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DOCUMENT ON EXHIBITION

Walking & Cycling Action Plan

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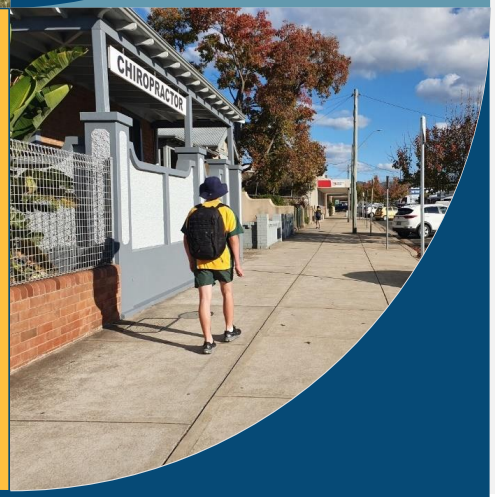
Mid-Western Regional Council

Walking and Cycling Action Plan

Mid-Western Regional Council



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Volume 2: Action and Implementation Plan

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Project details

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Document revision register

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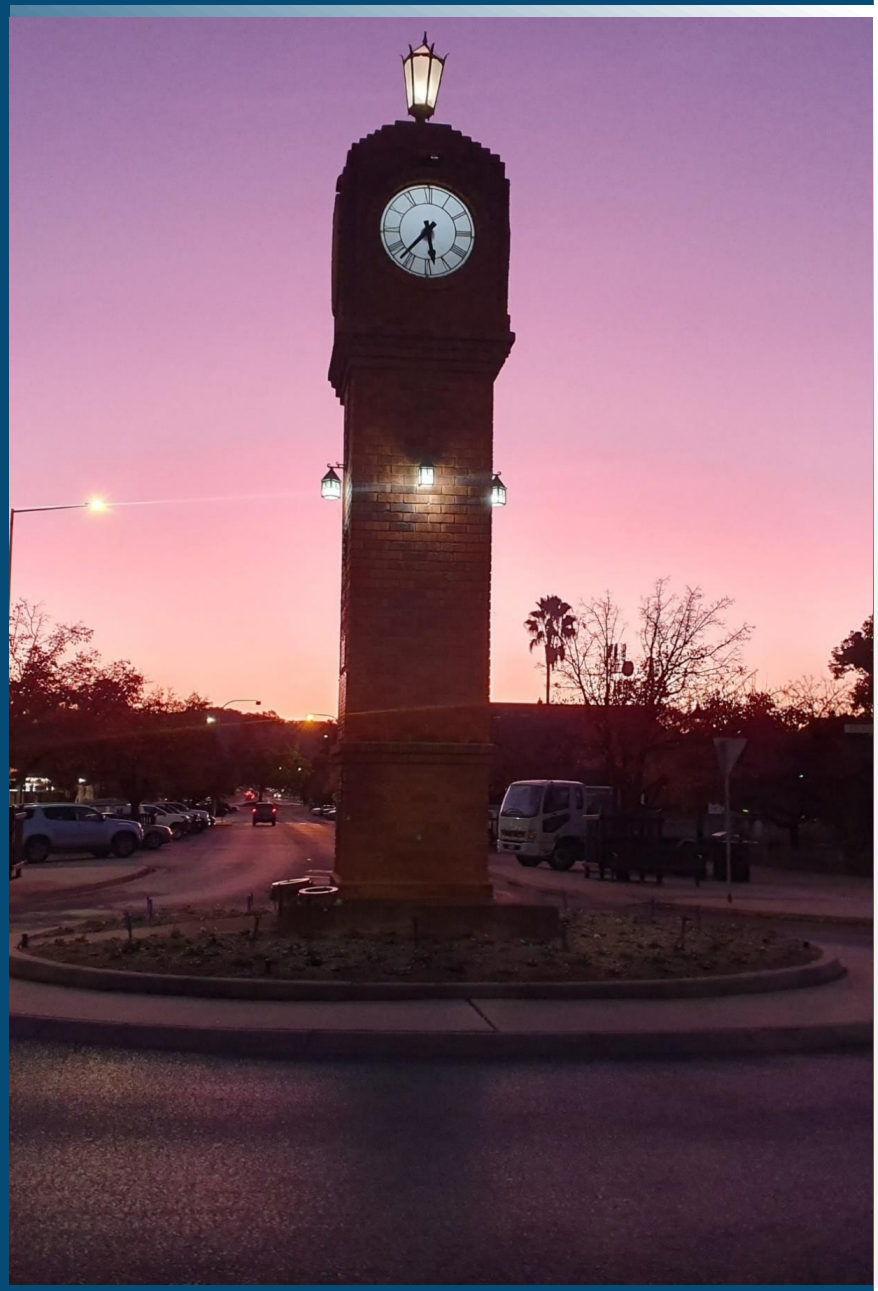
1.

Introduction



1 Introduction

1.1 Purpose

This walking and cycling action plan aims to implement the proposed network and achieve the outcomes in the broader strategy. Guided by the six planning principles in the NSW Cycleway Design Toolbox—Safe, Connected, Direct, Attractive, Comfortable, and Adaptable—this plan shapes an initial walking and cycling network connecting key locations identified through community engagement.

This proposed network is not the final solution but a flexible foundation, utilising existing streets and roads to create multiple routes. The focus is on providing an appealing, comfortable, and safe experience for all users. As land use evolves and travel needs shift, this network can be adapted and expanded to incorporate new connections, ensuring it remains responsive to the community's changing requirements.

1.2 The Walking and Cycling Strategic Plan

The 2024 Walking and Cycling Strategic Plan (Volume 1) outlines footpath and cycleway networks within and between Mudgee, Gulgong, Kandos, and Rylstone, connecting key destinations. It addresses barriers to walking and cycling, aligning with our regional vision and goals, and provides planning principles to guide action and investment.

1.3 Priorities

The Walking and Cycling Strategic Plan (Volume 1) identifies four key priorities to address community concerns and barriers. These priorities guide the action and implementation plan, detailing steps to create a safe and accessible network for pedestrians and cyclists.

- Priority 1 – Safe streets.
- Priority 2 – Welcoming streets.
- Priority 3 – Extend the walking and cycling catchment of our schools, parks, shops, and workplaces.
- Priority 4 – A step ahead: Building a resilient and sustainable local movement network.

Why are people not choosing to walk or cycle?

1. We don't feel safe

Lots of trucks travelling through town. Traffic is travelling at speed.

Wide streets encourage higher traffic speed and make it more difficult to cross.

2. Footpaths are not accessible

Footpaths are too narrow for people walking with prams, mobility aids, wheelchairs and mobility scooters.

Walking on uneven footpaths is uncomfortable and poses a risk of trips, slips and falls.

3. We can't reach the places we want to go

Missing footpaths and cycleways mean we can't reach schools, parks and the local main street on foot or by bike.

1.4 Report structure

This action and implementation plan provides a detailed roadmap for executing the Mid-Western Region Walking and Cycling Strategic Plan and is structured as follows:

- Chapter 2: Aligns key walking and cycling planning priorities with the wider policy context and strategies, providing a concise overview of relevant key documents.
- Chapter 3: Explores the specific walking and cycling treatments to be implemented in the design of footpaths and cycleways, detailing how these treatments will achieve the desired levels of comfort, safety, appeal and inclusivity for the community while adhering to Australian design standards and local best practices.
- Chapter 4: Breaks down the network into individual routes, illustrating how the action plan will facilitate access to important community-identified destinations.
- Chapter 5: Establishes a framework for prioritising routes based on community and stakeholder input, aligned with key policy objectives. It proposes timeframes for implementing each route, considering design, funding, and construction phases, and is supported by strategic cost estimates.
- .

2.

Aligning to key policies

This chapter examines key NSW government policy documents and establishes alignment between them and the Mid-Western Region Walking and Cycling Strategic Plan. Documents reviewed include:

- Future Transport Strategy (2018)
- Regional NSW Services and Infrastructure Plan (2018)
- Active Transport Strategy (2022)
- Draft Central West and Orana Regional Plan 2041 (2021)
- Draft Central West and Orana Regional Transport Plan (2021)

2 NSW government priorities

2.1 Future Transport Strategy (2018)

A revised version of the long-term transport strategy initially published in 2018, the Future Transport Strategy emphasises the significance of active transport, including walking, biking, and e-biking, for the following reasons:

- More individuals walking and cycling not only benefits them but also their communities.
- Increasing active travel improves physical and mental health and social connectedness.
- More 'eyes on the street' make streets and public spaces safer and friendlier for all.
- Choosing to walk or cycle to local destinations can ease pressure on street parking.
- Increasing the use of walking, cycling, and e-bikes will aid in achieving goals for a carbon-free transport system.
- In regional areas of New South Wales, walking and cycling experiences are valuable for attracting tourists and supporting the local economy.

The Future Transport Strategy emphasises the importance of highly walkable and cyclable neighbourhoods that can be reached within 15 minutes, not only in metropolitan areas but also in small towns and regional centres. This Walking and Cycling Plan proposes a network which will deliver these connections within a 15-minute journey from each main street.

> "Transport is not always just about access; it is also an experience in itself cycling routes and walking trails are a growing segment of NSW tourism. Transport can support the growing NSW visitor economy to access new experiences through innovative services and policies." ***Future Transport Strategy***.

The key outcomes from this policy include:

- Living in a 15-minute neighbourhood means having easy access to all the necessary amenities, such as schools, shops, parks, and workplaces within a 15-minute walk, cycle, or e-bike ride from home.
- In a regional setting, these short-distance neighbourhood walking and cycling trips serve as convenient options for people to access bus and coach stops for longer-distance onwards travel (see Tier 3).
- Living in a rural area often entails driving long distances to nearby towns like Mudgee or Gulgong for everyday needs. Upon arrival, the last thing visitors want is the hassle of multiple short driving trips and constant reparking. The convenience of a 15-minute neighbourhood experience allows visitors to park once and easily access multiple facilities and amenities on foot.

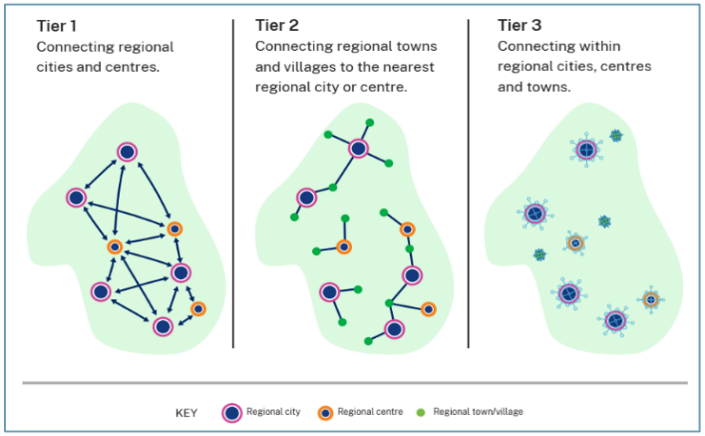


Figure 2.1: In regional centres like Mudgee, Gulgong, Kandos, and Rylstone, 'Tier 3' connections – including walking and cycling – both serve local, door-to-door travel needs and form part of longer journeys completed by bus and coach[12].

2.2 Regional NSW Services and Infrastructure Plan (2018)

Regional centres and townships such as Mudgee, Gulgong, Kandos, and Rylstone require more walking and cycling opportunities because they have fewer transport options compared to Greater Sydney. Due to the small population sizes and spread-out settlement patterns, providing reliable public transport services is challenging. Car use is often expensive for families and sometimes unavoidable for people living in rural communities.

However, regional areas can still promote active travel. Wider roads in and around older town centres can accommodate cycling-specific facilities with less impact on other road users than in congested cities. Reduced traffic volumes provide a more pleasant experience for people walking and interacting on adjacent footpaths.

The Mid-Western region has a strong appeal to people visiting from Greater Sydney and other areas who want to enjoy the amenities of Mudgee, Gulgong, and surrounding areas on foot or by bike. The NSW Government's Regional NSW Services and Infrastructure Plan notes that the state's regional centres and towns already have a higher percentage of people who walk or cycle to work than Greater Sydney.

