong planning intent and commitment to collaboration. The NSW Government's formal planning commitments suggest strongly that Transport for NSW recognise the need to improve connections and would be prepared to contribute funding to cross-border transport improvements.

Fare price

The primary reason for low bus patronage in Queanbeyan is the lack of integration between ACT and NSW public transport services. This lack of integration is predominantly due to differing passenger transport regulatory environments between the ACT and NSW. Key deterrents to the use of buses in Queanbeyan are fare price, frequency, bus transfers and directness of routes to ACT. ACT public transport services are heavily subsidised by the ACT Government with the result that NSW's fares are more than double ACTION fares.

NSW residents living close to the state's borders with the ACT often travel to these neighbouring states for work, education or business, or to access services. The NSW Government is committed to collaborating with these states on cross-border travel issues. It has signed Memoranda of Understanding (MOUs) with the ACT Governments to ensure local public transport for those living in cross-border regions is seamless. The MOUs identify integrated border bus services, more efficient, flexible transport solutions and improved infrastructure connectivity as priorities.

The Independent Pricing and Regulatory Tribunal IPART (2017b) found that the most significant barrier to cross border travel is the current disparity between the fares charged in NSW and those in the bordering states. IPART is addressing the price differential between ACT and Queanbeyan bus fares and is currently seeking feedback on proposed changes, including new fares implemented from 1 January 2018.

IPART considers that addressing fare disparities is a high priority to facilitate improved travel services for border residents. They also consider that their draft set of maximum fares sufficiently addresses this issue, as it better aligns both the level and structure of NSW fares with those in neighbouring states (see Table 24).

Table 24: Comparison of NSW current and proposed fares with ACT

Typical distance of travel	NSW maximum fare		ACT fare
	Current	Proposed	
Queanbeyan to Canberra (about 18 km)	$8.80	$4.90	$3.06 (MyWay card) $4.80 (paper ticket)

Source: IPART (2017b)

The NSW and ACT bus operators also use different fare structures. The ACT system is zone based with flat fares, irrespective of length of trip. However, NSW bus fares are distance based, making NSW services operating to Canberra significantly more expensive for these public transport users. Thus, the above comparison is based on a ‘typical’ bus journey of 18 km. The fare differential is less for trips shorter than 18 km, but greater for longer trips.

ACTION’s existing structure has a number of attractive features, most notably its ‘flat fare’ and 'trip based' simplicity. Simplicity is strongly linked to the patronage growth objective – simplicity increases system ‘legibility’ and makes it easier for customers to understand and use the system.

IPART sets maximum fares for different trip lengths of rural and regional bus trips in NSW. Bus companies can set fares below these limits. Discounts for frequent use of services are possible, such as that which exists with the MyWay card in ACT. QCity has recently introduced a Smart card, which enables the option for discounts.

IPART (2017b) is also recommending that, in the long-term and before the expiry of current contracts in 2024, contracts to provide public transport services in all rural and regional areas be competitively tendered. When tendering for border regions, contracts should ensure that service levels facilitate connectivity to cross border transport services, and address any ticketing issues and necessary fare revenue sharing arrangements.

Bus transfers

All QCity services are centred on Queanbeyan interchange, requiring a change in bus and additional fares to travel to other locations, such as Canberra. Through ticketing is offered to all passengers changing buses at Queanbeyan Interchange to complete a journey. This means that they do not have to pay the "flag fall" component of the fare on the second bus boarded. However, there is an additional fare in boarding an ACTION bus to go to another location in Canberra not serviced by QCity.

What currently happens for persons using QCity services is that they can only travel on these services to a limited number of ACT stops. If they wish to travel beyond those stops, they must purchase an ACTION ticket for that purpose. This makes the overall cost of travel high, with QCity to Canberra ticket currently costing $8.00 per trip (to Civic) and an ACTION ticket costing less than $4.00 for a single trip regardless of distance travelled.

A lack of interoperability by different service providers is a key barrier to greater use (and implementation) of cross-border public transport services.

Customers may need to transfer and are required to hold two different smart cards (or tickets) and incur transfer penalties for transfers that may simply be due to a non-integrated network design. The challenge in developing the public transport system in the region is thus to form a single multimodal transportation system that does not separate between transport modes, but instead enables users to choose the most suitable means of transport for each trip.

Passengers using a MyWay card or ACTION paper ticket can transfer for free within 90 minutes of their first boarding. This free transfer entitlement is not provided for QCity commuters.

Fare concessions

According to MR Cagney (2017) the key differences in concession entitlements between NSW and ACT bus services relates to student fares - unlike primary and secondary students receiving an additional 25% discount off the 50% concession entitlement on ACTION bus services, NSW students only receive 50% concession. ACTION buses services are significantly cheaper for seniors / pensioners than NSW regional buses serving Canberra. Furthermore, under the fares structure for QCity services there are no off-peak discounts or frequent user discounts such as daily / monthly fare capping.

Conclusion

There remain significant legal, regulatory, economic, and political challenges to overcome to achieve a single purchase contract for passengers regardless of mode or operator. While resolution of some of the regulatory issues is likely to be negotiated, the disparity between fare structures and associated issues of public subsidisation of public transport are likely to present some significant challenges to the development of a model of seamless service, at least in the short to medium term.

Longer term solutions which facilitate interoperability and different fare structures under the same account based platform is the ultimate and preferred long term solution. Any changes to the current fare structure must be integrated with planned changes in ticketing technology. Future progress to this next generation of ticketing will significantly removing barriers to interoperability, harmonised fares, discount and loyalty incentives and concessionary policies. A current inhibitor to Action Buses providing services in NSW is the current bike racks that are on the front of some of their buses that are not legal in NSW.

Actions in relation to public transport pricing and ticketing that have been recommended by MR Cagney (2017) are as follows:

- Short-term (1-4 years)
    - Review current ACTION fares structure and concessions/discount policies – consider potential for outer fare zone
    - Review and negotiate progression to a more harmonised fares policy between ACT and neighbouring NSW regional service contracts
    - Explore ways to enable QCity transfers on ACTION services
    - Extend bus transfer functionality between QCity and ACTION services
    - Minor changes to fares policies to standardise concession ages/categories and enable transfers
    - New/extended Red Rapid services to operate under ACTION fares structure/policies
    - Dual ticketing systems on QCity / ACTION services, possibly using MyWay as an interim solution
- Medium- to long-term (5+ years)
    - Develop outer-zone for long distance public transport travel (e.g., Bungendore-ACT services), if ACT fare pricing is adopted for future integrated public transport system
    - Integrated account based ticketing system
    - Consider further harmonisation (nationally) of fares concession policies and passenger transport regulations to facilitate inter-operability and system legibility for all public transport users.

These actions can only be implemented by the ACT and NSW Governments; Council can simply demonstrate the need and lobby for change.

5.2.3.7 Information

One of the comments from consultation was the need for improving online public transport customer information for the region, including integration with ACT systems. Ease of understanding (including availability of information) and ease of use will assist in encouraging people to trial and to continue to use passenger transport.

An integrated network of the future with greater interoperability across services will need to consider some elements of co-branding - to connect all passenger transport information, services, and modes together. A strong unifying brand supports ease of understanding and use by tying all the elements together making it highly visible and legible for new users as well as enhancing the transport experience of visitors to the region.

Actions in relation to public transport information and marketing that have been recommended by MR Cagney (2017) are as follows:

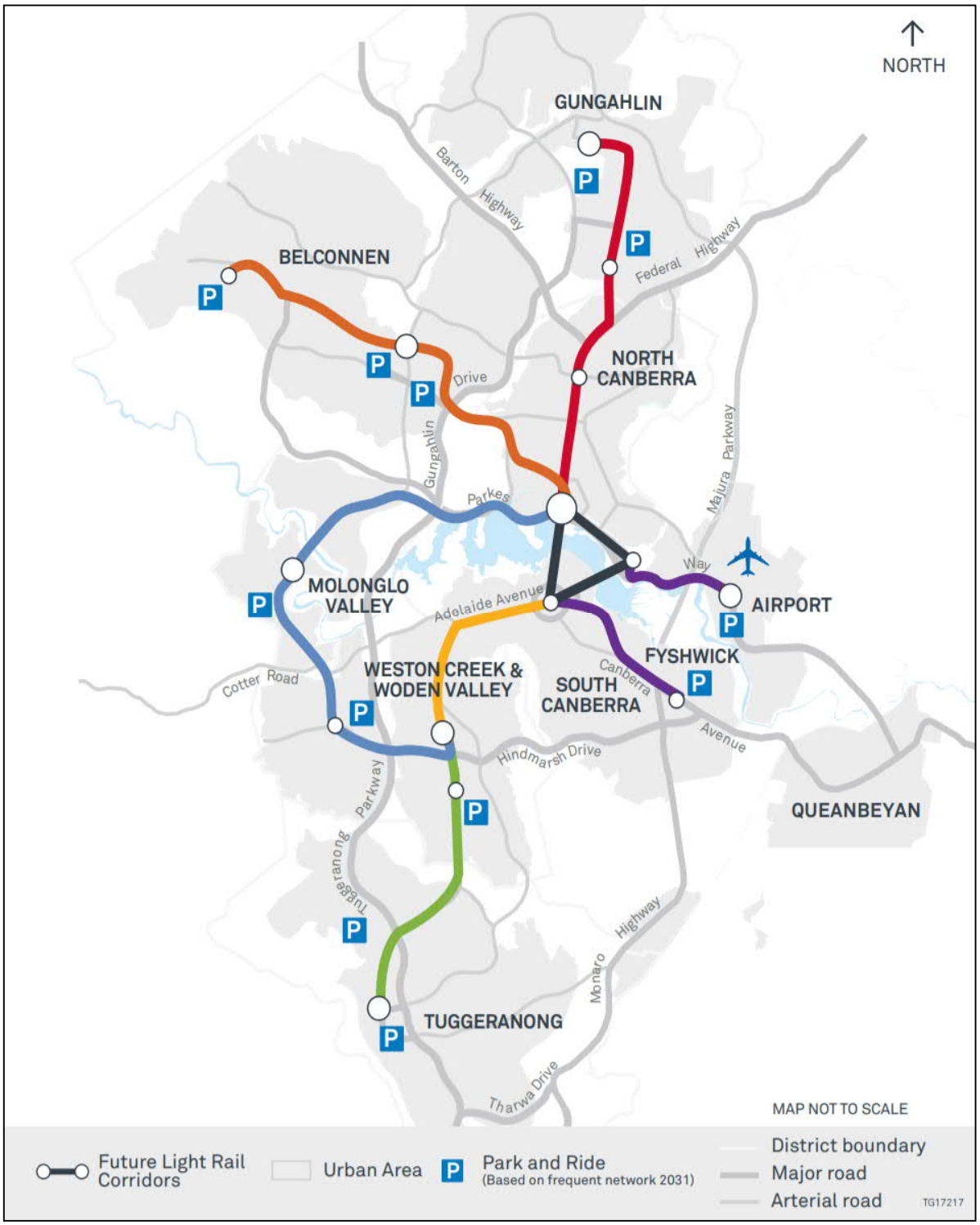
- Short-term (1-4 years)
    - Improve information access by linking operator websites and journey planners and consider a jointly-funded and managed marketing and communications campaign targeting cross-border commuters
    - Bus stop/static directional signage improvements
    - Mobility Apps improvements
    - Branding improvements to recognise both ACTION and QCity as part of an overall public transport system for the region.
- Medium- to long-term (5+ years)
    - Progress to a Mobility management service delivery framework enabled by account-based ticketing.

5.2.3.8 Light rail

In late 2015, the ACT Government released the draft Light Rail Network Plan, which presents a city-wide 25-year vision for building a strong and efficient public transport network with light rail as its backbone (see Figure 41). The first stage of Light Rail will connect the fast growing area of Gungahlin, through Dickson to the City. A second stage is currently being planned. It is expected that this will form the north-south spine for the ACT public transport system for many years, with east-west bus routes linking to the light rail system to form an overall integrated public transport system.

In the long-term there are planned connections to the airport and along Canberra Avenue. The latter is more likely to be considered for extension to Queanbeyan, as part of the development of a broader ACT / NSW public transport network. Preliminary planning would need to be undertaken to determine the feasibility and future land requirements to extend the light rail system further east to Queanbeyan.

Figure 41: ACT light rail network master plan



Source: ACT Government (2017)

5.2.3.9 Other

Some of the NSW Government initiatives for the region that could affect QPRC in future include:

- Improving community transport services including funding for:
  - NSW Community Transport Program
  - Regional transport Coordination Program
  - Country Passenger Transport Infrastructure Grants Scheme
  - NSW Community Care Supports Program (jointly funded with Australian Government).
- Supporting community proposals for investigations into the feasibility of converting non-operational rail lines into tourist or active transport corridors (e.g., rail line from Queanbeyan to Michelago).
- Support the ongoing delivery of wheelchair accessible vehicles and the Taxi Transport Subsidy Scheme.
- Integration of community and point to point transport services into the public transport network.
- Review public transport connections to regional train stations.
- Inform community of existing public transport services (e.g. many residents don't realise that they can use the many school bus services that run throughout the region).
- Develop a strategy for bus and coach passenger shelters for region.

MR Cagney (2017) envisages the following priorities for addressing bus operator policy and regulatory issues:

- Adopt consistent, or mutually recognised, operator accreditation, driver licensing and authorisation, and public transport standards
  - Seek mutual recognition of driver authorities
  - Seek ACTION accreditation with Transport NSW.
- Coordinate cross border transport networks and systems, including:
  - Develop inter-government agreements for delivery of integrated public transport services
  - Agreed set of standards and reporting requirements that set a safety and operation benchmark that is mutually recognised across borders for all registered buses
  - Develop integrated ticketing systems
  - Develop online intelligent transport solutions to improve regulatory compliance and passenger information (including integrated transport and mobility apps for customers).

Under a future integrated network it would be anticipated that Transport Canberra initiatives such as bikes on buses and ACT's real time passenger information system would operate on cross-border routes. Although bicycles are currently not permitted to be carried on buses in NSW, this does not appear to be precluded under the NSW Rural and Regional bus contracts.

Other public transport policy responses or actions from consultation during this project include:

- Land-use planning to support improved public transport
- Identify corridors for increased development densities
- Promote increased densities and mixed-use development in vicinity of Queanbeyan CBD and major existing and future commercial centres, including Googong, Braidwood and Bungendore Centres.

5.3 Active Travel

5.3.1 Context

The needs for cycle network improvements flow from the bad features of the existing network. These have been identified in more detail during consultation, an analysis of potential bicycle routes and a review of previous technical studies.

Queanbeyan

In terms of the current situation, the main good and bad features of Queanbeyan's walk and bicycle network are:

- Good features
  - Generally flat terrain in major urban areas
  - Construction of new roads aims to include on road provisions and off road shared paths (e.g., Ellerton Drive Extension and Old Cooma Road duplication)
  - Some good recreational trails.
- Bad features
  - 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
  - Quality of path widths and surfaces
  - Missing links or kerb ramps
  - Data quality and asset tracking
  - More on-road cycle lanes required
  - No clearly defined network hierarchy within Council for path infrastructure
  - Bicycle parking and end of trip facilities especially within the central areas and in new developments.

Bungendore and Braidwood

- Good features
  - The town is a small size to enable walking and cycling, with over 80% of residents within 1.5 kilometres of the town centre
  - Bungendore is an ideal town for cycling because of the flat topography and it is relatively safe
  - Traffic volumes are generally light (fewer than 1,000 vehicles per day), with the highest volume on Kings Highway having up to 6,000 vehicles a day
  - Within the precincts of Bungendore, traffic speeds are relatively moderate.
- Bad features
  - Kings Highway passes through the centre of the town
  - The grid street pattern provides opportunities for a variety of routes, but is compromised (in terms of accessibility) at a number of points due to watercourses and street closures
  - At most intersections, the intersecting streets connect at a large radius. This has the following impacts: vehicles can take the corner at faster speeds, distances for crossing the road are relatively long, and kerb ramps (and hence footpaths) are relatively distant from the kerb of the path of travel.

5.3.2 Actions

Actions to address the identified needs are generally expressed in terms of infrastructure projects, but can also relate to changes in policy.

Infrastructure works

The infrastructure related actions to address the issues identified in this study are summarised in map form in Appendix A. The bases for these actions are described in separate bicycle and pedestrian facilities plan reports for Queanbeyan, Bungendore and Braidwood (AECOM 2018b, c and d).

Network master plans have been defined for upgrading the walk and bicycle networks for Queanbeyan, Bungendore and Braidwood. These form the basis of future actions and the staging and implementation plan outlined in Chapter 6.

The proposed walk and bicycle network master plan for Queanbeyan, Bungendore and Braidwood are shown in Figure 42 to Figure 44. It shows existing and future pedestrian and bicycle facilities.

Upgrades to the cycle network typically occur with capital road improvement i.e Old Cooma Road, Pialligo Avenue and the proposed river corridor to Fyshwick.

Future facilities include:

- Local road links (for cyclists)
- Shared paths
- Footpaths
- Cycle lanes (on-road).

A list of proposed works is included in the bicycle and pedestrian facilities plan reports (AECOM 2018a, 2018b, 2018c).

Policy actions

A number of non-infrastructure actions were identified in Section 4.2.1, as follows:

- Support increased provision of end of trip facilities, especially at bus interchange and rail stations
- Prioritise people and pedestrian movement within Queanbeyan CBD
- Introduce lower speed limits in high pedestrian activity areas such as Queanbeyan CBD
- Implement a program to promote active transport use and facilitate community participation
- Improve amenity and pedestrian facilities in Queanbeyan CBD and the townships of Braidwood, Bungendore and Captains Flat (happening).