> "Walking and cycling contribute to the amenity of places. They provide opportunities for social interaction and increase the perception of safety in places through passive surveillance. Places with a high amenity are also generally places people want to travel through and spend time in. This often means more money being spent locally." ***Regional NSW Services and Infrastructure Plan.***

The NSW Government is aware of the importance of collaborating with councils and other regional stakeholders to promote walking and cycling. With active travel-oriented tourism, the aim is to further boost these activities and their associated benefits, such as job creation and local economic growth. Projects like rail trails can bring multiple benefits. By repurposing disused assets, it becomes possible to provide safe and easy access to scenic public land for walking, cycling, and horse-riding. This creates a safe option for both residents and visitors for local travel and recreation.

Figure 2.2: Opened in 2020, the 21 km Tumbarumba to Rosewood Rail Trail, in the NSW Snowy Mountains region, is an example of a successful active travel and tourism project with lessons for Mid-Western region (Image by Tyson May).

2.3 Active Transport Strategy (2022)

The NSW Government's Active Transport Strategy outlines practical steps to increase walking and cycling:

- Enable 15-minute neighbourhoods.
- Deliver connected and continuous cycling networks.
- Provide safer precincts and main streets.
- Promote walking and cycling and encourage behaviour change.
- Support our partners and accelerate change.

Recognising the unique active transport challenges, opportunities, and needs faced by regional communities, the Active Transport Strategy cites the following initiatives as examples of how to promote 15-minute neighbourhood outcomes in places like Mudgee and Gulgong:

- Reallocate some car parking spaces to create space for people walking and cycling.
- Complete gaps and missing lengths along walking and cycling routes.
- Separate people walking and cycling from fast moving traffic, especially on busy streets.
- Reduce town centre vehicle speeds, making it safer and more pleasant for people walking and cycling to travel along and across local streets.

The tactics mentioned above have been incorporated into this action plan and the prioritisation framework. As a result, the council will have a strategic plan that is in line with funding mechanisms. The NSW Active Transport Strategy has also provided a range of tools, training, and access to data to support the development of initiatives. Additionally, local traffic committee rules have been simplified to remove unnecessary obstacles and streamline the implementation process.

Figure 2.3: Small projects that can make a big difference for walking and cycling include speed limit reductions, tree plantings and new or shortened crossings[14].

> “In regional NSW, many trips to work are under 10 kilometres and could be cycled. Opportunity exists to shift attitudes towards bike riding by delivering safe, connected and convenient cycleway networks...with more separated cycleways and improved shared paths.” ***Active Transport Strategy.***

2.4 Draft Central West and Orana Regional Plan 2041 (2021)

The Draft Central West and Orana Regional Plan by the NSW Department of Planning, Industry and Environment envisions a healthy, connected, and resilient region with a prosperous economy. The Mid-Western Region offers economic growth opportunities in the mining and resources sector, and the expansion of tourism, including food and wine experiences, and sports tourism. The region provides a natural environment and rural lifestyle that contrasts with urban congestion. Additionally, the region is well connected to the eastern seaboard and is a viable destination for intrastate migrants looking to make a 'tree-change' without completely cutting ties with Greater Sydney.

However, these factors are contributing to pressures on Mid-Western housing and infrastructure, with Mudgee being one of the regional cities and strategic centres bearing the brunt of it. The COVID-19 pandemic has intensified these pressures, as the move to working from home has opened up the possibility of settling in an area previously considered remote. Travel restrictions have led to increased interest in exploring local neighbourhoods, resulting in sustained participation in walking and cycling activities.

> "The planning and design of new communities must integrate with existing networks and connect new facilities such as schools with residential areas through walking and cycling network improvements."
> *Draft Central West and Orana Regional Plan 2041.*

In practical terms, the *Draft Central West and Orana Regional Plan* highlights the principal urban design tools and priorities that regional NSW councils can bring to bear on managing growth pressures. Along with '**Prioritise connectivity, walkability, and cycling opportunities**' these include:

- **Engage with the history and culture of places** and **revitalise main streets and town centres.**

  Walking and cycling are 'light-touch' travel modes. Their users enjoy a close yet low-impact appreciation of regional history, culture and place, and support the vitality and economy of local businesses.

- **Integrate with the natural environment and landscape** and **respond to climatic conditions and their impacts.**

  Active transport routes are highly adaptive to the contours of a landscape, including the 'blue highways' along water features such as the Cudgegong River in Rylstone and the many creeks in Mudgee.

  Pedestrians and cyclists thrive under the shade provided by existing and new vegetation; this provides cooling and amenity benefits to the broader community[1].

- **Increase options for diverse and healthy living** and **balance urban growth.**

  The redevelopment of existing town centre stock can provide new housing options close to shops and services. This enables healthy and sociable walking to be part of day-to-day life for an ageing population. Where greenfields areas are developed on the edge of compact, older townships, providing connected active transport pathways as an integral part of street design means that new residents can avoid having to rely on driving.

[1] Fig trees and London Plane trees offer significant cooling benefits[18].

2.5 Draft Central West and Orana Regional Transport Plan (2021)

The Draft Central West and Orana Regional Transport Plan has been developed by Transport for NSW in consultation with the Region's councils and other stakeholders. The plan aims to address the transport challenges associated with the region's growing and ageing population. It is important to note that solely relying on private vehicle transport will not be sufficient to achieve the desired outcomes including:

- Access to jobs and essential services is crucial for the region's households, especially for the six per cent who do not own a private vehicle.
- To achieve net zero transport, the transition to low-emission mobility should involve not only the accelerated uptake of new technology but also a significant shift to walking, cycling, and e-mobility for short local trips.
- Regional centres and townships offer comparative lifestyle and investment advantages, which may be diluted by local street and parking congestion, making it essential to ensure successful places.

The plan takes note that approximately 75 per cent of the people in Central West and Orana reside within two kilometres from their nearest urban centre. The strategy emphasises on promoting active transport, with a significant increase in walking and cycling. The plan aims to bring about a substantial increase in the percentage of people participating in cycling as compared to the current levels.

> “By 2041, we want to see almost one in every five trips made by walking, cycling or public transport across the Central West and Orana. This step change in regional travel behaviour will require collaborative coordination between local government, State Agencies, industry partners, and local communities, and be underpinned by a comprehensive suite of infrastructure and service improvements, and complementary education campaigns.” *Draft Central West and Orana Regional Transport Plan.*

The opportunities for Council to partner with NSW Government to achieve both goals for Mid-Western Region and Central West and Orana through active transport include:

- Delivering connected walking and cycling networks, by both upgrading existing assets and including facilities in new neighbourhoods.
- Enabling growth in e-bike ownership, sharing and use.
- Working with schools to remove barriers to students’ walking and cycling access.
- Ensuring ready access to secure bicycle parking and rider end-of-trip facilities.

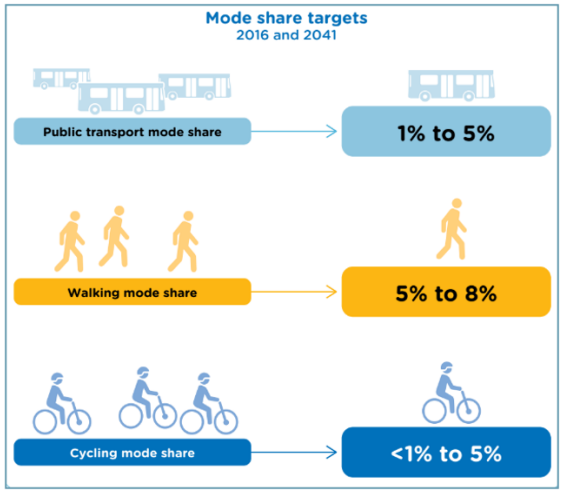


Figure 2.4: Target levels of participation in walking and cycling for Central West and Orana[16].

3.

Preferred treatment types

This chapter explores treatment options for walking and cycling routes. This includes footpath and cycleway facility type and width, intersection treatments, and treatment selection. Preferred treatments are aligned with Australian design standards and local best practice, including:

- TfNSW Walking Space Guide
- TfNSW Cycling design toolbox
- Mid-Western Region DCP 2013

3 Preferred treatment types

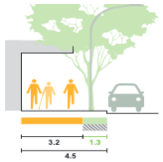
3.1 Footpath treatment and selection

Desirable footpath treatment types for the Mid-Western Region footpath networks align with community aspirations for comfort and inclusivity. These treatments are based on current best practice, as outlined in the TfNSW Walking Space Guideline, with a target Level of Service C for comfort[5].

Where achieving these standards is not feasible, minimum footpath widths should adhere to the Mid-Western Region DCP at a minimum of 1.8 metres[10]. The selection of treatment types is guided by specific land use characteristics, peak usage numbers, and the target level of comfort measured at Level of Service C.

A concise summary of proposed treatment types is provided in Table 3.1. This includes definitions and desirable minimum widths from the TfNSW Walking Space Guide, minimum widths specified by the Mid-Western Region DCP 2013, and the target minimum width in the Mid-Western Region Walking and Cycling Strategic Plan 2024.

Table 3.1: Proposed footpath treatments (CrossleyTP, 2023).

Footpath type	**Type 1**	**Type 2**	**Type 3**
Where suitable in Mid-Western region	Low-density residential, industrial, or green open space areas	Medium-density residential areas, national parks and tourist sites, local parks, or recreational centres	Streets around Mudgee Gulgong, Rylstone and Kandos centres, with shops, cafes, entertainment, services, and schools
Peak use	Very few people per hour	7 or more people per hour	70 or more people per hour
Typical configuration			
Experience for people walking	2 people walking alongside each other and/or passing in single file	2 people walking together and/or passing another person in single file (using the passing zone)	3 people walking together and passing another person without having to walk in single file
Desirable width (LoS C minimum width)	1.8 to 2.0 metres	2.3 metres + 0.6 metres passing zone	3.0 metres (not adjacent to traffic) 3.2 meres (adjacent to traffic)
DCP Minimum width (with its LoS)	1.2 metres (LoS E)	1.2 metres (LoS F)	1.2 metres (LoS F)

3.2 Cycleway treatment and selection

Desirable cycleway treatments have been selected to meet community goals for safety and comfort. These treatments are prioritised according to a hierarchy that favours options providing a low-stress environment and minimising personal safety concerns.

The hierarchy of treatments, from highest to lowest priority, is based on the safety level each type offers, as outlined in the TfNSW best-practice Cycleway Design Toolbox, and the level of concern expressed in community surveys. Here, "concern" refers to how worried people are about their safety with different treatment types. Data on concern levels comes from a database of community surveys conducted by CrossleyTP across regional NSW, with responses indicating "very concerned," "some concern," or "no concern."

The TfNSW Cycleway Design Toolbox provides a methodology for assessing cycling comfort based on the type of bicycle facility, the level of physical separation from vehicular traffic, and the speed and volume of adjacent traffic [6]. Preferred treatments create a low-stress environment, identified as Level 3 or Level 4.

A summary of proposed treatment types is provided in Table 3.2. Detailed design dimensions and road space requirements are provided in the following pages, including table 3.3 and Figure 3.3 overleaf.

The implementation of cycling infrastructure across the four towns was assessed by considering the available road widths. The feasibility study involved selecting the highest-ranked treatment from the hierarchy (as outlined in Table 3.2) that could be accommodated within the existing road space or verge. The following sections provide a detailed description of each treatment, including its appropriate application, desired widths, and spatial requirements.

Table 3.2: Cycleway treatments and level of concern (CrossleyTP, 2023).

Priority	Traffic Stress Level	Treatment Type	Level of community concern
High	Stress level 1	Two-way cycleways	40% have some concern
		One-way cycleways	
		Shared use path	22% have some concern
Medium	Stress level 2-3	Low volume laneway (< 2000 vehicles/day)	65% have some concern
		Road shoulder (Speed limit < 50 km/hr)	85% are very concerned. *Apply Sparingly*
Low	Stress level 4	**Not Recommended**	

+

3.2.1 Shared paths

Shared paths in this plan serve as dual-purpose walking and cycling facilities, allowing pedestrians and cyclists to share the same space. This design is particularly suitable for areas with low predicted demand or activity, and where interactions along the cycleway are limited.

Transport for NSW aims to provide, and fund proposed shared paths that are 3 metres or wider to reduce conflicts between pedestrians and cyclists. However, achieving this goal is not feasible in established neighbourhoods around our town centres due to existing setbacks. Typically, the setbacks from the kerb to the building lot boundary are 5 metres. Council's Development Control Plan (DCP) (2013) policy reserves 0.5 metres from the lot boundary for 'dry utilities' such as electric and broadband, and an additional 0.9 metres from the kerb for 'wet utilities' like gas and water mains[10]. This offset is extended to 1.5 metres to accommodate a grass verge and trees.