Figure 42: Proposed Queanbeyan walk and bicycle network master plan

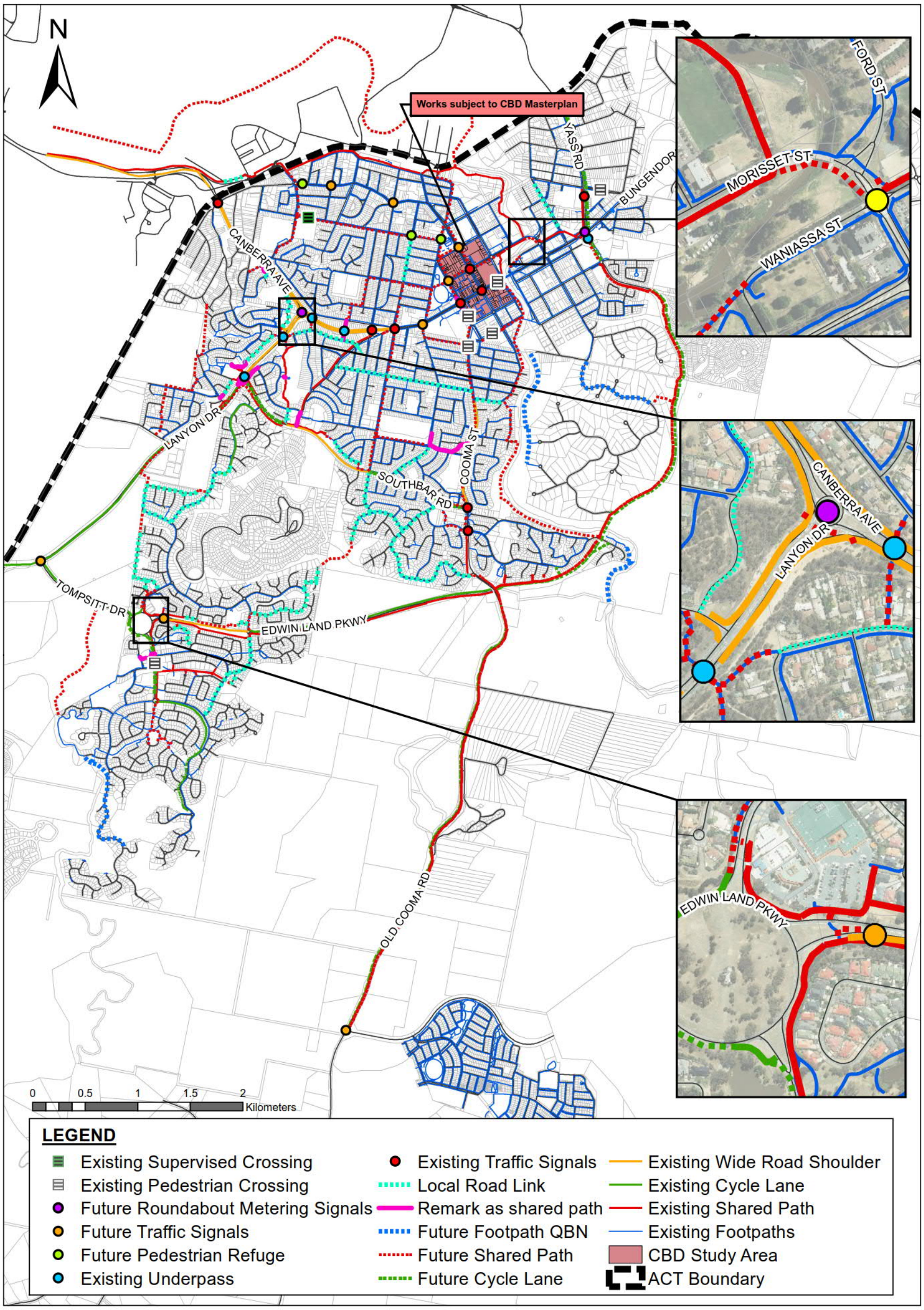


Figure 43: Proposed Bungendore walk and bicycle network master plan

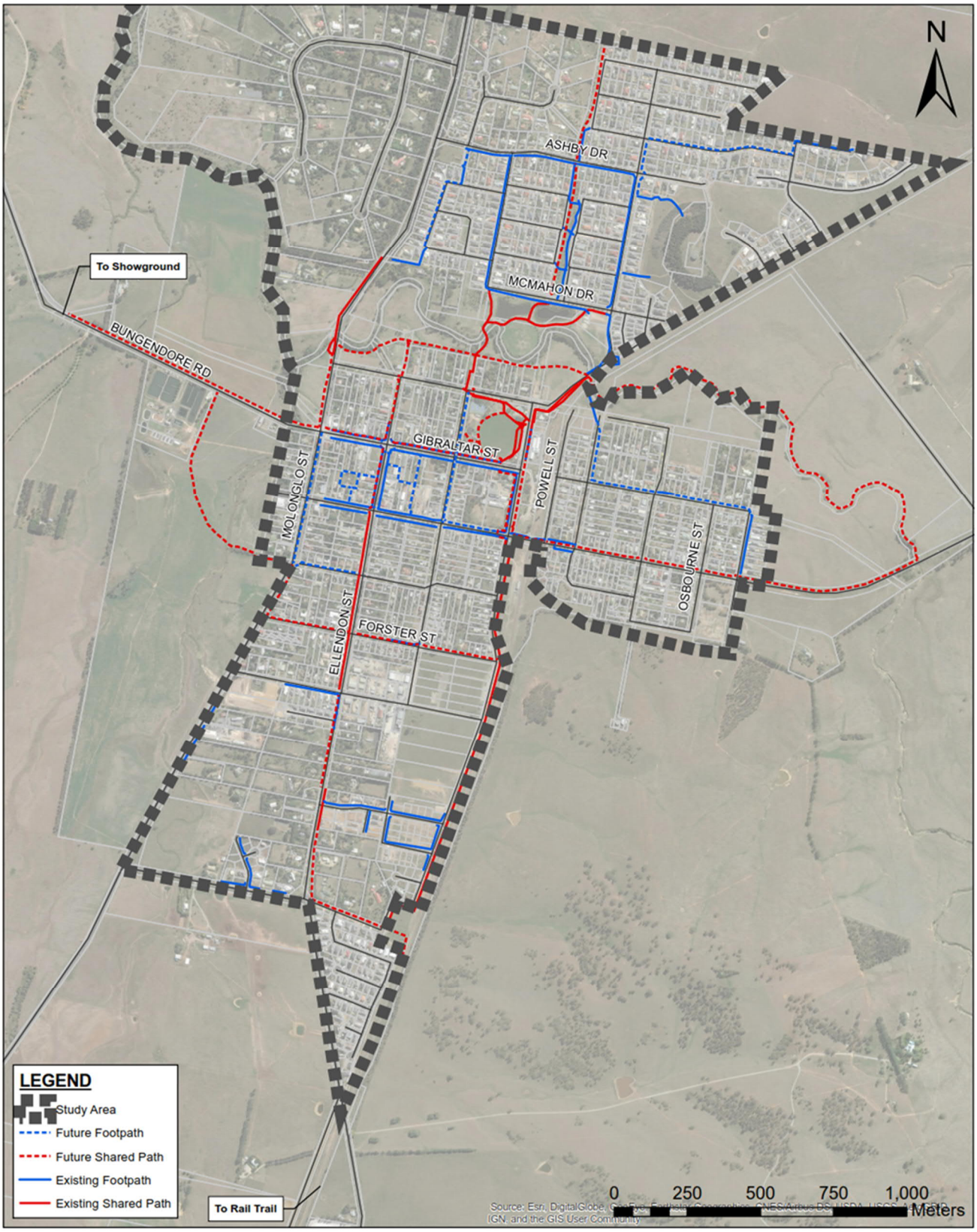
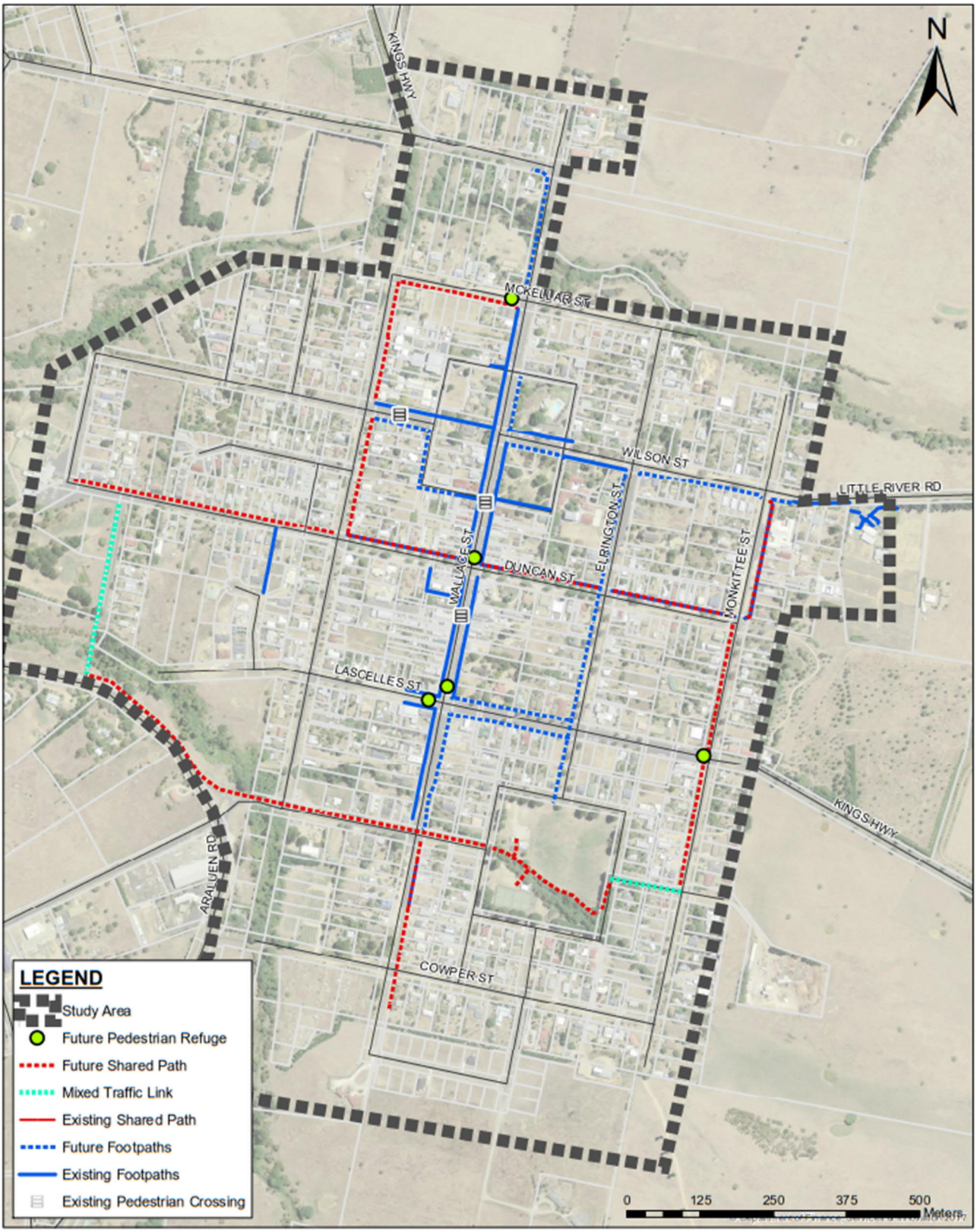


Figure 44: Proposed Braidwood walk and bicycle network master plan



6.0 Implementation Plan

The implementation plan provides priorities for the implementation of network development actions identified in Chapter 5. The plan for active travel (walk / bike) also includes estimates of costs. The actions included in the implementation plan represent high priority projects for Council to undertake in the short-term (1-4 years) to medium-term (5-14 years). Other actions identified in Chapter 5 should be considered in the long-term (15+ years), with priorities updated when this strategy is updated in five years.

6.1 Roads and Freight Network

6.1.1 Roads and intersections

A range of road and intersection improvements have been identified and described in Chapter 5. Priorities for implementation of these improvements have been assigned based on the needs identified from previous studies, traffic analyses and feedback from recent consultation. The infrastructure works in relation to roads and intersections are also highlighted in the action plan maps in Appendix A.

Figure 45: Action table showing priorities for roads and intersections

Location	Proposed Work or Action	Priority	Lead	Status
Bungendore commercial area	Upgrade of kerb and guttering, road pavement, underground drainage and footpaths	Committed	QPRC	Ongoing
Captains Flat township	Landscaping, tree planting and park / playground works	Committed	QPRC	Planning
Charleyong bridge (Nerriga Rd)	Bridge replacement	Committed	RMS	Construction
Cooma Road - Shoalhaven River crossing at Bendoura	Bridge replacement	Committed	RMS	Planning
Ellerton Drive Extension	New road	Committed	QPRC	Under construction
Kings Highway	Route strategy study	Committed	RMS	Identify
Kings Hwy / Tarago Rd	Construct roundabout	Committed	QPRC	Develop
Lascelles Street, Braidwood	Upgrade of kerb and guttering, road pavement, underground drainage and footpaths	Committed	QPRC	Planning
Nerriga Rd	Sealing the road between Charleyong and Braidwood	Committed	QPRC	Construction
Old Cooma Road – Googong to EDE	Duplication	Committed	QPRC	Construction
Old Cooma Rd / Googong Rd	New signals	Committed	QPRC	Developer to deliver
Tompsitt Dve / Lanyon Dve	Reconstruct roundabout as signals	Committed	RMS	Construction
Barrack Flat Dr / Cooma St	Undertake study to review signals if need post-EDE opening	High	QPRC	Planning
Bridge over Gillamatong Creek, Braidwood	Construct kerb and extend paved area on western side of bridge and consider for future widening of the bridge	High	QPRC	Planning
Candlebark Rd / Cooma St	Review need for upgrade post-opening of EDE	High	QPRC	Planning

Location	Proposed Work or Action	Priority	Lead	Status
Captains Flat Road	Rehabilitation works between Molonglo River Drive to Kearns Parade	High	QPRC	Planning
Crawford St / Antill St	New Signals – Blackspot application	High	QPRC	Planning - Funding sought
Crawford St / Antill St	New Queanbeyan CBD gateway treatment	High	QPRC	Coincide with new signals
Crawford St / Campbell St / Erin St	Right turn ban from Campbell St West and new pedestrian refuge on Crawford St	High	QPRC	Funding sought
Dunns Creek Road	Ensure the alignment for the proposed Dunn's Creek Road is preserved, together with a link to Monaro Highway in ACT	High	QPRC	Planning
Elrington Street / Monkittee Street /Little River, Braidwood	Local area traffic management study	High	QPRC	Identify
Kings Hwy (Bungendore Rd) / Yass Rd	Part-time signals	High	RMS	Subject to review post-opening of EDE
Lanyon Dve / Canberra Ave	Part-time signals	High	QPRC	Subject to review
Lanyon Dve / Gilmore Rd	Right turn ban out of Gilmore Road	High	QPRC	
Macs Reef Road and Bungendore Road	Road safety audits and the development of road safety improvement strategies	High	QPRC	
Old Cooma Rd / NH2 Access	New roundabout	High	QPRC	Planning - New access to next stage of Googong
Pialligo Avenue duplication	Support a grant application from ACT Government	High	ACT	
QPRC region	Continue to review need for intersection improvements	High	QPRC	Update traffic modelling
QPRC region	Continue to update Council traffic studies and recommendations	High	QPRC	Consultation with RMS
QPRC region	Develop program for maintenance of Council roads	High	QPRC	
QPRC region	Develop plan to assist access for future red rapid service extension to Queanbeyan	High	QPRC / ACT	
Queanbeyan CBD	Conduct a study to investigate options for improving amenity and pedestrian movement	High	QPRC	Planning – CBD Masterplan
Queanbeyan CBD	Implement a 40 km/h area	High	QPRC	Subject to investigation & RMS approval
Southbar Rd / Cooma St	Undertake study to review signals if need post-EDE opening	High		With Barrack Flat Road intersection study

Location	Proposed Work or Action	Priority	Lead	Status
Wallace Street / Duncan Street, Braidwood	Channelisation of the intersection	High		Subject to investigation and design
Wallace St / Lascelles St, Braidwood	Undertake study to review options to improve safety	High	QPRC	
Canberra Ave / Cameron Road	New signals	Medium	QPRC	
Captains Flat Road	Road safety audit and road safety improvement strategy	Medium	QPRC	
Captains Flat Road east of Captains Flat	Consider paving road	Medium	QPRC	Subject to future review
Cooma Street – EDE to Southbar Road	Duplication – Stage 3	Medium	QPRC	
Jerrabomberra Circle	Further review of the current roundabout with a set of traffic signals	Medium	QPRC	Preliminary design and review of environmental factors undertaken
Majors Creek bridge	Undertake investigation for new bridge	Medium	QPRC	
Old Cooma Road (south of Googong Road)	Road safety audit and road safety improvement strategy	Medium	QPRC	
Surveyor St / Ross Rd	Undertake study to review options to improve safety	Medium	QPRC	
Sutton Road	Road safety audit and road safety improvement strategy	Medium	QPRC / ACT	In coordination with ACT Government
Uriarra Rd / Frederick St / McKeahnie St	New signals	Medium	QPRC	Design complete, awaiting funding
Uriarra Rd / Crawford St	Right turn ban	Medium	QPRC	Awaiting funding
Uriarra Rd / Ross Rd	New signals	Medium	QPRC	Design complete, funding sought
Uriarra Rd / Stornaway Rd	Right turn ban	Medium	QPRC	Funding sought
Yass Rd / Hincksman St / Endurance Ave	New signals	Medium	QPRC	Design complete
Yass Rd / Shropshire Ave	Ban right turns from Shropshire Ave	Medium	QPRC	To be banned when signals installed at Hincksman St
Yass Rd / Silva Av / Waterloo St	Ban right turns from Silva Av and Waterloo St	Medium	QPRC	To be banned when signals installed at Hincksman St

Note: High priority works should be implemented in the 1-4 year time-frame, whilst medium priority works should be implemented in the 5-14 year timeframe.

6.1.2 Parking

A number of actions that mainly involve investigations prior to the implementation of changes were listed for Queanbeyan CBD in Section 5.1.3.6. These are split into high and medium-term actions in Table 25.

Table 25: Priorities for car parking management actions

Action	Priority
Review parking supply and demand and restrictions in Queanbeyan CBD and surrounds	Committed
Review parking supply and demand and restrictions in other key centres in Queanbeyan, Braidwood and Bungendore	High
Reduce maximum duration for on street parking to short-stay within the CBD.	High
Prioritise on-street parking for short term parking, parking for people with disabilities, loading zones, and visitor pick-up and set-down (private, community and coach) in the CBD.	High
Seek opportunities to develop additional off-street parking beyond outer core of CBD	High
Review provision and design of disabled parking bays.	High
Review options for the potential redevelopment of Council-owned public car parks and changed parking needs.	High
Encourage strategies to minimise temporary loss of publicly available parking, loading and set down areas during construction of significant inner city developments.	High
Examine options to introduce new information technology to improve parking access and efficiency in Queanbeyan CBD	High
Link public parking messaging to Council's vision and priorities, adopted plans, and public transport and walking and cycling strategies.	High
Negotiate parking management contracts which allow for policy and technological changes to meet the goals and objectives of the strategy.	High
Consider automated car parking technologies to improve capacity and operations in design for existing and future public car parks.	High
Review potential changes to Council's parking code requirements for new development, so as to encourage the use of alternative modes	High
Seek opportunities to provide long term 'Park & Walk' or 'Park & Pedal' locations connected to CBD by walking and cycling facilities.	Medium
Implement wayfinding linked to real time information on the current availability of parking spaces and or navigational links.	Medium
Prepare for autonomous vehicles and other disruptive technology through periodic review of the strategy.	Medium

Note: High priority works should be implemented in the 1-4 year time-frame, whilst medium priority works should be implemented in the 5-14 year timeframe.

6.1.3 Freight

A number of actions in relation to freight movement were listed in Section 5.1.3.7. These are split into high and medium-term actions in Table 26.

Table 26: Freight management actions

Action	Priority
Conduct surveys of heavy vehicle movements	High
Review and adopt a freight route hierarchy for QPRC and map 'last mile' routes	High
Identify road network constraints that limit heavy vehicle movements in the region or adversely affect safety	High
Develop a prioritised infrastructure upgrade program to meet the needs of larger freight vehicles	High
Develop options to reduce trucks using Monaro Street	High
Integrate freight movements in ACT and NSW heavy vehicle route plans	High
Review supply and management of loading zones, particularly in Queanbeyan CBD	High
Investigate options for larger freight vehicle access to local destinations	High
Engage the community in understanding freight management needs	High
Work with Australian, state and local governments and industry to take a strategic approach to protect and enhance freight routes and facilities in the region	High
Establish corridors for future bypasses of Braidwood and Bungendore	Medium
Identify and protect future freight activities, corridors and local freight access	Medium

Note: High priority works should be implemented in the 1-4 year time-frame, whilst medium priority works should be implemented in the 5-14 year timeframe.

6.2 Public Transport

A number of actions in relation to public transport were listed in Section 5.2. These are split into high and medium-term actions in Table 27. Most of the actions cannot be implemented by QPRC, but by other Government authorities (Transport NSW and Transport Canberra); QPRC can work with these authorities to help implement these changes and can only advocate for such changes.

Table 27: Action table showing priorities for public transport

Proposed Work or Action	Priority	Comment
Advocate for new express peak hour service to Parliamentary Triangle and Canberra City from Googong and Jerrabomberra	High	
Advocate to extend the ACTION red rapid service to Queanbeyan interchange, to operate under ACTION fares structure/policies	High	Agreement needed between governments and bus operators
Advocate to relocate QCity's direct Canberra routes from Morisset Street to Antill Street	High	When the intersection of Crawford Street and Antill Street is signalised
Advocate for installation of direction signs to park and ride facility on Tom Price Street	High	Advocate with ACT Government
Investigate a park and ride facility off Edwin Land Parkway, near Jerrabomberra	High	Site accessed off Lerra St likely to be preferable
Advocate to upgrade the existing Queanbeyan interchange	High	Plans developed and funding is available

Proposed Work or Action	Priority	Comment
Advocate to review Harman bus stop on Canberra Ave	High	Advocate with ACT Government
Advocate to address fare disparities to facilitate improved travel services for border residents	High	Transport NSW introducing new fares from 1 January 2018
Advocate progression to a more harmonised fares policy between ACT and NSW	High	
Advocate to explore ways to enable QCity transfers on ACTION services	High	
Advocate to extend bus transfer functionality between QCity and ACTION services	High	
Advocate changes to fare policies to standardise ACT/NSW concession ages/categories and enable transfers	High	
Advocate for dual ticketing systems on QCity / ACTION services	High	
Advocate for improved information access by linking operator websites and journey planners	High	
Advocate for bus stop/static directional signage improvements	High	
Advocate for Mobility Apps improvements	High	
Advocate branding improvements to recognise both ACTION and QCity as part of an overall public transport system for the region	High	
Advocate for improvements to community transport services	High	
Advocate for a review public transport connections to regional train stations	High	
Support the ongoing delivery of wheelchair accessible vehicles and the Taxi Transport Subsidy Scheme	High	
Support the integration of community and point to point transport services into the public transport network	High	
Inform community of existing public transport services (e.g. many residents don't realise that they can use the many school bus services that run throughout the region)	High	
Develop a strategy for bus and coach passenger shelters for region	High	In consultation with QCity and coach operators
Advocate for consistent, or mutually recognised, operator accreditation, driver licensing and authorisation, and public transport standards	High	
Advocate for development of inter-government agreements for delivery of integrated public transport services	High	
Advocate for agreed set of standards and reporting requirements that set a safety and operation benchmark that is mutually recognised across borders for all registered buses	High	
Advocate for development of integrated ticketing systems	High	

Proposed Work or Action	Priority	Comment
Advocate for development of online intelligent transport solutions to improve regulatory compliance and passenger information (including integrated transport and mobility apps for customers)	High	
Advocate for new route to Woden from Googong and Jerrabomberra	Medium	
Advocate for new route to Canberra Airport, Russell and Canberra City from Googong via Old Cooma Road	Medium	
Advocate new route to Canberra Airport, Russell and Canberra City from Queanbeyan interchange via Pialligo Ave	Medium	Depends on upgrade of Pialligo Ave
Advocate for more frequent services in peaks and on weekends for Queanbeyan and Bungendore	Medium	Dependent on patronage and subsidies
Advocate for upgrade existing park and ride facility on Tom Price Street	Medium	Advocate with ACT Government
Investigate a park and ride facility near south-west corner of Old Cooma Rd and Edwin Land Pwy	Medium	
Investigate a park and ride facility near northern end of Ellerton Dr	Medium	
Investigate a park and ride facility in Googong	Medium	Adjacent to Googong Commons may be preferable
Advocate to review needs for upgrading coach parking and passenger facilities at Queanbeyan and Bungendore rail stations	Medium	
Advocate for Morisset Street bus priority lane	Medium	Consider when ACT bound buses re-routed to Antill St
Advocate for more bus priority measures along Canberra Ave	Medium	Advocate with ACT Government
Advocate for introduction of new bus operator contracts to facilitate connectivity to cross border transport services, address any ticketing issues and necessary fare revenue sharing arrangements	Medium	Transport NSW expected to introduce this by 2024
Advocate for outer-zone for long distance public transport travel (e.g., Bungendore-ACT services)	Medium	For future integrated Canberra/QPRC public transport system
Advocate for integrated account based ticketing system	Medium	
Advocate progress to a Mobility management service delivery framework enabled by account-based ticketing	Medium	
Investigate feasibility of a future light rail connection to Queanbeyan via Canberra Avenue	Medium	
Land-use planning to support improved public transport	Medium	
Identify corridors for increased development densities	Medium	
Promote increased densities and mixed-use development in vicinity of Queanbeyan CBD and major existing and future commercial centres, including Googong, Braidwood and Bungendore Centres	Medium	

Note: High priority works should be implemented in the 1-4 year time-frame, whilst medium priority works should be implemented in the 5-14 year timeframe. Timing of public transport works is dependent on decisions by ACT and NSW Governments, independent of Council

6.3 Active Travel

The priorities for pedestrian and bicycle network improvements for Queanbeyan are summarised in Figure 46 to Figure 47, for high priority (1-4 years) and medium priority works respectively. Recommended pedestrian and bicycle network improvements for Bungendore and Braidwood are shown in Figure 48 and Figure 49; in these figures, works on route numbers that have a green box outline are highest priority (1-4 years).

A summary of the estimated costs for this work by priority is given in Table 28. This includes some new refuge islands shown in the works masterplans for each town - Figure 42 to Figure 44.

Project details are provided in the bicycle and pedestrian facilities plan reports (AECOM 2019 b, c and d).

A number of non-infrastructure actions in relation to active travel were listed in Section 5.3.2. These are split into high and medium-term actions in Table 29.