This leaves a clear space of 2.6 metres, requiring street tree removal to achieve a 3.0 metre shared path. Green infrastructure, including trees and grass verges, is a distinctive feature of our townships, providing essential shade to footpaths and fostering a connection to nature, enhancing the overall character of our region. Therefore, the preferred compromise is to provide a narrower shared path that meets the Austroads for brown fields 2.5 m where possible and for green fields Council's DCP desirable width of 3 metres and retain the trees and grass verges [10][11].

However, in our planned communities, we can plan for wider shared paths and secure a 3.0-metre space for people walking and cycling as part of building setback policies.

Table 3.3: Preferred and feasible shared path widths[10][11].

	Preferred width
Shared path	2.5- 3.0 metres

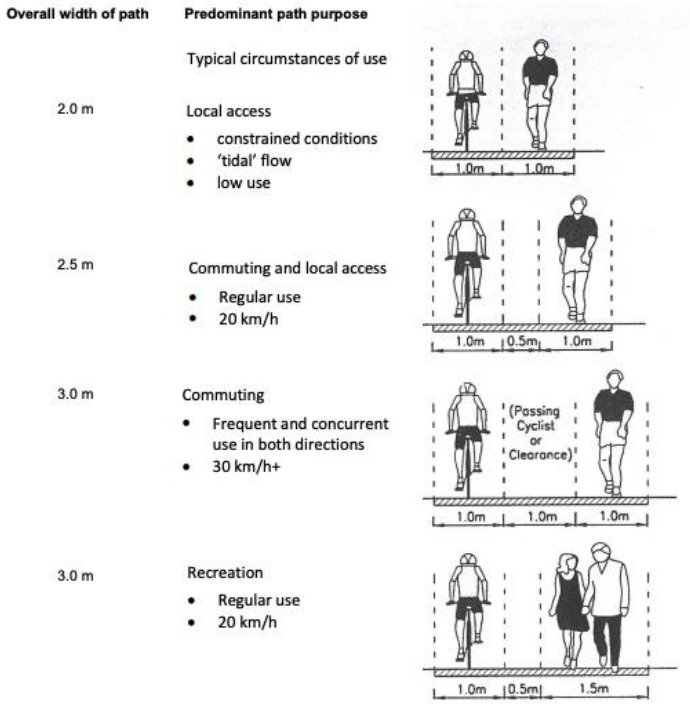


Figure 3.1: Shared path arrangements [11]

Figure 3.2: Cross section of the existing layout of Mudgee Street, Rylstone and a possible new shared path layout (CrossleyTP, 2023).

Commented [SC1]: I think this needs to stay but will require reformatting. Maybe the figure caption is more descriptive to say - Preliminary feasibility assessment indicates there is space in the verge to implement shared paths.

Feasibility assessment

The established neighbourhoods typically have a setback and verge of 5 metres or less. We conducted a preliminary feasibility assessment using a GIS spatial platform to evaluate the available space within the verges for the proposed shared paths and new paths. This assessment identified that most locations provide the necessary space, subject to further detailed investigations..

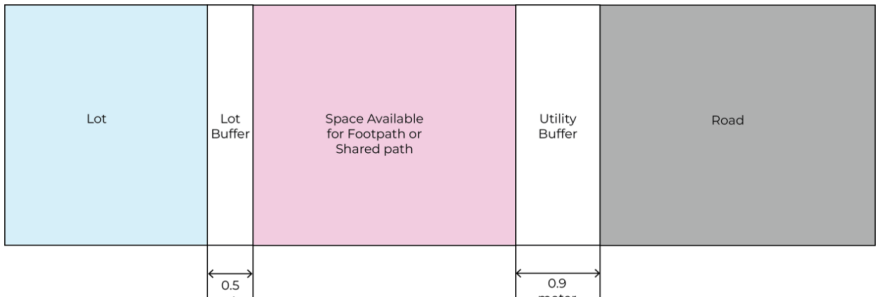


Figure 3.3: Treatment selection assessment (CrossleyTP, 2024).

To assess the feasibility of implementing the proposed shared and new paths, we used GIS to buffer lot layers and existing road infrastructure, determining the available space for active transport networks. Lot layers were buffered by 0.5m to delineate buildable areas, while existing road infrastructure was buffered by 0.9m [10]. The resulting strip between the road corridor and the lots presented the space available to build proposed treatments for the active transport networks.

To assess whether the space was wide enough, the road corridor with utilities was buffered by the proposed treatment width to create a hypothetical complete road corridor. Lastly, this corridor was clipped with the buffered lot layer to highlight areas of overlap where the suggested treatment would not fit between the road with the utility strip and lots.

In areas with limited space, footpaths and shared paths still meet minimum standards per the Mid-Western Region DCP, typically 1.8m and 2.5m, respectively [10].

It's important to note that this analysis offers a high-level view, as exact measurements and spatial data for road corridors, utility layers, and lots were unavailable.

Figure 3.4: Example output from feasibility assessment workflow in GIS. (CrossleyTP, 2024).

3.2.2 On-road cycleways

A cycleway is a designated path specifically designed for bicycles and other non-motorised modes of transportation, such as scooters. It is a physically separated facility from motor vehicles and is typically located on or alongside roads.

As depicted in Table 3.2, cycleways offer the least stressful environment for cycling, creating a perception and feeling of safety among users, and is the preferred cycleway treatment option.

Cycleways can vary in design and infrastructure, ranging from a unidirectional facility to a bi-directional facility, running on the nearside of parked vehicles or traffic lanes. The purpose of a cycleway is to provide a safe and efficient transportation corridor for cyclists, promoting active and sustainable travel while reducing conflicts with motorised traffic.

Table 3.4 provides a comprehensive overview of cycleway arrangements and dimensions, taking into account both parallel and angled parking scenarios. The available road widths along the identifying cycling routes were compared to the space requirements for the various treatment types to assist in the selection of the most suitable facility for the local context.

Table 3.4: Cycleway arrangements and road space requirements. [6][9][11]

Treatment Type	Parking Configuration	Cycleway Design Toolbox Suggested Widths	Road Minimum width	Road Desirable width
One-way cycleways	Without parallel parking	**Minimum:** 2.0m lanes with 0.4m buffers **Desired:** 3.0m lanes with 0.4m buffer	10.6m	11.6m
	Parallel parking on one-side	**Minimum:** 2.0m lanes with 0.4m buffers **Desired:** 3.0m lanes with 0.4m or 1.0m buffers	12.6m	15.2m
	60-degree angle parking on one-side		15.7m	18.3m
	Parallel parking on both side	**Minimum:** 2.0m lanes with 0.4m buffers **Desired:** 3.0m lanes with 1.0m buffers	14.6m	17.8m
	60-degree angle parking on both sides		19.7m	22.5m
Two-way cycleways	Without parallel parking	**Minimum:** 2.4m lane with a 0.4m buffer **Desired:** 4.0m lane with a 0.4m buffer	8.6m	10.2m
	Parallel parking on one-side	**Minimum:** 2.4m lane with a 0.4m buffer **Desired:** 4.0 lane with a 1.0m buffer	10.6m	12.8m
	60-degree angle parking on one-side		13.7m	16.3m
	Parallel parking on both side	**Minimum:** 2.4m lane with a 0.4 m buffer **Desired:** 4.0m lane with a 1.0m buffer	12.6m	14.8m
	60-degree angle parking on both sides		17.1m	22.3m

To exemplify the selection of a cycleway treatment let's consider Church Street. The existing road width is between 20-21 metres wide. This means there is space to accommodate a dedicated cycleway facility. However, the street also contains high value street parking facilities. To minimise street parking impacts, one approach could involve modifying the angle of parking from 60 degrees to 45 degrees, creating additional space to accommodate the cycleway.

Enhancing the existing in-road street trees could be achieved by planting additional trees between car parking spaces, offering more shade for pedestrians and cyclists and enhancing the street's ambience.

Implementing these designs addresses various concerns raised by the community and stakeholders in Mudgee, including:

- **Calming the street.**

  Street trees help to make the street feel more enclosed and narrower. This helps to reduce traffic speed and make the street feel safer for people walking, cycling, and dwelling.

- **More space for people.**

  The cycleway provides space for mobility scooters[2] and bikes providing an inclusive and safe alternative to riding on the road.

- **Protects the environment.**

  The street trees add more shade and greenery providing resilience to climate change and protecting the community from hotter days and wetter weather.

  The trees also contribute to the distinctive street-tree character that defines Mudgee.

Figure 3.5: Existing layout of Church Street, Mudgee, and a cross section for a potential new one-way cycleway with 45-degree angle parking (CrossleyTP, 2023).

Cycleway separator arrangements

Cycleway separators create a buffer between vehicles and cyclists to provide a higher level of protection and therefore a feeling of safety for all active transport users. There are many different types of separation treatments which are illustrated in the following page (Figure 3.6 to Figure 3.9) together with broad benefits.

Double Stepped Two-way Separated Cycleway

This type of cycleway setting separates the cycleway and the traffic road with a sloped kerb. The cycleway will be built higher than the road and the footpath will be at a higher level than the cycleway.

Flush with Footpath Two-way Separated Cycleway

This type of setting involves constructing the cycleway and the footpath at the same level. This allows people to cross from footpath to cycleway easily, especially for people with mobility issue, with a sloped kerb between the cyclist and road.

Raised Median Two-way Separated Cycleway

This type of cycleway setting provides wider buffer space between the bicycle lane and adjacent traffic, which will increase the sense of safety and comfort. The offset helps to minimise dooring issues; however, where space is constrained, this is less suitable.

Raised Planted Median Two-way Separated Cycleway (No Parking Adjacent)

This type of cycleway setting separates cycleway and adjacent traffic with a planted protector which can promote the sense of comfort for riders. However, due to the absence of kerbside parking, riders may feel less safe when travelling due to the traffic. Lower speed limit may be introduced to ensure bicycle riders feel safe.

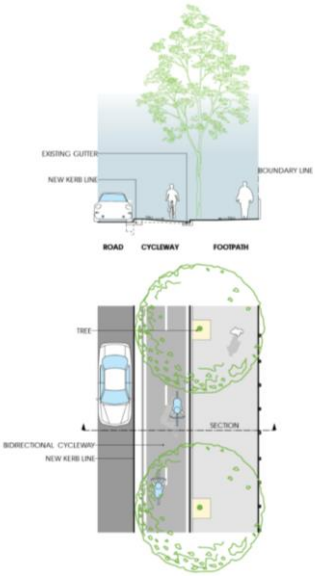


Figure 3.6: Benefits for double stepped separator [7].

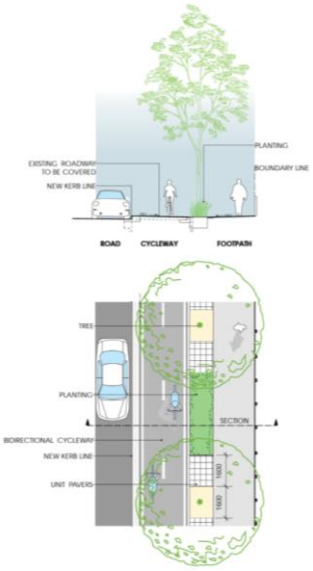


Figure 3.7: Benefits of a flush with kerb separator [7].

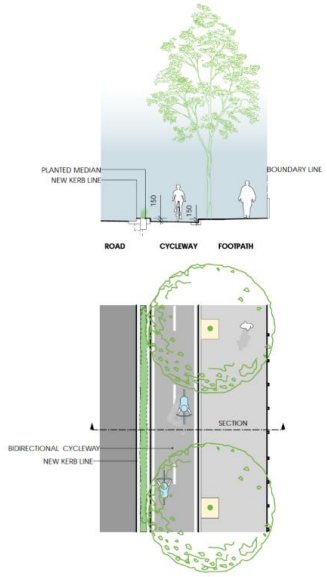


Figure 3.8: Benefits of a planter box separator [7].