Figure 46: Proposed works plan for Queanbeyan – high priority

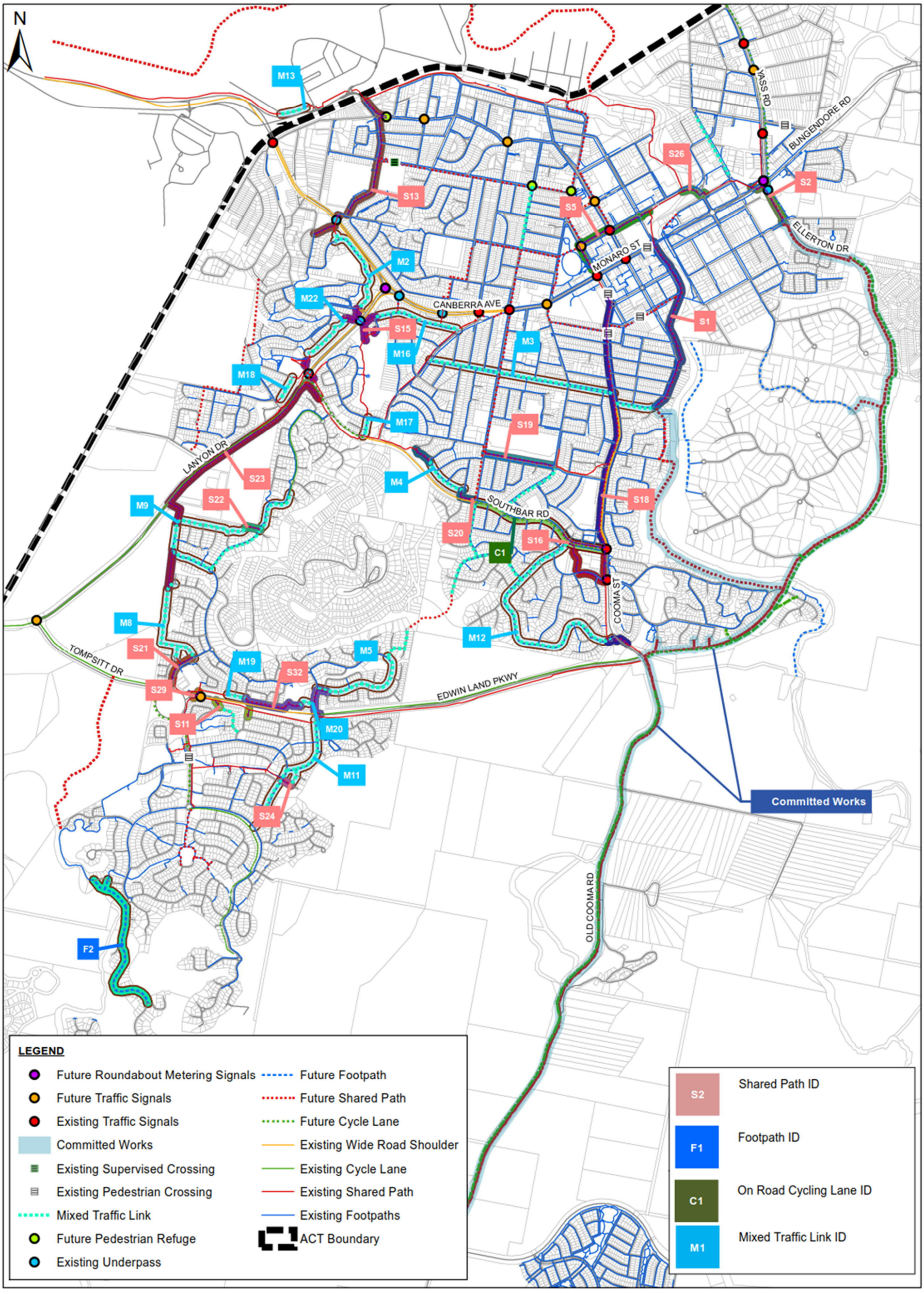


Figure 47: Proposed works plan for Queanbeyan – medium priority

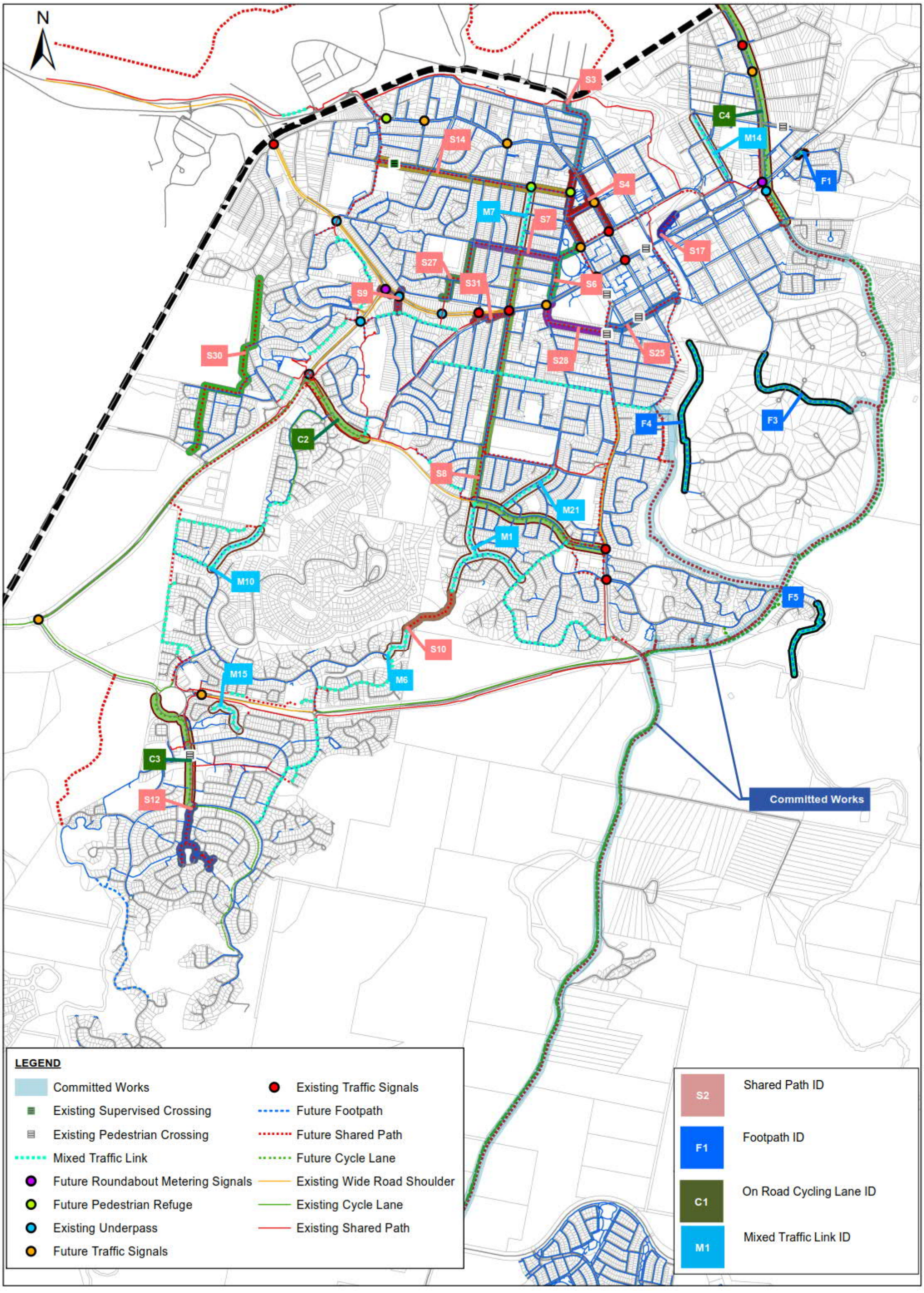


Figure 48: Bungendore walk and bicycle network upgrade priorities

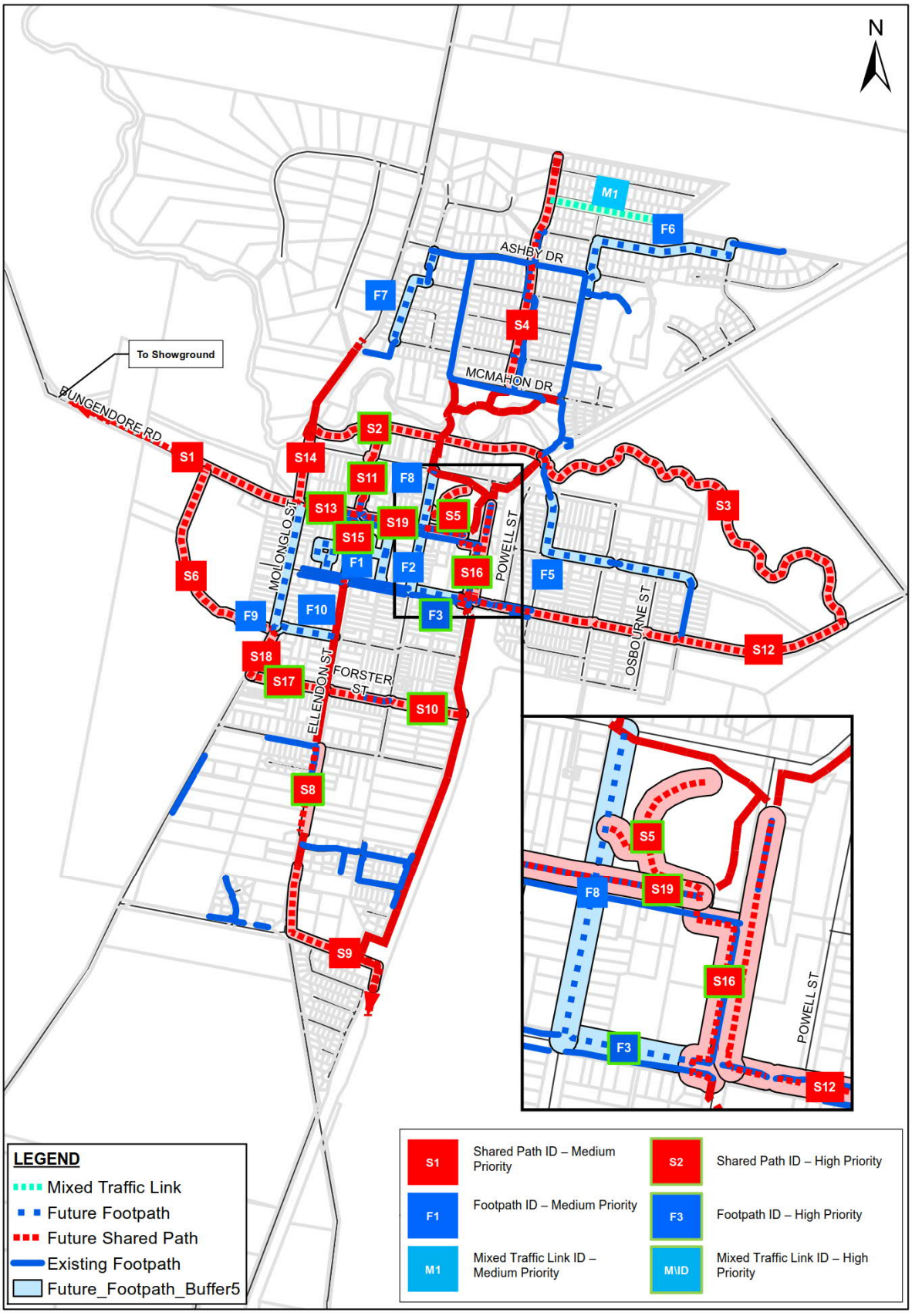


Figure 49: Braidwood walk and bicycle network upgrade priorities

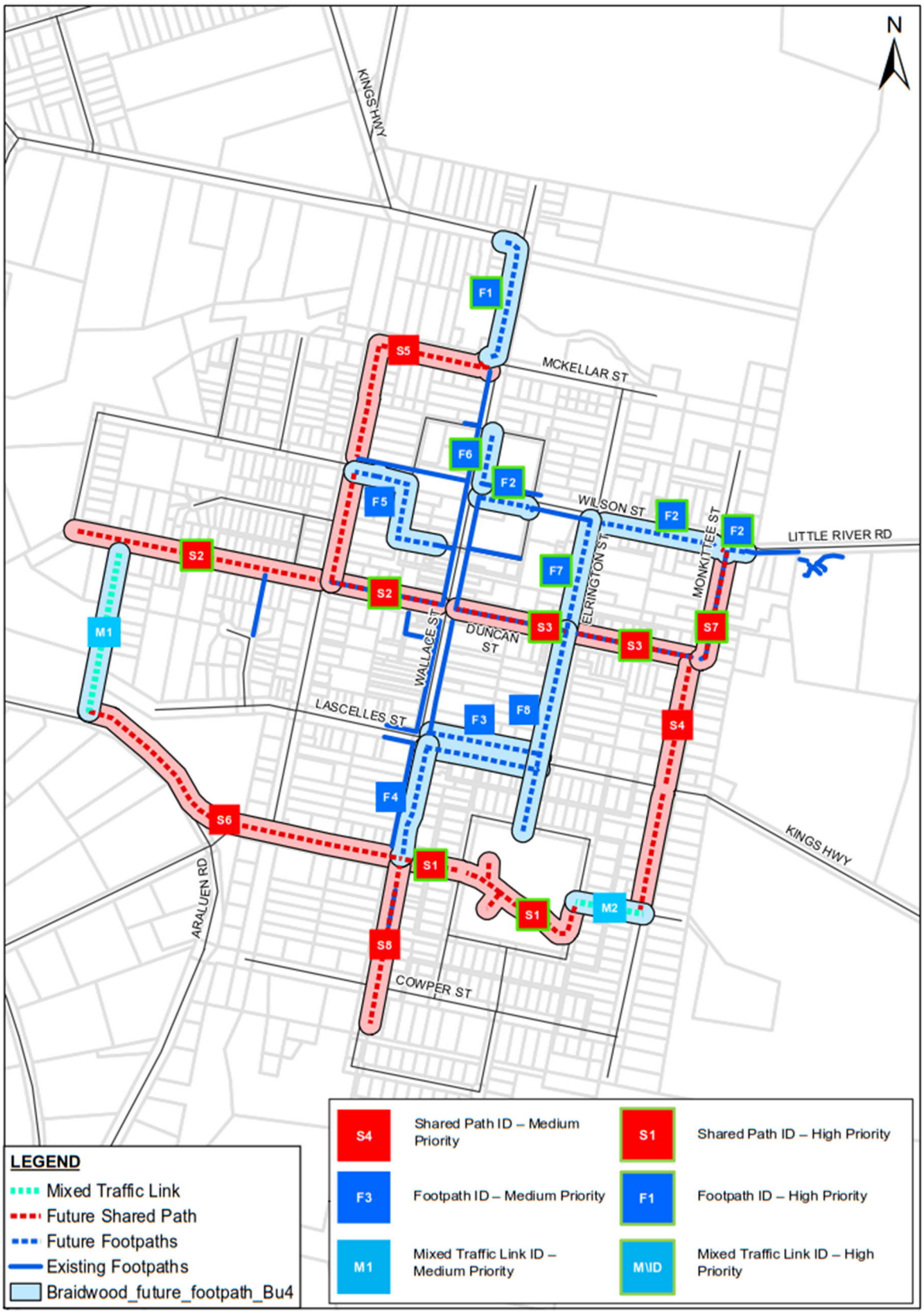


Table 28: Cost of pedestrian and cycle network upgrades

Town	Priority	Footpaths	Shared Paths	Mixed Traffic Links	Cycle Lanes	Refuge Islands	Total
Queanbeyan	High	$232,000	$1,674,000	$150,500	$51,500	$50,000	**$2,158,000**
	Medium	$425,000	$1,704,000	$55,000	$332,000	$25,000	**$2,541,000**
	Total	**$657,000**	**$3,378,000**	**$205,500**	**$383,500**	**$75,000**	**$4,699,000**
Bungendore	High	$74,500	$599,000	$0	$0	$75,000	**$748,500**
	Medium	$456,500	$1,015,000	$6,500	$0	$0	**$1,478,000**
	Total	**$531,000**	**$1,614,000**	**$6,500**	**$0**	**$75,000**	**$2,226,500**
Braidwood	High	$128,000	$261,500	$0	$0	$125,000	**$514,500**
	Medium	$126,000	$305,000	$6,500	$0	$0	**$437,500**
	Total	**$254,000**	**$566,500**	**$6,500**	**$0**	**$125,000**	**$952,000**
QPRC Total	High	**$434,500**	**$2,534,500**	**$150,500**	**$51,500**	**$250,000**	**$3,421,000**
	Medium	**$1,007,500**	**$3,024,000**	**$68,000**	**$332,000**	**$25,000**	**$4,456,500**
	Total	**$1,442,000**	**$5,558,500**	**$218,500**	**$383,500**	**$275,000**	**$7,877,500**

Note: This excludes committed works or works fully funded by others

Table 29: Action table showing priorities for active transport (non-infrastructure actions)

Action	Priority
Support increased provision of end of trip facilities, especially at bus interchange and rail stations	High
Prioritise people and pedestrian movement within Queanbeyan CBD	High
Introduce lower speed limits in high pedestrian activity areas such as Queanbeyan CBD	High
Implement a program to promote active transport use and facilitate community participation	High
Improve amenity and pedestrian facilities in Queanbeyan CBD and the townships of Braidwood, Bungendore and Captains Flat	High

7.0 Monitoring and Review Plan

Monitoring the success of the overall ITS is critical to achieving ongoing funding support from Council and the NSW Government, and community feedback. The following actions are proposed to help ensure that progress against the objectives of the ITS is tracked:

- **ITS review:** Ongoing review of the ITS is important to ensure that it accurately reflects the latest population and development data for QPRC, and adjustments are made as necessary to ensure it remains relevant.
- **Project delivery and coordination:** Ongoing monitoring of the delivery of ITS projects is critical to measure progress against the strategy and ensure consistency of purpose across the range of Council planning and policy documents and objectives.
- **Monitoring impact of projects:** Regular measurements of travel demand, behaviour and assessment of how and when ITS objectives will be achieved is critical to understand the impact and relevance of the ITS, and make changes or adjustments as necessary. Monitoring changes in cross-border traffic volumes in bus passenger numbers will be an important element of this.
- **Opportunities for funding:** Ongoing partnership with the ACT, NSW and Federal Government is required to identify funding opportunities and maximise the ability to present business cases for investment. At the same time, new developments within QPRC are likely to provide opportunities to deliver projects as negotiated outcomes through the planning process.

In addition to these actions, the following opportunities should be considered by Council:

- Establish a community based reference group to provide ongoing feedback on the progress of the strategy, and provide input to project prioritisation and delivery.
- Continue to engage with ACT Government and the Department of Transport to progress the ‘advocacy’ actions contained within the ITS.
- Continue to monitor development approvals and activity, to capitalise on any opportunities that may arise through private sector development.
- Provide additional smart hub facilities for staff/personnel to utilise as a joint trial with the ACT and Federal Government Departments.
- Nominate bypasses for both Braidwood and Bungendore to be included within the structure plans. The location of industrial lands should be considered when investigating a bypass location.

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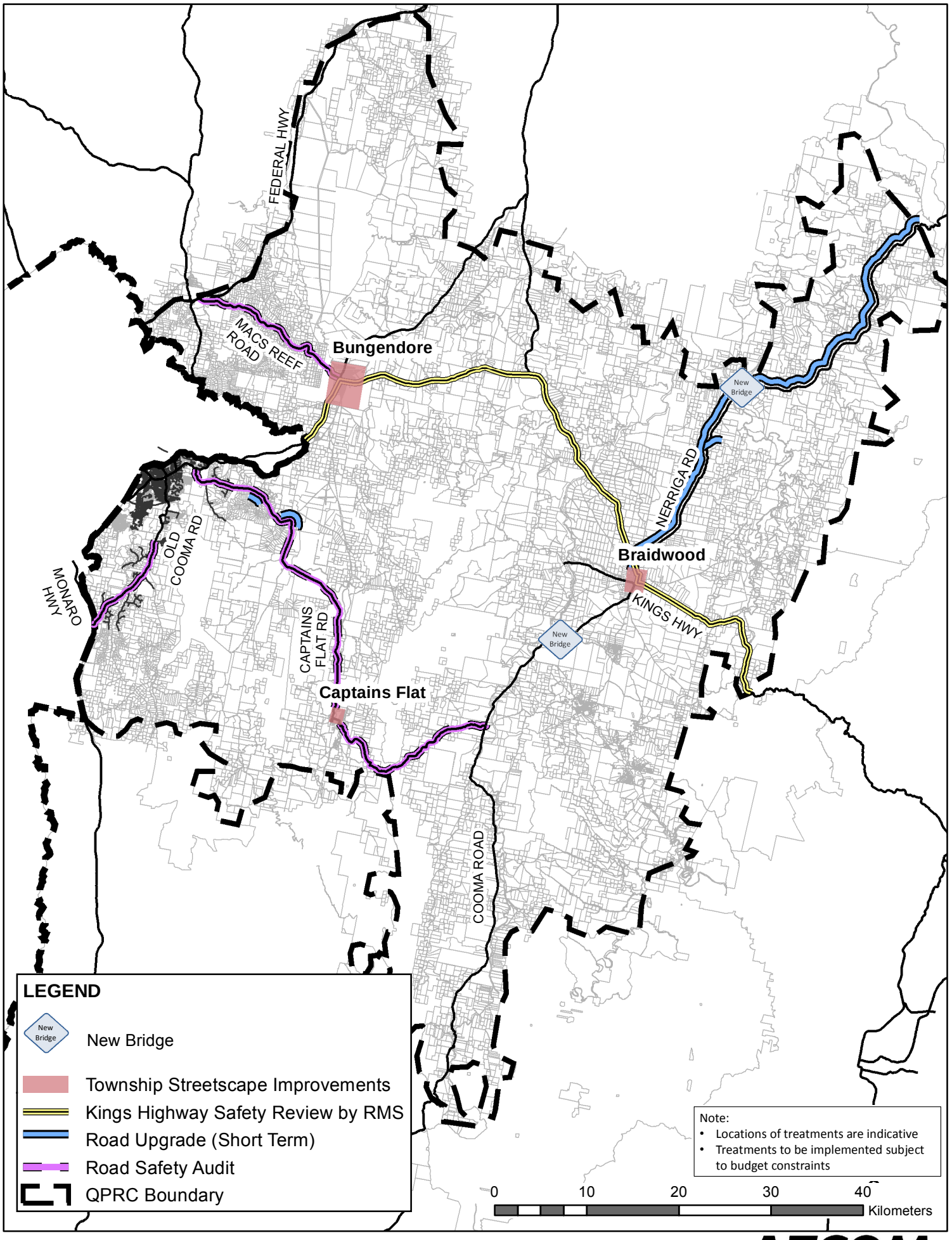
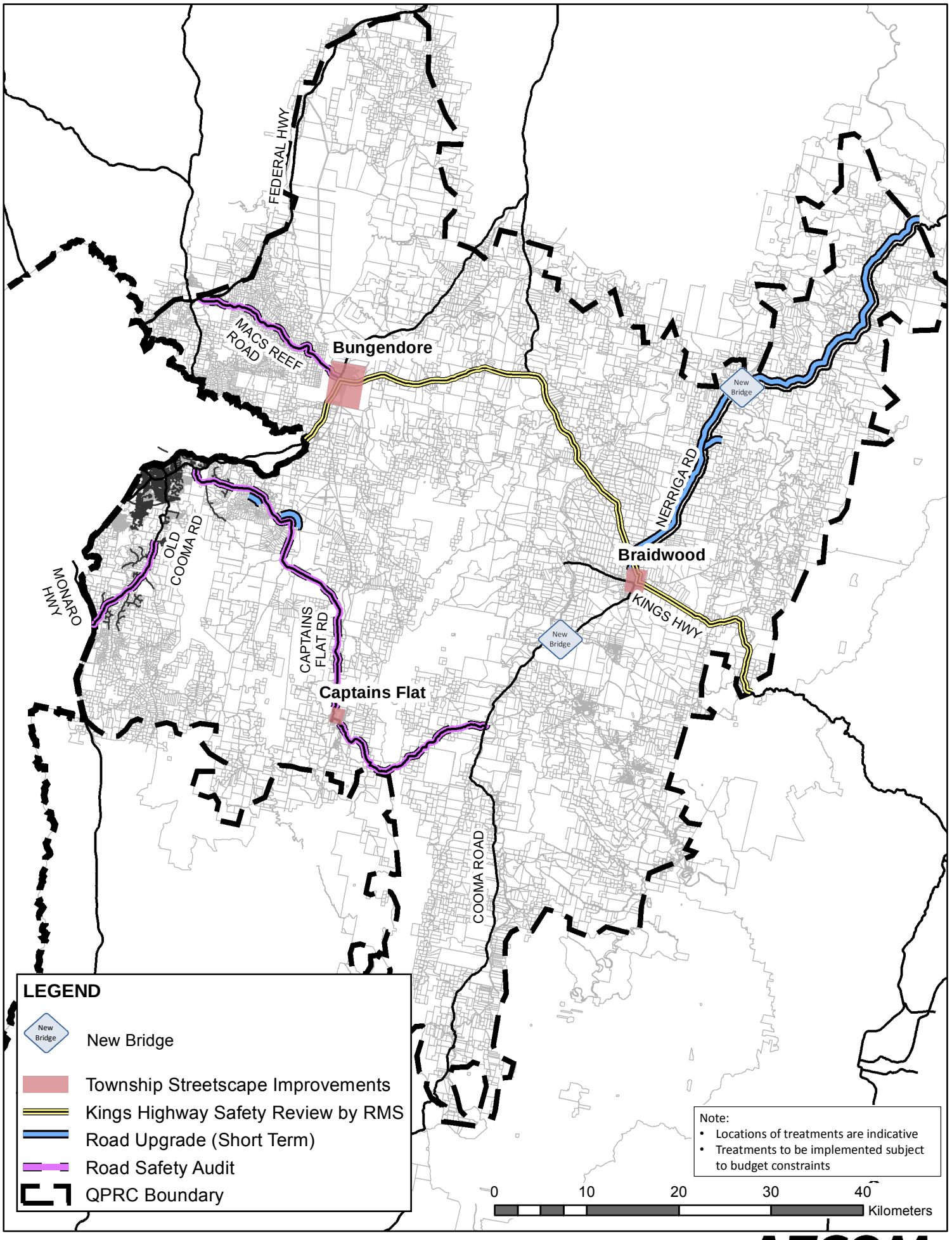
Appendix A