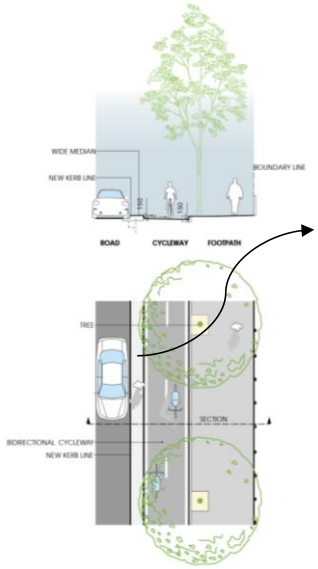
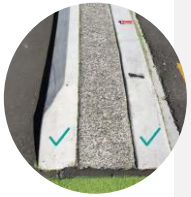
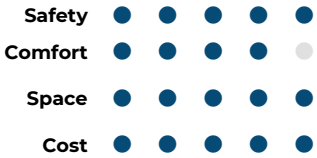
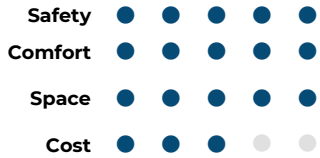


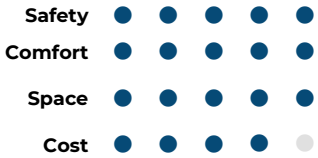
Figure 3.9: Benefits of a raised median separator [7].

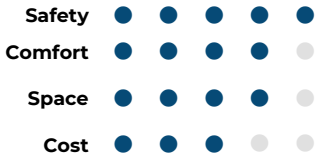


Implementing a sloped separator to reduce the risk of injury to cyclists.









3.2.3 Laneways and narrow streets

Cyclists can expect a comfortable and safe experience when riding along laneways and narrow streets. The constrained environment of these areas typically results in vehicles travelling at speeds of around 10-30 km/h, creating a calm and slow-paced atmosphere that is conducive to cycling.

These laneways and narrow streets can be formalised as part of the cycleway network with the addition of wayfinding street signs, bicycle symbols on the road surface, implementing measures such as in-street trees in the parking lane, speed reduction devices, and lower speed zones, to achieve 30km/h environments suited to riders of all ages and abilities.

Table 3.5: Laneway design requirements.[6][9]

	Requirements
Traffic Volume	< 2000 vehicles / day
Traffic speed	85th% traffic speed is less than 40km/h
Sealed road width	Less than 10-metres (with parallel street parking on both side) Less than 6-metres (no street parking)

Figure 3.10: Cross section of Queen Street, Gulgong, today and a potential implementation as a low volume laneway for cycling (CrossleyTP, 2023).

3.2.4 Bicycle road shoulders

A bicycle road shoulder refers to the area alongside a high-speed road designated specifically for cyclists. It's typically a paved or marked section next to the main roadway, providing a dedicated space for cyclists to ride safely away from vehicular traffic. The width of a bicycle road shoulder can vary but is generally designed to accommodate cyclists comfortably and allow for safe passing.

This type of treatment should be used sparingly due to the lack of physical separation between cyclists and passing cars and trucks. However, leveraging the available road shoulder, it presents an opportunity to support long-distance bicycle journeys between towns, especially for more confident cyclists.

Unfortunately, TfNSW won't provide funding for such treatments for on road shoulder cycling.

Table 3.6: Bicycle Road shoulder design requirements [11]

Requirements			
Traffic speed	60km/hr	80km/hr	100km/hr
Sealed road shoulder Minimum width	1.2m	1.8m	2m
Sealed road shoulder desirable width	1.5m	2m	2.5m

Notes:

1. The width of the lane is normally measured from the face of the adjacent left side kerb.
2. The posted or general speed limit is used, unless 85th percentile speed is known and is significantly higher.
3. Physical separation including safety barriers are essential on urban roads that have a posted speed limit > 80 km/h.

3.3 Bicycle parking

Bicycle parking facilities offer a place to store a bicycle for people arriving at their destination, resting, or transitioning between transport modes. As more bicycle routes are constructed and the number of people participating in riding grows, the need for bicycle parking will increase.

Short-term parking at shops, libraries, markets, and recreational facilities can encourage more people to choose to ride. Long-term bicycle parking should be provided at major public transport hubs, stations, offices, and high-density mixed and residential developments.

Bicycle parking should be installed on public property to offer access to all. This includes streets as well as on government property such as community centres, libraries, health facilities, schools, and parks.

Examples of different types of bicycle parking facilities are listed below:

Table 3.7: Types of bicycle parking (CrossleyTP, 2023).

	Short-Stay	Long-Stay
Land-use type	Retail, community facilities, recreational facilities, health (visitor)	Commercial, residential, public transit, education, shopping centre, health (worker)
Rider type	Visitor, Customer	Worker, Commuter, Resident, Student, Pupil
Facility type	Racks (low demand) Loops (low demand) Corrals (high demand)	Corrals (low demand) Lockers (low demand) Bicycle Parking Stations (high demand) Bicycle Parking Valet (high demand)

3.4 Wayfinding systems

Wayfinding signage is a valuable tool that guides people to destinations and provides time estimates for their journeys. For residents with disabilities or mobility impairments, navigating new routes can be challenging without the assistance of wayfinding signs. Similarly, for visitors, wayfinding signs help with orientation and highlight notable landmarks. There is an opportunity to centralise wayfinding signs within the Mid-Western Regional Council to improve navigation to desired destinations and provide clear information on travel times and accessibility levels.

To facilitate more informed travel decisions, the proposal suggests integrating wayfinding strategies across the town centre and essential destinations within the 15-minute catchment area. Signage placement should prioritise areas where directional changes are required, ensuring clarity and guidance for pedestrians and cyclists along their routes.

3.5 Intersection treatment and selection

Intersections are hotspots for conflicts between vehicles and cyclists. Implementing design treatments at intersections aims to achieve several objectives:

- Enhance safety for pedestrians and cyclists.

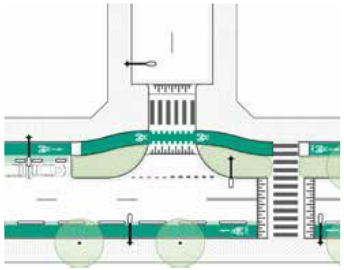
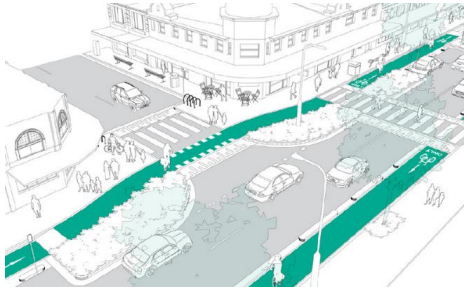
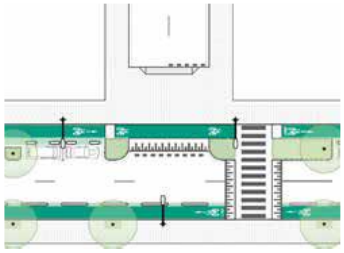
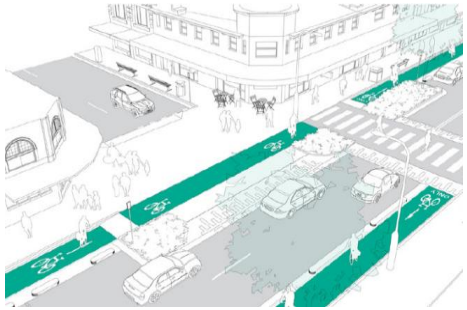
- Lower vehicle turning speeds and minimise conflicts.

- Improve visibility of cyclists.

- Prioritise cyclists' safety.

This section outlines various intersection treatments available to address these goals. The following tables detail intersection specifications for different cycleway treatments, such as one-way cycleways, two-way cycleways, and shared use paths.

Table 3.8: Intersection treatment for separated (on-road) one-way cycleways [6].

Intersection Treatment	Plan View	Perspective View	Description
Bent-out intersection			• Prioritised pedestrian crossing and bicycle path. • Raised intersection and clear road markings to indicate that pedestrians and bicycle riders have priority over vehicles turning. • Large amount of storage space for vehicles to wait outside of carriageway and bicycle path. • No high objects (>1.0m) between the bicycle path and the road, to allow for visibility. • Kerb buildouts to narrow intersection and reduce vehicle turning speeds and increase visibility.
Raised intersection			• Where there is insufficient space for a bend-out this treatment may be considered. • Prioritised pedestrian crossing and bicycle path. • Raised intersection and clear road markings to indicate that the pedestrians and bicycle riders have priority over vehicles turning. • Sufficient storage space for vehicles to wait outside of carriageway and bicycle path. • No high objects (>1.0m) between the bicycle path and the road, to allow for visibility. • Kerb buildouts to narrow intersection and reduce vehicle turning speeds and increase visibility.

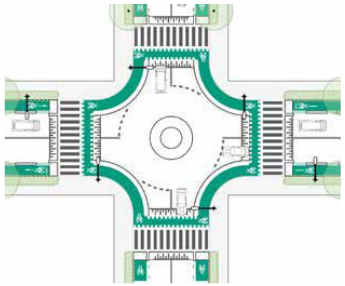
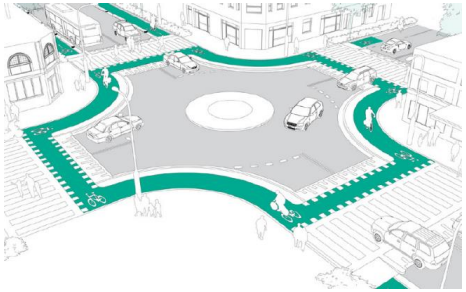
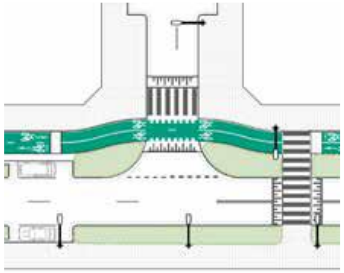
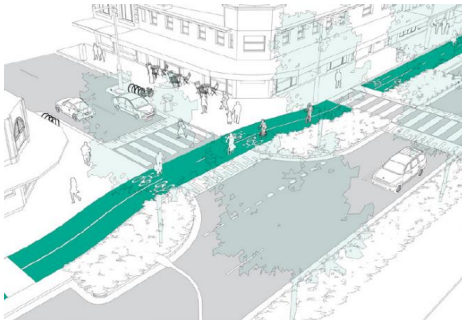
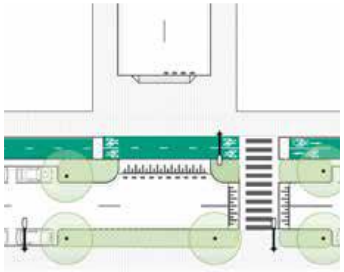
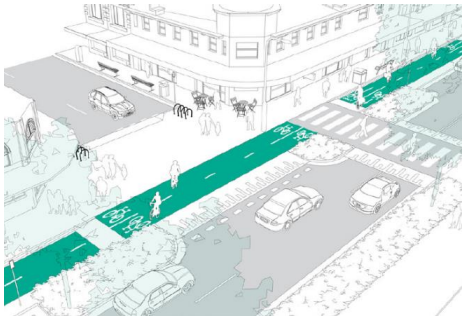
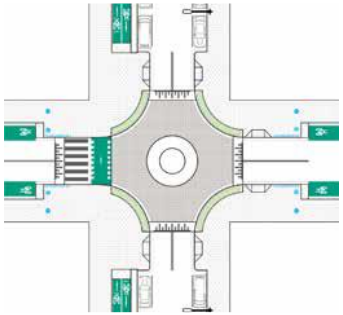
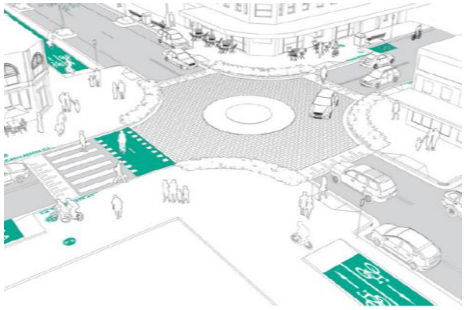
Intersection Treatment	Plan View	Perspective View	Description
Roundabout			• Prioritised pedestrian crossing and bicycle path around the roundabout legs. • Raised crossing platforms and clear road markings to indicate that the pedestrians and bicycle riders have priority over turning vehicles. • Narrow roundabout branches to reduce speed of motorised traffic. • Raised island in the centre for use by wide-turning vehicles (trucks and buses).

Table 3.9: Intersection treatment for separated (on-road) two-way cycleways [6].

Intersection Treatment	Plan View	Perspective View	Description
Bent-out intersection			• Prioritised pedestrian crossing and bicycle path. • Raised intersection and clear road markings to indicate that the pedestrians and bicycle riders have priority over vehicles turning. • Large amount of storage space for vehicles to wait outside of carriageway and bicycle path. • No high objects (>1.0m) between the bicycle path and the road, to allow for visibility. • Kerb buildouts to narrow intersection and reduce vehicle turning speeds and increase visibility.
Raised intersection			• Where there is insufficient space for a bend-out this treatment may be considered. • Prioritised pedestrian crossing and bicycle path. • Raised intersection and clear road markings to indicate that the pedestrians and bicycle riders have priority over vehicles turning. • Sufficient storage space for vehicles to wait outside of carriageway and bicycle path. • No high objects (>1.0m) between the bicycle path and the road, to allow for visibility. • Kerb buildouts to narrow intersection and reduce vehicle turning speeds and increase visibility.