Action Plan Maps

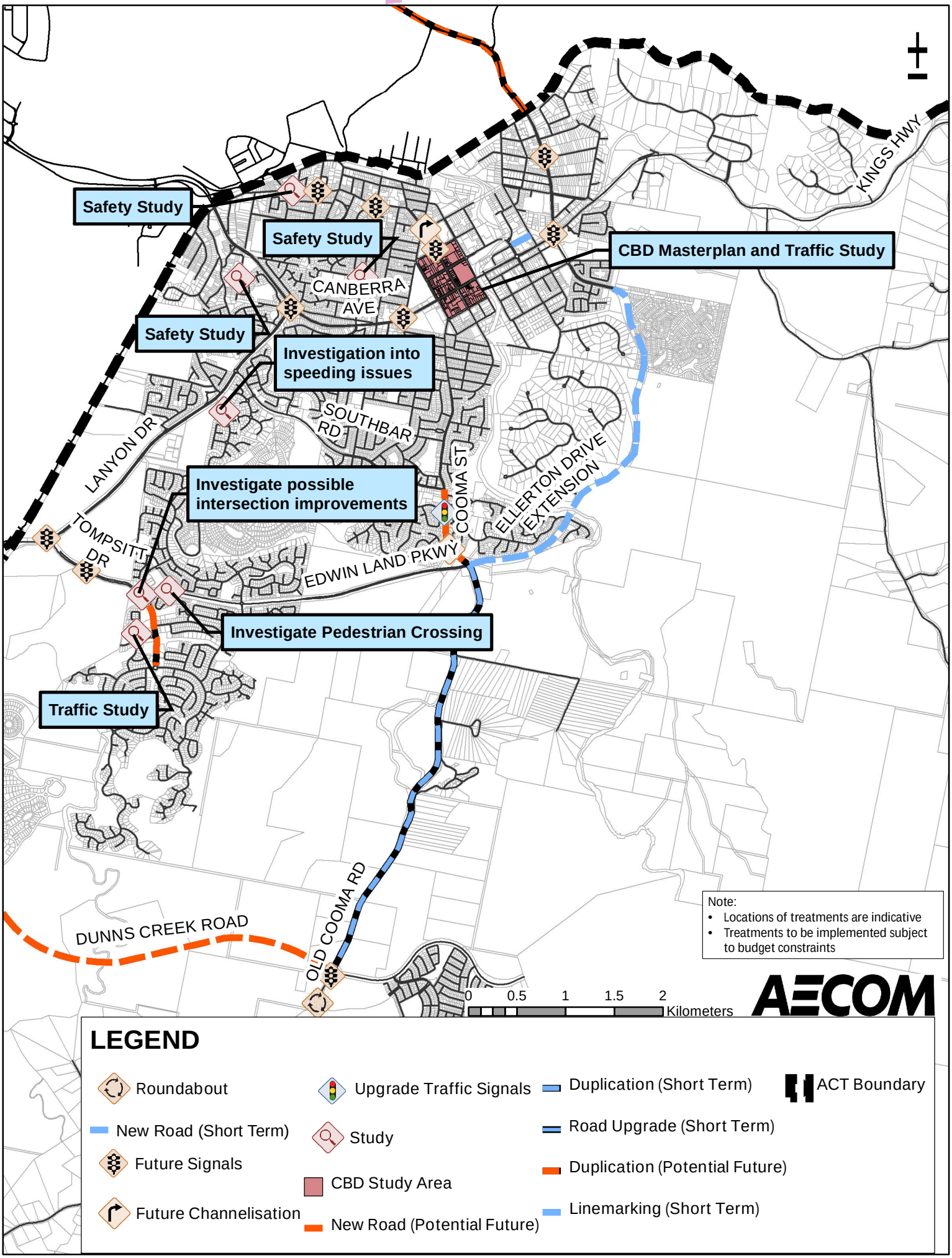
QPRC Local Government Area Action Plan Rural Roads