Intersection Treatment	Plan View	Perspective View	Description
Roundabout with Shared Path			• Where space does not allow a continuous bicycle path along the roundabout, this treatment may be considered. • Bicycle path ends before the roundabout and connects to shared path facilities. • Raised crossing platforms and clear road markings to indicate that the pedestrians and bicycle riders have priority over vehicles turning. • Narrow roundabout branches to reduce speed of motorised traffic. • Raised island in the centre for use by wide-turning vehicles (trucks and buses).

Where an off-road cycleway requires a transition to the road (mixed-traffic environment) or crossing of an intersection, the following treatments may be considered:

Table 3.10: Intersection treatment for separated (off-road) cycleways (CrossleyTP, 2023).

Intersection Treatment	Example	Description
Roundabout	 Intersection of a shared use path with the road at Prince Alfred Park.  Transition from crossing treatment to on-road separated facility, SCATL, Sutherland.	• Cyclists prefer to cycle at consistent, easy-to-regulate speeds. Therefore, in most instances where an off-road path transitions to the road, it is undesirable to use terminal treatments to slow cyclists down. • The preferred treatment for this transition is a simple connection/kerb without the use of other restrictive devices.

Intersection Treatment	Example	Description
Visual and/or physical warnings to indicate the end of facility		• Sufficient visual and/or physical cues (e.g., warning signs and pavement markings) are to be provided to advise cyclists they are approaching the road or the end of a shared path. Cyclists will then be able to slow down to appropriate speed or stop if necessary.

4.

Walking and cycling routes

This chapter provides a comprehensive breakdown of all priority walking and cycling routes within the 15-minute neighbourhoods across the four towns, as outlined in the Walking and Cycling Strategic Plan (Volume 1). Each route is designated a unique Route ID, name, location map, and route description. Additionally, it delves into the blue-green grid as broader opportunities beyond the 15-minute neighbourhoods.

4 Walking and cycling routes

4.1 Walking route descriptions

The walking and cycling routes were developed based on:

- The locations that the community and stakeholders identified as important places they want to reach.
- The planning principles established in the NSW Cycleway Design Toolbox.
- Using the same street/road links as much as possible for multiple routes to prevent duplication of facilities.

Details of the process are provided in the Walking and Cycling Strategic Plan (Volume 1).

Figure 4.1: The TfNSW Cycleway Design Toolbox sets out a clear and consistent set of principles [6].

The walking routes for each town are alphabetically detailed and illustrated in the tables below. Each route is given a unique identifier (Route ID) and a detailed description of the streets comprising the route. The walking treatments planned for each priority route are detailed in **Appendix-A1**.

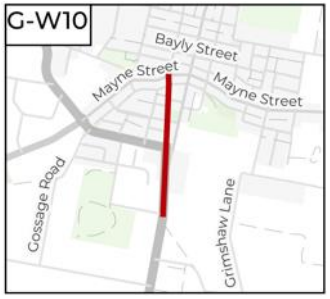
Table 4.1: Walking route details.

Route ID		Town	Route Name	Route description
G-W1		Gulgong	Gulgong Recreation Route	Nandoura Street from Station Street to Belmore Street; and Belmore Street from Nandoura Street to Wenonah Street.

Commented [EJ2]: These maps were last updated 30/04/2024, nothing has changed to my knowledge since then.

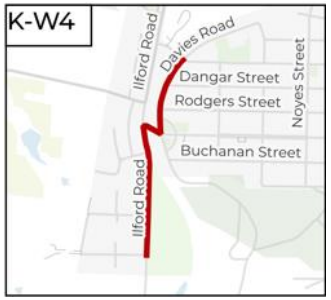
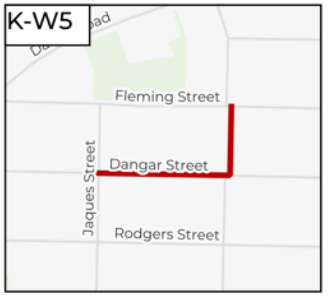
Route ID		Town	Route Name	Route description
G-W2		Gulgong	The People's Park Connection to Gulgong Swimming Pool	Lynne Street from Young Street to Nandoura Street; and Wynella Street from Worobil Street to Lynne Street.
G-W3		Gulgong	North-South Town Centre Link	Medley Street from Tallawong Street to Mayne Street (main street).
G-W4.1		Gulgong	Gulgong High School Connection to Town (West–East link)	Nandoura Street (eastern side) from Belmore Street to Mayne Street; and Mayne Street from Nandoura Street to White Street.
G-W4.2		Gulgong	Gulgong High School Connection to Town (North-South link)	Nandoura Street (eastern side) from Belmore Street to Bayly Street; and Bayle Street from Nandoura Street to Medley Street.

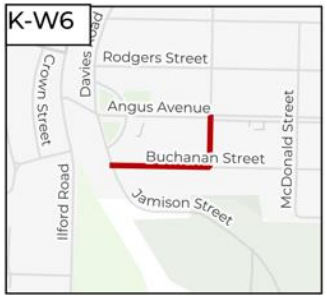
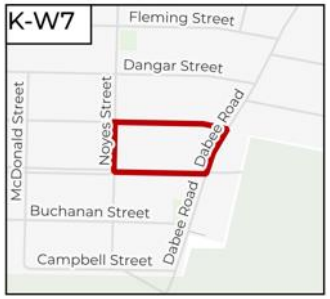
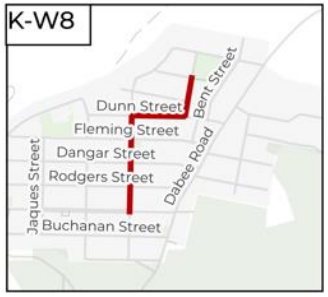
Route ID		Town	Route Name	Route description
G-W5		Gulgong	Town to Recreation Ground Connections	Herbert Street from Queen Street to Lynne Street; and Lynne Street from Herbert Street to Nandoura Street.
G-W6		Gulgong	Gulgong High School Connection to Western Residential Area	Belmore Street from Medley Street to Nandoura Street; Nandoura Street from Belmore Street to Belmore Street and Nandoura Street (western side) from Belmont Street to Belmore Street.
G-W7		Gulgong	Bowling Club Connection to Town	Tallawong Road from the bowling club to Mayne Street; and Maye Street from Tallawong Road to Medley Street; Medley Street from Mayne Street to Queen Street.

Route ID		Town	Route Name	Route description
G-W8		Gulgong	Gulgong Lookout	Wenonah Street from Robinson Street to Lookout Access Road.
G-W9		Gulgong	Gulgong Showground Route	Guntawang Street from Medley Street to Grevillea Street. Grevillea Street from Guntawang Street to Victoria Park around the Oval.
G-W10		Gulgong	Gulgong Showground and South New Residential Area Connection to Town	Medley Street from Guntawang Street to Mayne Street.

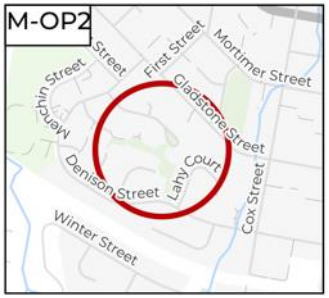
Route ID		Town	Route Name	Route description
G-W11		Gulgong	Town to Cemetery Connection via Gold Experience	White Street from Queen Street to Herbert Street including Tom Sanders Avenue; Herbert Street from White Street to Medley Street; Fitzroy Street from Herbert Street to Medley Street; and Holterman Street from Herbert Street to Medley Street.
G-W12		Gulgong	Main Street Access Improvements	Queen Street from Herbert Street to White Street.
G-W13		Gulgong	Bayly Street Amenity Upgrade (including All Hallows School)	Bayly Street from Bulga Street to White Street.

Route ID		Town	Route Name	Route description
G-W14		Gulgong	Hospital to Town Route Upgrade	Coola Road from Auld Lane to Fisher Street; Mayne Street from Fisher Street to Medley Street.
K-W1		Kandos	Angus Avenue Main Street	Angus Avenue from Davis Street to Rodger Street.
K-W2		Kandos	Town Centre to Swimming Pool	Jacques Street from Angus Street to Fleming Street; Fleming Street from Angus Street to Henbury Avenue; Henbury Avenue from Fleming Street to Bylong Valley Way; Bylong ValleyWay from Henbury Avenue to Kandos Swimming Pool.

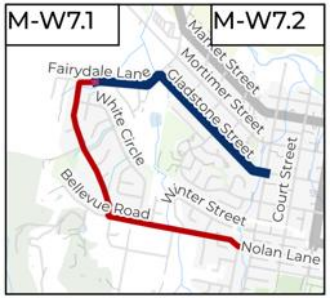
Route ID		Town	Route Name	Route description
K-W3		Kandos	School to Main Street (school and pre-school)	Macdonald Street from Fleming Street to Angus Street; and Noyes Street from Fleming Street to Angus Avenue.
K-W4		Kandos	School to Recreation Grounds	Davis Street from Fleming Street to Angus Avenue. Angus Avenue from Davis Street to Bylong Valley Way. Ilford Road from Angus Avenue to Anzac Avenue.
K-W5		Kandos	Public School to Pre-school Link	Dangar Street from Jaques Street to Noyes Street; and MacDonald Street New Link from Dangar Street to Fleming Street.

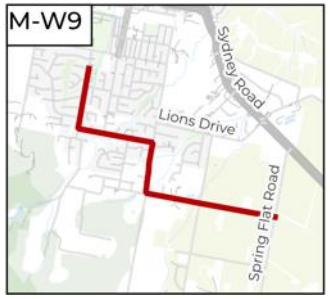
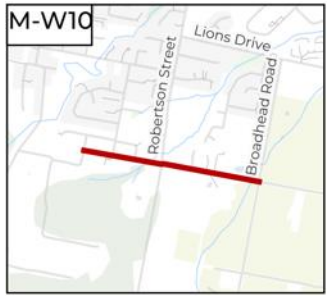
Route ID		Town	Route Name	Route description
K-W6		Kandos	Town Centre to Kandos Museum	Jacques Street from Angus Avenue to Buchanan Street; and Buchanan Street from Jacques Street to Davis Street.
K-W7		Kandos	Life Care Loop	Rodgers Street from Dabee Road to Noyle Street. Noyle Street from Rodger Street to Angus Avenue. Angus Avenue from Noyle Street to Dabee Street; and Dabee Street from Angus Avenue to Rodger Street.
K-W8		Kandos	Town to North-East Quarter	Noyes Street from Angus Avenue to Dunn Street; Dunn Street from Noyes Street to Mason Street; and Mason Street from Dunn Street to Sturt Street.

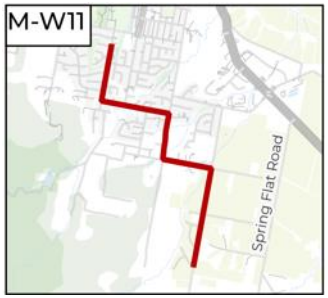
Route ID		Town	Route Name	Route description
K-W9		Kandos	Dr Darton Park to Campbell Street Trails (north-south) Spinal Route	Noyes Street from Campbell Street to Dunn Street; Dunn Street from Noyes Street to Mason Street; and Mason Street from Dunn Street to Sturt Street.
M-H1		Mudgee	Extend Robertson Street Footpath from Madeira Road to Meares Street	Robertson Street.
M-OP1		Mudgee	Robertson Park	Lovejoy Street.

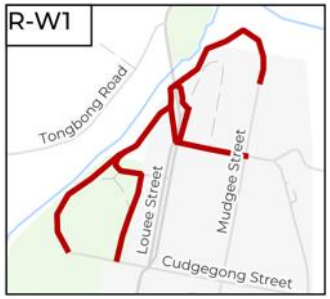
Route ID		Town	Route Name	Route description
M-OP2		Mudgee	Cameron Street Green Links	Connecting Cameron Street, Adams Street, Lahy Court, Rayner Street and Paterson Street to the green strip between them.
M-OP4		Mudgee	Horatio Street Active Transport Link (along railway trail)	Horatio Street from 183 Horatio Street to 127 Horatio Street (ties into ATL to School route in cycling, SUP).
M-W1		Mudgee	Lawson Park to Walkers Oval	Short Street from Court Street to Lawson Street.

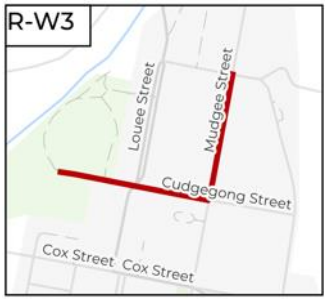
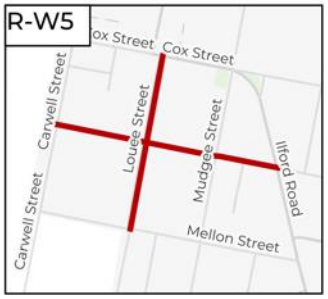
Route ID		Town	Route Name	Route description
M-W2		Mudgee	Town Centre to Southside Shopping Centre via Hospital and School	Church Street from Mortimer Street to Madeira Road including the walking path from Church Street Rail bridge to hospital; Madeira Road from Church Street to Oporto Road; Oporto Road from Madeira Road to Lisbon Road.
M-W3		Mudgee	Cudgegong Valley Public School to Cahill Oval via Mudgee Hospital	Madeira Road from Atkinson Street to Lewis Street. Lewis Street to Oval.
M-W4		Mudgee	Mudgee Public School to Swimming Pool via Victoria Park	Denison Street from Douro Street to Lewis Street. Lewis Street from Denison Street to Short Street.

Route ID		Town	Route Name	Route description
M-W5		Mudgee	Mudgee Public and High School to Walkers Oval	Duoro Street from Denison Street to Short Street; and Short Street from Duoro Street to Court Street.
M-W6		Mudgee	Cudgegong Valley Public School to Mudgee Park via Flirtation Hill	Madeira Road from Atkinson Street to Duoro Street; Duoro Street from Madeira Road to Nicholson Street.
M-W7.1		Mudgee	Cearleon Development Access to Border of Town Centre (variant 1)	Fairydale Lane from train tracks to Banjo Paterson Avenue; Banjo Peterson Avenue from Fairydale Lane to Bellevue Road; Bellevue Road from Banjo Paterson Avenue to Cox Street.
M-W7.2		Mudgee	Cearleon Development Access to Border of Town Centre (variant 2)	Fairydale Lane form train tracks to Gladstone Street; Gladstone Street from Fairydale Lane to Cox Street.

Route ID		Town	Route Name	Route description
M-W8		Mudgee	St Matthews Secondary School to the Industrial Estate (long-term)	Broadhead Road from Bruce Road to Lions Drive; and Lions Drive from Bruce Road to Inverness Avenue (requires new link through to Depot Road) (long-term).
M-W9		Mudgee	Spring Flat (east) Growth Area Connection to Southside Shopping Centre	Bruce Road from Spring Flat Road to Atkinson Street; Atkinson Street from Bruce Road to Spring Road; and Spring Road from Atkinson Street to Oporto Road; Oporto Road to shops.
M-W10		Mudgee	Church to School Connection	Bruce Road from Rowe Street to Broadhead Road.

Route ID		Town	Route Name	Route description
M-W11		Mudgee	Spring Flat (south) growth area Connection to Southside Shopping Centre via School	Broadhead Road from Steel Drive to Bruce Road; Bruce Road from Broadhead Road to Atkinson Street; Atkinson Street from Bruce Road to Spring Road; Spring Road from Atkinson Street to Oporto Road; Oporto Road from Spring Road to Shops.
M-W12		Mudgee	Lawson Park to Industrial Estate via Lawson Street	Sydney Road from Burrundulla Road to Burrundulla Avenue; Horatio Street from Burrundulla Avenue to Lawson Street and Lawson Street from Horatio Street to Short Street.
M-W13		Mudgee	Mudgee High School to Mudgee Park (connectivity to ATL and Mudgee shops)	Douro Street from Nicholson Street to Horatio Street.

Route ID		Town	Route Name	Route description
M-W14		Mudgee	Cudgegong Valley Public School to Showground and Flirtation Hill	Nicholson Street from Douro Street to Atkinson Street; and Atkinson Street from Madeira Road to Nicholson Street.
R-W1		Rylstone	Cudgegong Riverwalk	Showground and river pathways including links to Swimming enclosure; and Dabee Street from Mudgee Street to Louee Street.
R-W2		Rylstone	Main Street	Louee Street from Dabee Street to Cox Street.

Route ID		Town	Route Name	Route description
R-W3		Rylstone	Rylstone Public School to Rylstone Showground and Recreation	Mudgee Street from Dabee Street to Cudgegong Street; and Cudgegong Street from Mudgee Street to Showground.
R-W4		Rylstone	Rylstone District Hospital to Town	Bylong Valley Way from Short Street to Cox Street and Cox Street from Bylong Valley Way to Carwell Street.
R-W5		Rylstone	Improving Access to Town from Southern Quarter	Louee Street from Cox Street to Mellon Street; and Piper Street from Carwell Street to Ilford Road.

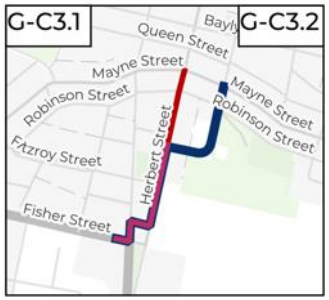
Route ID		Town	Route Name	Route description
R-W6		Rylstone	Rylstone Public School to Southern Quarter via Playground	Mudgee Street from Cudgegong Street to Mellon Street.
R-W7		Rylstone	Hospital to Recreation Grounds via Caravan Park	Mellon Street from Ilford Road to Carwell Street; Carwell Street from Mellon Street to Cox Street.

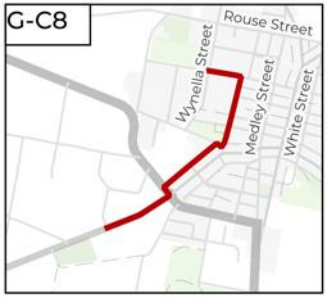
4.2 Cycling route descriptions

Similar to the walking routes, each cycling route is given a unique identification number (route ID), a name, an illustration and a detailed route description which provides a list of streets comprising the route. Please note, the streets included in the route description may vary depending on the outcome of detailed investigations and consultation to test the feasibility of implementing a cycleway. The cycling treatments planned for each priority route are detailed in the **Appendix-A2**.

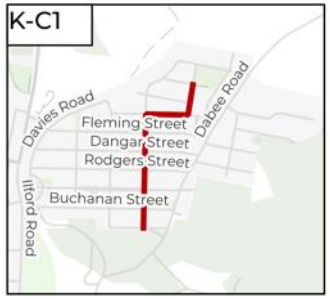
Table 4.2: Cycling route descriptions.

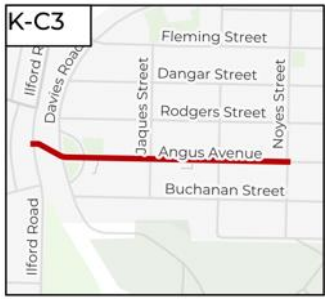
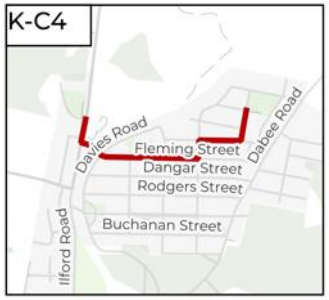
Route ID		Town	Route Name	Route description
G-C1		Gulgong	Gulgong Town Loop Ride	Crown Street from Robinson Street to Mayne Street; Mayne Street - Tallawang Road - Wynella Street - Lynne Street - Medley Street - Rouse Street - Nandoura Street - Belmore Street - Robinson Street - to Crown Street.
G-C2		Gulgong	Gulgong High School to People's Park	Nandoura Street form High School Entrance to the Crossing opposite Lot no. 28 Nandoura Street; Nandoura Street from Lot 28 to Little Belmore Street; Little Belmore Street from Nandoura Street to Bulga Street; Bulga Street from Little Belmore Street to Lynne Street; Lynne Street from Bulga Street to Wynella Street.

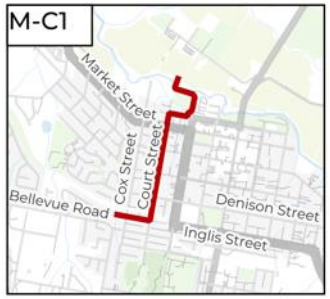
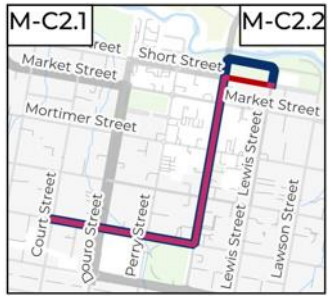
Route ID		Town	Route Name	Route description
G-C3.1		Gulgong	Theresa Lane Park & Child CareCentre to Town Centre via Memorial Hall and Library	Castlereagh Highway from lot no. 1 to 112 Medley Street; Medley Street from lot no.112 – 108; new link to Herbert Street; Herbert Street from lot no. 109 to Mayne Street.
G-C3.2		Gulgong	Theresa Lane Park & Child CareCentre to Town Centre via Gulgong Goldfield Monument	Castlereagh Highway from lot no. 1 to 112 Medley Street; Medley Street from lot no.112 – 108; new link to Herbert Street; White Street from Herbert Street to Mayne Street.
G-C4		Gulgong	Town Centre to Gold Experience and Red Hill Campus	White Street from Mayne Street to Robinson Street; Robinson Street from Mayne Street to Scully Street.
G-C5		Gulgong	Gulgong High School to Town Centre Route	Nandoura Street form High School Entrance to the Crossing opposite Lot no. 28 Nandoura Street; Nandoura Street from Lot 28 to Queen Street; Queen Street from Nandoura Street to White Street; White Street from Queen Street to Mayne Street.

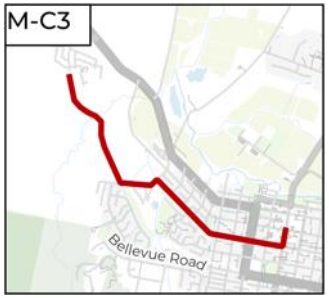
Route ID		Town	Route Name	Route description
G-C6		Gulgong	East-West Town Connection Route	Queen Street from Wynella Street to Wenonah Street.
G-C7		Gulgong	Town to Northern Growth Area Route	Medley Street from Rouse Street to Robinson Street.
G-C8		Gulgong	Hospital to People's Park via Caravan Park, Bowling Club and All Hallow's School	Goolma Road from Auld Lane to Castlereagh Highway; Castlereagh Highway to 198 Mayne Street; new link connection to Bligh Street; Bligh Street to Tallawang Road; Tallawang Road from Bligh Street to Bulga Street; Bulga Street from Tallawang Road to Lynne Street; Lynne Street from Bulga Street to Wynella Street.

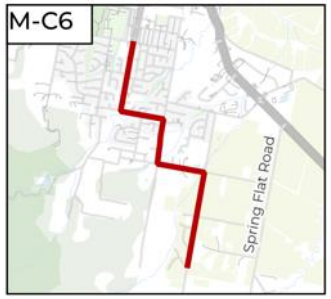
Route ID		Town	Route Name	Route description
G-C9		Gulgong	Town Centre to the Lookout	White Street from Mayne Street to Robinson Street. Robinson Street from White Street to Wenonah Street; Wenonah Street to lookout.
G-C10		Gulgong	Gulgong High School to Northern Growth Area via Recreation Grounds	From high school entrance to Nandoura Street; Nandoura Street to Rouse Street; Rouse Street from Nandoura Street to Medley Street.

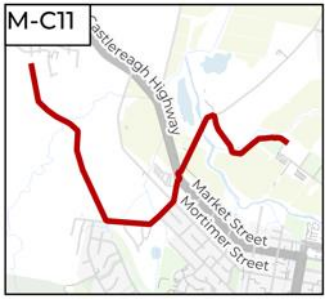
Route ID		Town	Route Name	Route description
G-C11		Gulgong -Mudgee	Town to Town connection Gulgong – Mudgee	Henry Lawson Drive from Railway Street to Eurundee Road; Eurundee Road from Henry Lawson Drive to Craigmoor Road; Craigmoor Road to Ulan Road; Ulan Road from Criagmoor Road to Short Street.
K-C1		Kandos	Dr Darton Memorial Town to Campbell Street Trail	Noyes Street from Campbell Street to Dunn Street; Dunn Street from Noyes Street to Mason Street; Mason Street from Dunn Street to Sturt Street.