QPRC Local Government Area Action Plan Rural Roads

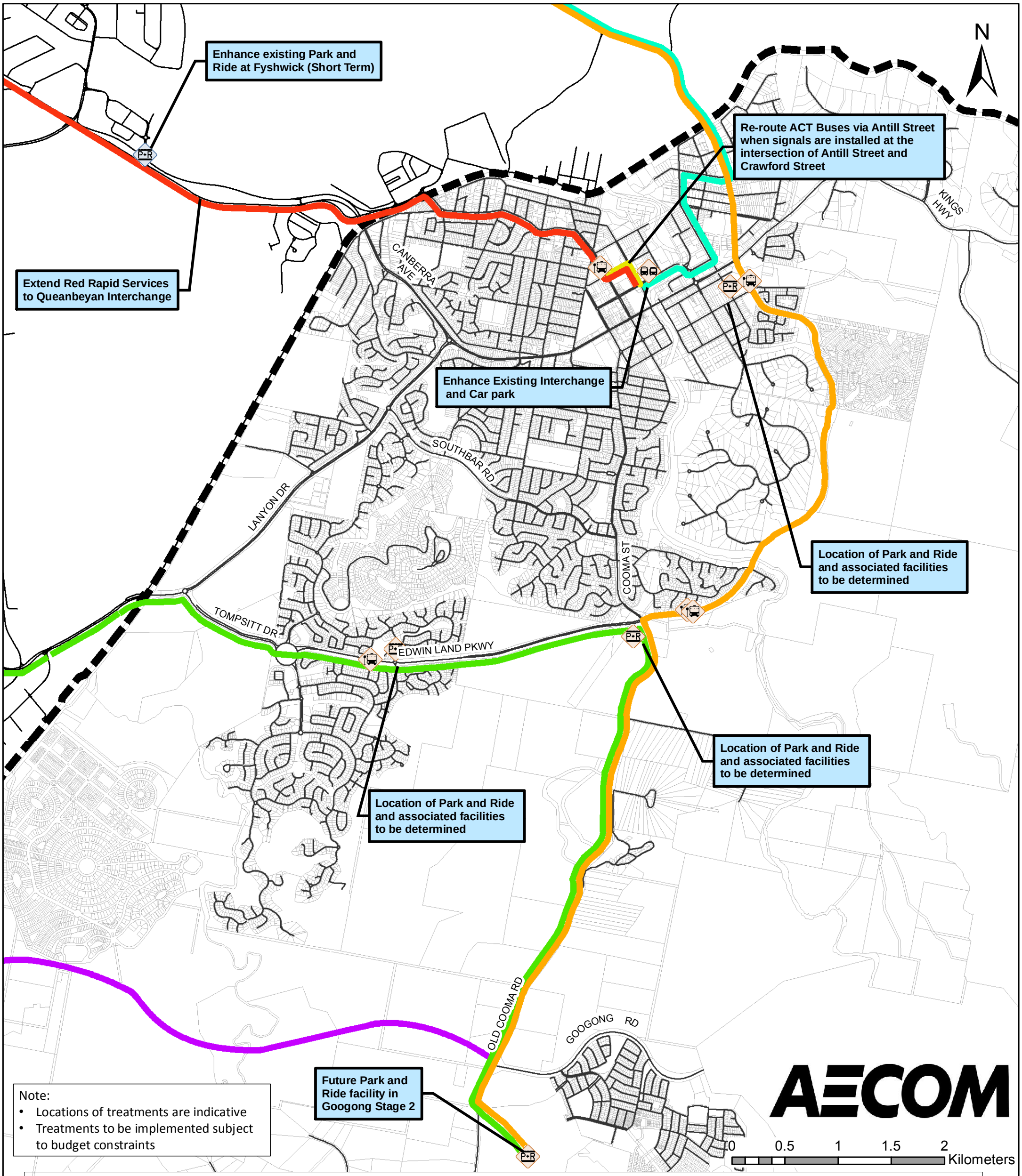


QPRC Queanbeyan Road Action Plan



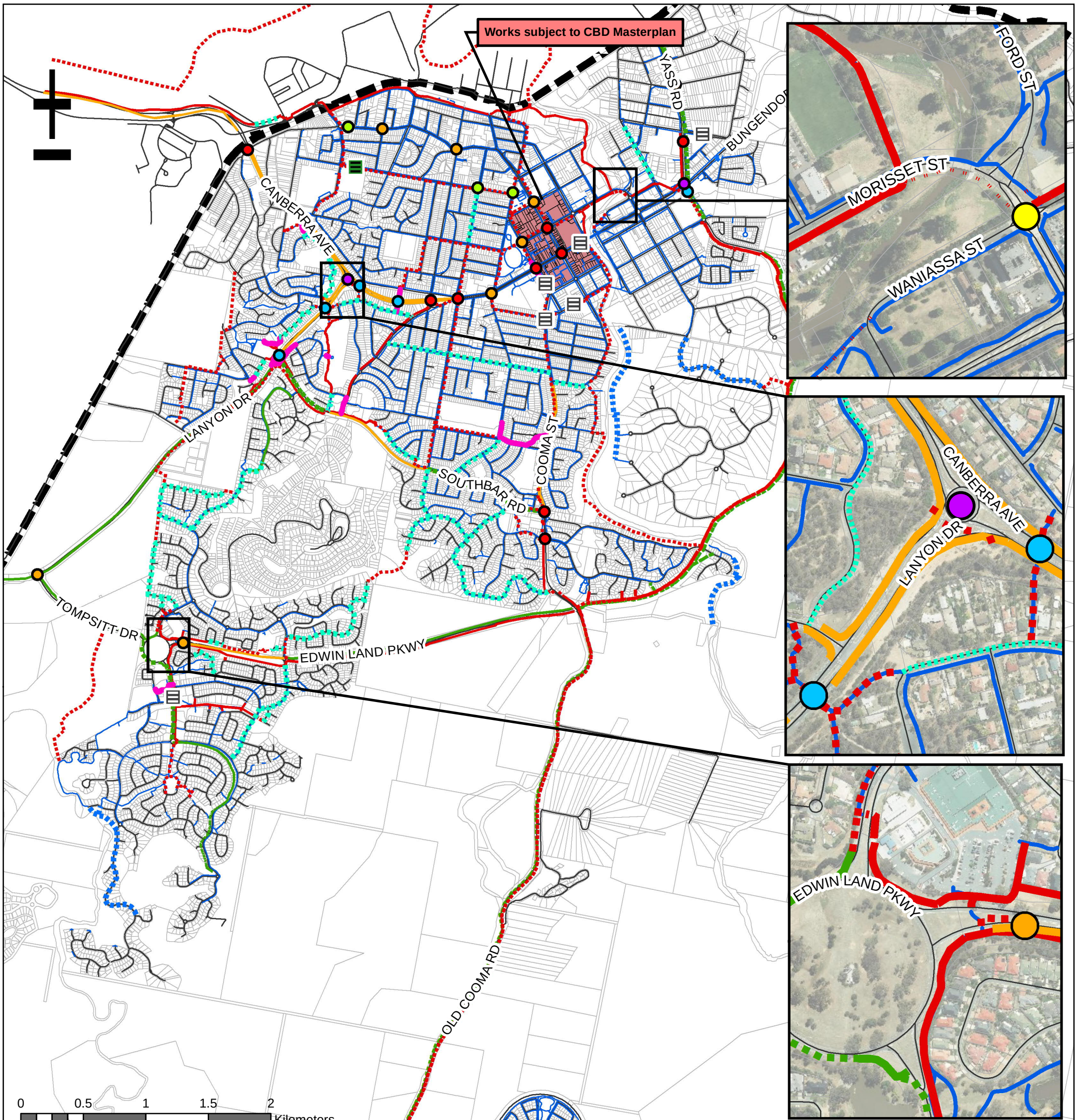
QPRC

Queanbeyan Action Plan (Buses)



QPRC

Greater Queanbeyan Proposed Paths

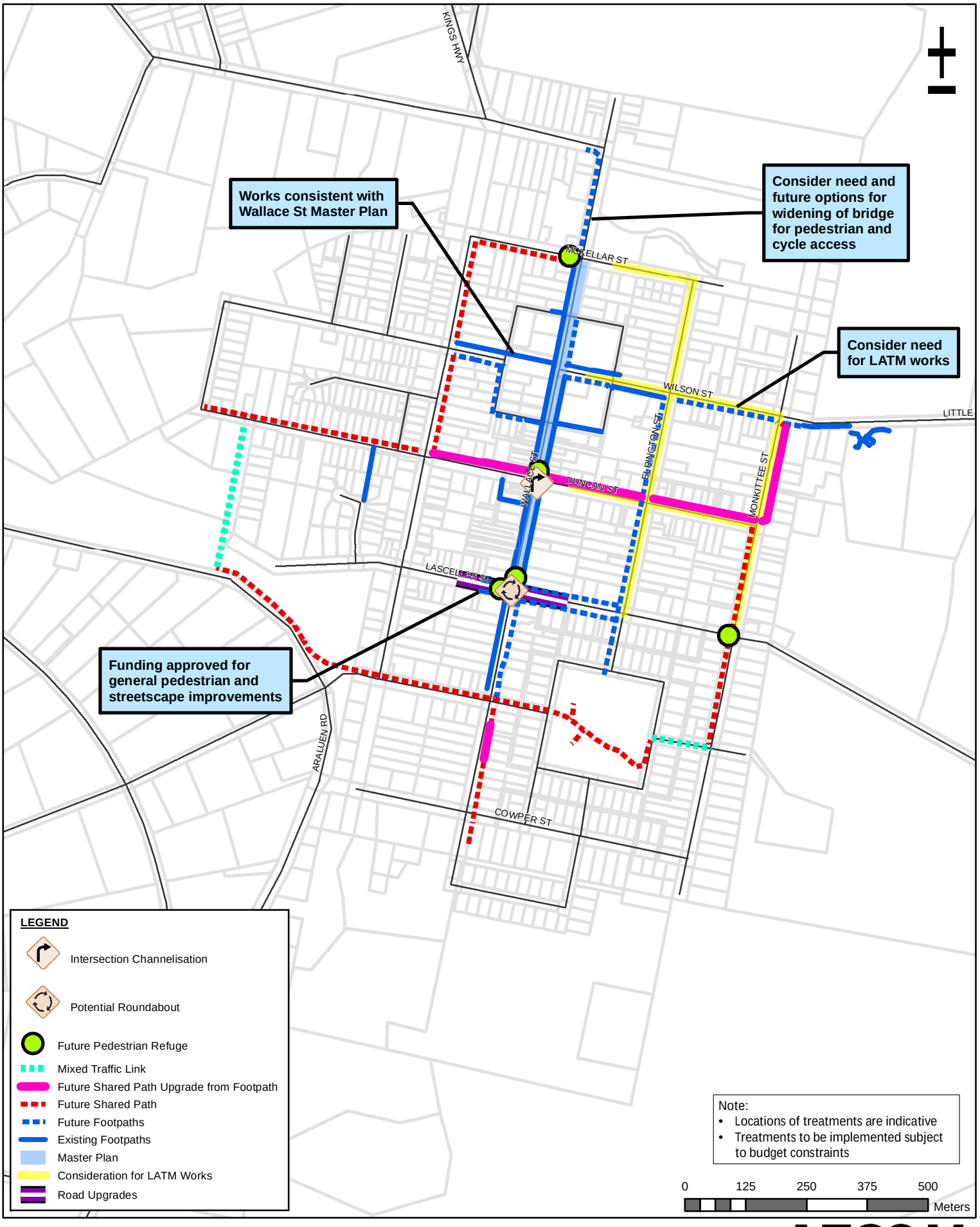


LEGEND

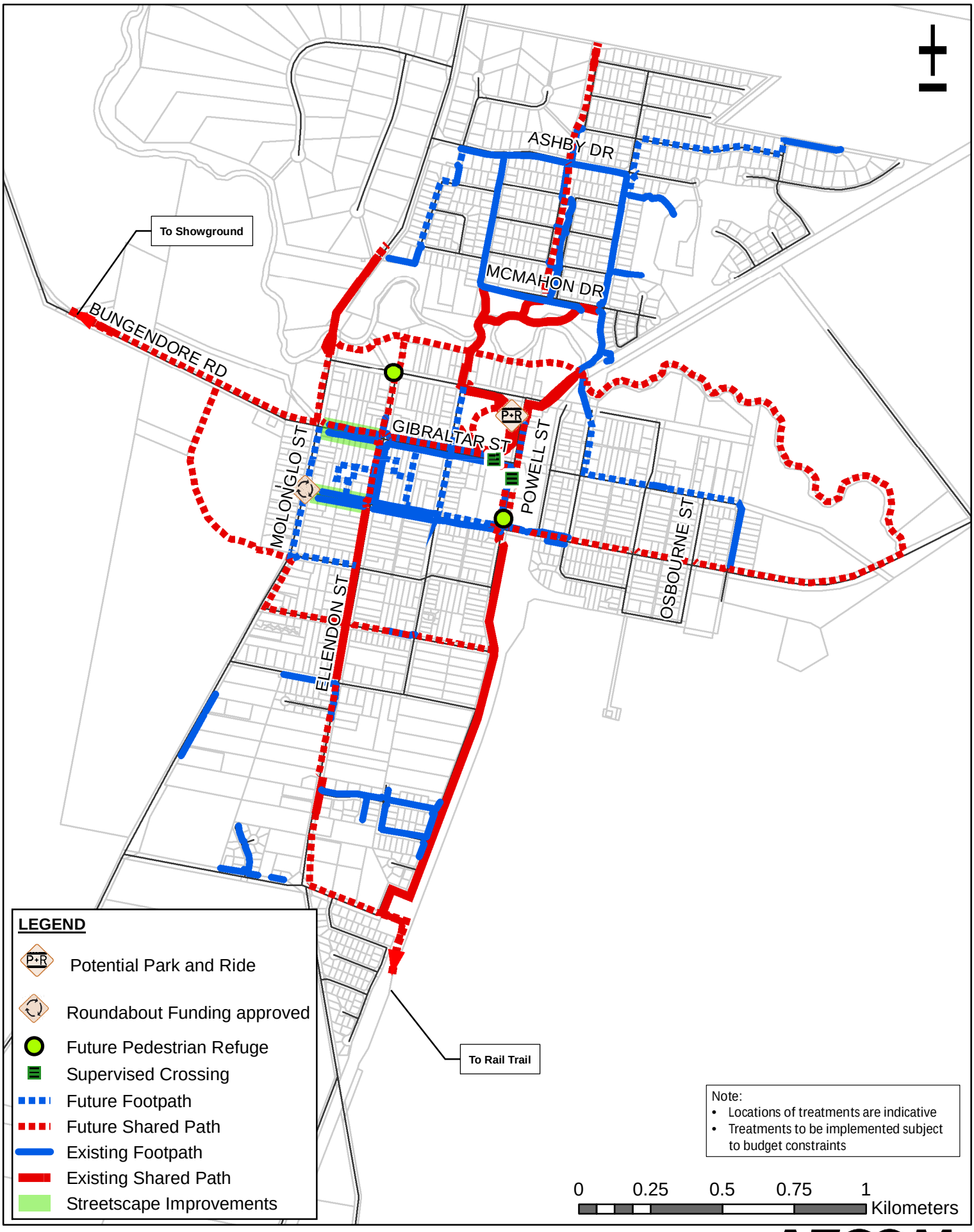
- Existing Supervised Crossing
- Existing Pedestrian Crossing
- Future Roundabout Metering Signals
- Future Traffic Signals
- Future Pedestrian Refuge
- Existing Underpass
- Existing Traffic Signals
- Local Road Link
- Remark as shared path
- Future Footpath QBN
- Future Shared Path
- Future Cycle Lane
- Existing Wide Road Shoulder
- Existing Cycle Lane
- Existing Shared Path
- Existing Footpaths
- CBD Study Area
- ACT Boundary

AECOM

Braidwood Transport Action Plan



Bungendore Transport Action Plan



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