Route ID		Town	Route Name	Route description
K-C2		Kandos	Swimming Pool to Town Via Schools	Ilford Road from Saville Row to Henbury Ave; Henbury Ave from Ilford Road to Fleming Street; Fleming Street from Henbury Road to Jacques Street; Jacques Street from Fleming Street to Angus Avenue.
K-C3		Kandos	Angus Avenue Amenity Upgrade	Angus Avenue from Ilford Road to Noyes Street.
K-C4		Kandos	School Connectivity from Swimming Pool to Dr Darton Memorial Park	Ilford Road from Saville Road to Henbury Ave; Henbury Ave from Ilford Road to Fleming Street; Fleming Street from Henbury Ave to Noyes Street; Noyes Street from Fleming Street to Dunn Street; Dunn Street from Noyes Street to Mason Street; Mason Street from Dunn Street to Sturt Street.

Route ID		Town	Route Name	Route description
K-C5		Kandos	Link into Cooper Dr trail	Fleming Street from Ilford Road to Davies Road, Davies Road from Fleming Street to Angus Avenue, link to Ilford Road, Ilford Road from Angus Avenue link to Clifford Street.
M-C1		Mudgee	Horatio Active Transport Link to Glen Willow Sports Complex	Horatio Street from Lot no. 98 to Court Street; Court Street from Horatio Street to Short Street; Short Street from Court Street to Walkers Oval SUP to the Cudgegong River bridge.
M-C2.1		Mudgee	Mudgee High School to Swimming Pool via Main Street	Denison Street from Court Street to Church Street; Church Street from Denison Street to Short Street; new link Short Street from Church Street to swimming pool.
M-C2.2		Mudgee	Mudgee High School to Swimming Pool via Main Street	Denison Street from Court Street to Church Street; Church Street from Denison Street to Short Street; connect into existing route via Ulan Road SUP then internal east west link to swimming pool.

Route ID		Town	Route Name	Route description
M-C3		Mudgee	Mudgee Town Centre to Caerleon and Western Suburbs	New Link from Caerleon to Faiydale Lane; Fairydale Lane from Horatio Street ATL to Gladstone Street; Gladstone Street from Fairydale Lane to Church Street.
M-C4		Mudgee	Mudgee Church Street Cross-town Connector	Church Street from Short Street to Spring Road.
M-C5		Mudgee	Parks to Wetland	Commencing at the swimming pool / Lawson Park Picnic Area: Lawson Park shared path to Cudgegong River Bridge; Glen Willow shared path to Putta Bucca Road, enter the wetland to loop around Quarry Lake and Turtle Island and return.

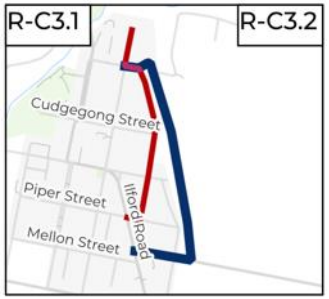
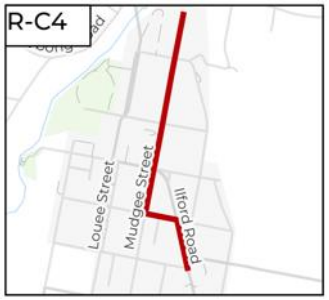
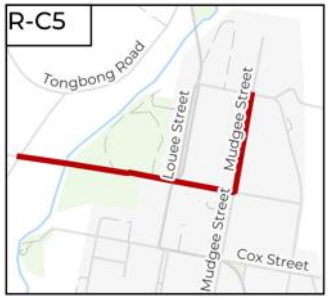
Route ID		Town	Route Name	Route description
M-C6		Mudgee	Cudgegong Valley PS and St Matthews Campus to Southern Growth Area	From Cudgegong PS: Church Street from Madeira Road to Spring Road; Spring Road from Church Street to Robertson Street; Robertson Street from Spring Road to Bruce Road; Bruce Road from Robertson Road to Broadhead Road; Broadhead Road into growth Area.
M-C7		Mudgee	St Matthews Secondary Campus to the Industrial Estate	Bruce Road from St Matthews Campus to Spring Road; Spring Road from Bruce Road to Castlereagh Highway; Castlereagh Highway to Depot Road.
M-C8		Mudgee	Cudgegong Valley Public School to Shops	Oporto Road from Burgundy Road to Lisbon Road; Lisbon Road from Oporto Road to Church Street; Church Street from Lisbon Road to Madeira Road.

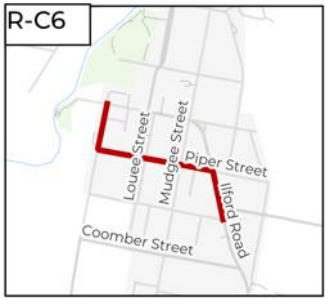
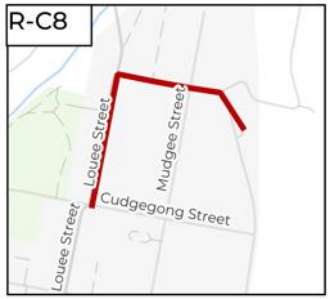
Route ID		Town	Route Name	Route description
M-C9		Mudgee	Link from Shops to Redback Creek Active Transport Trail and Lions Park	Oporto Road from Shops to Lisbon Street; Lisbon Street from Oporto Road to Redbank Road; Redbank Road to Mountain View Road; Mountain View Road to Redbank Active Transport Trial and Lions Park.
M-C10		Mudgee	Oporto Road Shops to Horatio Active Transport Link via Mudgee Park and Flirtation Hill	Oporto Road from Shops to Madeira Road; Madeira Road from Oporto Road to Duoro Street; Duoro Street to Nicholson Street; Nicholson Street from Duoro Road to Court Street; Court Street to Horatio Street and Horatio Street to ATL.
M-C11		Mudgee	Caerleon to Glen Willow Sports Fields	Caerleon Active Transport Link to Fairydale Lane; Fairydale Lane to Putta Bucca Road; Putta Bucca Road to Glen Willows.

Route ID		Town	Route Name	Route description
M-C12		Mudgee	Burrundulla Loop Ride	Church Street from Horatio Street to Ulan Road; Ulan Road from Church Street to Lue Road; Lue Road from Ulan Road to Rocky Waterhole Road; Rocky Waterhole Road to Burrundulla Road: Burrundulla Road to Sydney Road; Sydney Road to Church Street.
M-C13		Mudgee	Mudgee Town Centre to Buckaroo via Bombira (via Glen Willow, TAFE and Miniature Railway)	Church Street from Gladstone Street to Ulan Road, Ulan Road from Church Street to Black Springs Road.
M-C14		Mudgee	Mudgee Winery Loop Ride	Church Street from Gladstone Street to Ulan Road; Ulan Road to Black Spring Road; Black Spring Road to Eurunderee Lane; Eurunderee Lane to Craigmoor Road; (1) Craigmoor Road / (2) Tinja Lane to Putta Bucca Road; Putta Bucca Road to Market Street; Market Street to Bell Street; Bell Street to Gladstone Street; Gladstone Street to Church Street.

Route ID		Town	Route Name	Route description
M-OP3		Mudgee	Connection of Jubilee Oval and White Circle	Investigate opportunity to implement a SUP or pedestrian bridge connecting to Jubilee Oval / West End Sporting Complex to White Circle across railway tracks.
R-C1		Rylstone	Riverside and Recreation Ride to and from Town	Riverside and recreation ride to and from town.

Route ID		Town	Route Name	Route description
R-C2.1		Rylstone	Upgrade of the Rylstone to Kandos Trail	From Mellon St, Rylstone to Clifford Street at Kandos, connecting into Cooper Drive trail; via Fleming Street into Davies Road; Davies Road from Fleming Street to Angus Avenue; Angus Avenue to Clifford Street (eastern side).
R-C2.2		Rylstone	Upgrade of the Rylstone to Kandos Trail	From Mellon St, Rylstone to Clifford Street at Kandos, connecting into Cooper Drive trail; remain on Ilford Road and install a new SUP link on Ilford Road (eastern side) from Henbury Avenue to Angus Avenue. Upgrade footpath from Angus Avenue to Clifford Street.

Route ID		Town	Route Name	Route description
R-C3.1		Rylstone	Extension of Kandos to Rylstone Trail to Heritage rail Station and River Trails (Variant 1)	From the KR Trail along Ilford Road to Piper Street. Piper Street from Ilford Road to Tongbong Street; Tongbong Street from Piper Street to Dabee Street; Dabee Street from Tongbong Street to Mudgee Street; Mudgee Street from Dabee Street to Louee Street.
R-C3.2		Rylstone	Extension of Kandos to Rylstone Trail to Heritage Rail Station and River Trails (Variant 2)	Fitzgerald Street from Ilford Road to Mill Street South, Glen Alice Road to rail corridor, rail corridor from Glen Alice Road to Mudgee Street via Dabee Street.
R-C4		Rylstone	Rylstone Rotary Park to KR Trail via School, Playground and Hospital	Mudgee Street from Rotary Park to Piper Street, Piper Street from Mudgee Street to Ilford Road, Ilford Road from Piper Street to Mellon Street.
R-C5		Rylstone	Calderwood Neighbourhood to School via Town and Rylstone Showground	Easement at McLaughlan Street into recreation grounds to Louee Street via Cudgegong Street.

Route ID		Town	Route Name	Route description
R-C6		Rylstone	Caravan Park to Kandos-Rylstone Trail	Carwell Street from Cox Street to Piper Street, Piper Street from Carwell Street to Ilford Street; Ilford Street from Piper Street to Mellon Street.
R-C7		Rylstone	Louee Street Amenity Upgrade	Louee Street from Dabee Street to Cudgegong Street.
R-C8		Rylstone	From Town to Rylstone Railway	Louee Street from Cudgegong Street to Dabee Street; Dabee Street from Louee Street to Tongbong Street; Tongbong Street from Dabee Street to railway station.

Route ID		Town	Route Name	Route description
R-C9		Rylstone	Rylstone loop ride	Piper Street from Carwell Street to Tongbong Street; Tongbong Street to Dabee Street, Dabee street from Tongbong to Mudgee Street; Mudgee Street from Dabee Streeet to Louee Street Trail, River trail to Cox Street; Cox Street from River Trail to Carwell Street.

Note: SUP is a shared use path. ATL refers to Active Transport Link and used to describe the Horatio Street, Mudgee.

4.3 Green and blue grid

The green and blue grid is a planned network of high-quality green spaces that connects communities to nature and recreational open spaces. The opportunity routes lie outside the 15-minute walking and cycling catchment area.

These green corridors and links are intended primarily for recreational activities such as walking, running, and cycling, connecting to future residential areas.

Developers are encouraged to collaborate with the council in developing these links, therefore, they are not included in the prioritisation tables and associated costings.

Table 4.3: Green grid opportunities.

Route	Town	Route description
	Mudgee	Extend the ATL via the easement from 65A White Circuit to Banjo Paterson Avenue and to Bellevue to connect to Common Road and Mudgee Common Mountain Bike Trail.
	Gulgong	Investigate opportunity to extend the active transport link along length of Creek.
	Mudgee	Lions Drive to North King Park.
	Mudgee	Lions Drive to Bruce Road Growth Area.

5.

Route prioritisation

This chapter covers which routes and upgrades were prioritised and how this was decided. It explores the prioritisation framework, for priority cycling and walking routes, the indicative costs of each route, delivery staging for routes by town, and funding strategies.

5 Route prioritisation

5.1 Prioritising footpath upgrades

Improving existing footpaths aims to create a welcoming and safe environment for pedestrians of all ages and abilities. While some upgraded footpaths are not part of the priority route and do not follow the prioritisation framework (see in section 5.3), this program focuses on prioritising upgrades for existing footpaths.

The footpaths have been assessed using the Walking Space Guide [5] method, categorised from Level of Service A to F. Upgrade routes have been identified based on the current footpath's condition from council's asset management data, ranging from 1 (good condition) to 5 (significant hazards). Footpaths rated below Level of Service C and condition above 3 are earmarked for upgrades.

However, upgrading all footpaths simultaneously is financially impractical. Therefore, priority implementation follows these steps:

1. Start by upgrading footpaths in front of schools.
    a. Lewis Street from Market Street to Mortimer Street (St Matthews Catholic School)
    b. Denison Street from Perry Street to Douro Street (Mudgee Public School)
    c. Mudgee Street from Dabee Street to Cudgegong Street (Rylstone Public School)
    d. Danger Street from Jaques Street Mcdonald Street (Kandos public School)
2. Then upgrade the footpath along the planned walking and cycling priority routes based on the priority stages (see in section 5.4).
3. Prioritise the rest of the routes based on the number of concerns raised by the community generated from the online survey, with higher numbers taking precedence.

It is important to note that the costing estimation only includes the upgrade of footpaths along the planned walking and cycling priority routes.

The footpath upgrades in front of schools are illustrated in Figure 5.1 overleaf.

Figure 5.1: Footpath upgrades with the highest priority (CrossleyTP, 2024)

Commented [EJ3]: This map was last updated 30/04/2024, nothing has changed to my knowledge since then.

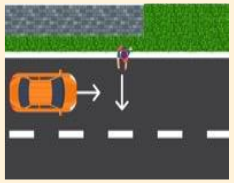
5.2 Prioritising crossing upgrades

Side streets, intersections and busy driveways can be a major barrier and form conflict points between people and motorised vehicles. Each desire line across a side street, intersection, driveway or mid-block, should be designed to minimise the risk of a collision with a vehicle and be universally accessible. However, it is financially unviable to upgrade all desire lines and crossings, therefore, priority should be given to:

1. Crossing points with an existing safety issue.
2. Priority should be given to locations that are perceived unsafe as measured by community feedback.
3. Locations forming part of a new route upgrade prioritising those with the highest volume of opposing traffic.

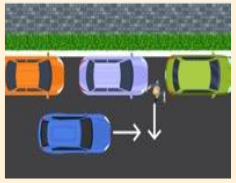
The most recent five-year crash record spans the period 01 January 2017 to 31 December 2021. During that time, fifteen crashes involved either a pedestrian or a cyclist[17]. As shown on the following maps, most of these crashes have occurred at or on the approach to a side street or intersection.

Between 2017 and 2021, pedestrian and cyclist related crashes occurred mid-block between two intersections, at driveways, at side streets and intersection crossing points.[17]



4 Crashes

Where a person stepped off the footpath into the road.



3 Crashes

Where a person stepped out onto the road between parked vehicle or other obstructions.

2 Crashes

Where a person was crossing a driveway.

2 Crashes

Where a person was crossing at an intersection.

Figure 5.2: Walking and cycling crashes from 2017 to 2021[17].

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5.3 Prioritisation framework

The route prioritisation framework is based on a point score system. The system incorporates five evaluation criteria that measure the desired outcomes identified by the community. Each criterion is given a weighting to reflect the level of importance the community placed on each outcome.

The evaluation criteria also align to key funding metrics established by NSW State Government.

An Excel model has been developed to apply the process to each route as illustrated in **Error! Reference source not found.** overleaf.

Routes are ranked by the total score, where the highest score represents the highest priority route for investigation, design, and implementation. The outputs from the priority framework have been used to establish a program of work phased over three broad stages for the period 2024 – 2033.

Table 5.1: Evaluation criteria and weighting.

Criteria	Weighting
No of Community Facilities	15%
School on Route	10%
Community Concern	40%
Catchment Majority	20%
Length of New Infrastructure	15%
TOTAL	**100%**

Figure 5.3: Route prioritisation system (CrossleyTP, 2023).

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Indicative costs

A global strategic cost has been calculated for each route and stage, based on the costs associated with each segment (link) along the route, depending on its treatment type. These costs exclude crossings, utility adjustments, concept or detailed design, and project management. The cost assumptions are provided in the Mid-Western Walk and Cycle Route Costing Spreadsheet, which covers the entire network. This spreadsheet includes a breakdown of costs for each treatment type, key assumptions, and sources of costing, including references from the Council's bill of quantities.

It's important to note that the network planning uses single road links for multiple different routes. As each route is completed, the cost to implement subsequent routes decreases. This cost reduction occurs because less length is required to connect the remaining segments of the route.

This section provide strategic costs by route, treatment type and stage.

5.3.1 Strategic costs by walking route

Table 5.2: Strategic costs by walking route.

Rank	Route ID	Town	Score	Route Description	Priority Stage	Cost (Nearest $00,000)
1	M-W2	Mudgee	50	Main street to Southside Shopping Centre Hospital and School	Priority Stage 1	$520,000.00
2	M-W4	Mudgee	50	Mudgee Public School to Swimming Pool via Victoria Park	Priority Stage 1	$760,000.00
3	G-W3	Gulgong	40	Fire Station connection to Town	Priority Stage 1	$660,000.00
4	M-W10	Mudgee	40	Church to school connection	Priority Stage 1	$480,000.00
5	M-W11	Mudgee	40	Spring Flat (south) growth area connection to Southside Shopping Centre via School	Priority Stage 1	$1,460,000.00
6	M-W8	Mudgee	40	St Matthews Secondary School to the Industrial Estate (long-term)	Priority Stage 1	$2,330,000.00
7	M-W9	Mudgee	40	Spring Flat (east) growth area connection to Southside Shopping Centre	Priority Stage 1	$1,230,000.00
8	G-W12	Gulgong	35	High Street Access Improvements	Priority Stage 1	$30,000.00
9	K-W1	Kandos	35	Angus Avenue main street	Priority Stage 1	$100,000.00
10	K-W2	Kandos	35	Main street to Swimming Pool	Priority Stage 1	$230,000.00
11	K-W5	Kandos	35	School to Pre-School Link	Priority Stage 1	$120,000.00

Rank	Route ID	Town	Score	Route Description	Priority Stage	Cost (Nearest $00,000)
12	R-W4	Rylstone	35	Bylong Valley Trail to town	Priority Stage 1	$370,000.00
13	R-W6	Rylstone	35	Rylstone Public School to Southern quarter via Playground	Priority Stage 1	$330,000.00
					Total Priority Stage 1	**$8,555,653.78**
14	G-W10	Gulgong	30	Gulgong Showground connection to Town	Priority Stage 2	$250,000.00
15	G-W11	Gulgong	30	Town to Cemetery connection via Gold Experience	Priority Stage 2	$380,000.00
16	G-W4.2	Gulgong	30	Gulgong High School connection to Town (Variant 2)	Priority Stage 2	$270,000.00
17	M-W12	Mudgee	30	Lawson Park to Industrial Estate via Lawson Street	Priority Stage 2	$790,000.00
18	R-W1	Rylstone	30	Cudgegong Riverwalk walk	Priority Stage 2	$50,000.00
19	R-W2	Rylstone	30	Main street upgrades	Priority Stage 2	$220,000.00
20	G-W13	Gulgong	25	Bayly Street Amenity Upgrade	Priority Stage 2	$130,000.00
21	G-W5	Gulgong	25	Town to Recreation Ground Connections	Priority Stage 2	$170,000.00
22	G-W7	Gulgong	25	Bowling Club connection to Town	Priority Stage 2	$200,000.00
23	K-W6	Kandos	25	Main street to Museum	Priority Stage 2	$210,000.00
24	M-W13	Mudgee	25	Mudgee High School to Mudgee Park (connectivity to ATL and Mudgee Shops)	Priority Stage 2	$90,000.00
25	G-W4.1	Gulgong	20	Gulgong High School connection to Town (Variant 1)	Priority Stage 2	$210,000.00
26	G-W6	Gulgong	20	Gulgong High School connection to western catchment	Priority Stage 2	$140,000.00
27	K-W3	Kandos	20	School to main street (school and pre-school)	Priority Stage 2	$140,000.00
28	K-W4	Kandos	20	School to recreation grounds	Priority Stage 2	$80,000.00
29	K-W8	Kandos	20	Town to north-east quarter	Priority Stage 2	$530,000.00

Rank	Route ID	Town	Score	Route Description	Priority Stage	Cost (Nearest $00,000)
30	K-W9	Kandos	20	Dr Darton Memorial Park to Campbell Street Trails (N-S) Spinal Route	Priority Stage 2	$570,000.00
31	M-H1	Mudgee	20	Extend Robertson Street footpath from Madeira Road to Meares Street	Priority Stage 2	$80,000.00
32	M-W1	Mudgee	20	Lawson Park to Walkers Oval	Priority Stage 2	$390,000.00
33	R-W3	Rylstone	20	Rylstone Public School to Rylstone Showground and recreation	Priority Stage 2	$270,000.00
34	M-OP5	Mudgee	20	Connection to Charles Lester Place	Priority Stage 2	$30,000.00
					Total Priority Stage 2	**$5,200,138.01**
35	G-W1	Gulgong	15	Gulgong Recreation Route	Priority Stage 3	$240,000.00
36	G-W8	Gulgong	15	Gulgong Lookout	Priority Stage 3	$80,000.00
37	K-W7	Kandos	15	LifeCare Loop	Priority Stage 3	$260,000.00
38	M-OP2	Mudgee	15	Cameron Street Green Links	Priority Stage 3	$90,000.00
39	M-OP4	Mudgee	15	Horatio Street Active Transport Link	Priority Stage 3	$50,000.00
40	M-W14	Mudgee	15	Cudgegong Valley PS to Showground	Priority Stage 3	$120,000.00
41	M-W3	Mudgee	15	Cudgegong Valley PS to Cahill Oval	Priority Stage 3	$210,000.00
42	M-W6	Mudgee	15	Cudgegong Valley PS to Mudgee Park via Flirtation Hill	Priority Stage 3	$370,000.00
43	M-W7.1	Mudgee	15	Cearleon Development access to border of town centre (variant 1)	Priority Stage 3	$360,000.00
44	M-W7.2	Mudgee	15	Cearleon Development access to border of town centre (variant 2)	Priority Stage 3	$220,000.00
45	R-W5	Rylstone	15	Improving access to Town from southern quarter	Priority Stage 3	$580,000.00
46	G-W14	Gulgong	10	Hospital to Town route upgrade	Priority Stage 3	$190,000.00
47	G-W2	Gulgong	10	The People's Park connection to Gulgong Swimming Pool	Priority Stage 3	$420,000.00

Rank	Route ID	Town	Score	Route Description	Priority Stage	Cost (Nearest $00,000)
48	G-W9	Gulgong	10	Gulgong Showground Route	Priority Stage 3	$330,000.00
49	M-OP1	Mudgee	10	Robertson Park	Priority Stage 3	$80,000.00
50	M-W5	Mudgee	10	Mudgee Public and High School to Walkers Oval	Priority Stage 3	$350,000.00
51	R-W7	Rylstone	10	Hospital to Recreation Grounds via caravan park	Priority Stage 3	$330,000.00
				Total Priority Stage 3		**$4,286,860.06**

5.3.2 Strategic costs per cycling route

Note, there are routes that include a route variant. This may involve a variation in a link or crossing point that requires further investigation prior to selecting the most feasible option. Once selected, this will reduce the overall program cost.

Table 5.3: Strategic costs per cycling route.

Rank	Route ID	Town	Score	Route Description	Priority Stage	Cost (nearest $00,000)
1	M-C12	Mudgee	70	Burrundulla Loop Ride	Priority Stage 1	$2,970,000.00
2	M-C4	Mudgee	65	Mudgee Church Street cross-town connector	Priority Stage 1	$2,060,000.00
3	M-C14	Mudgee	55	Mudgee Winery Loop Ride	Priority Stage 1	$8,200,000.00
4	M-C13	Mudgee	50	Mudgee High Street to Buckaroo via Bombira (via Glen Willow, TAFE and miniature railway)	Priority Stage 1	$2,760,000.00
5	M-C2.1	Mudgee	50	Mudgee High School to Swimming Pool via main street	Priority Stage 1	$1,710,000.00
6	M-C2.2	Mudgee	50	Mudgee High School to Swimming Pool via main street	Priority Stage 1	$1,640,000.00
7	G-C1	Gulgong	45	Gulgong Town loop ride	Priority Stage 1	$1,350,000.00
8	G-C3.2	Gulgong	45	Theresa Lane Park & Child CareCentre to Town Centre via Gulgong Goldfield Monument	Priority Stage 1	$220,000.00
9	G-C10	Gulgong	40	Gulgong High School to Northern Growth Area via Recreation Grounds	Priority Stage 1	$440,000.00

Rank	Route ID	Town	Score	Route Description	Priority Stage	Cost (nearest $00,000)
10	M-C6	Mudgee	40	Cudgegong Valley PS and St Matthews Campus to southern growth area	Priority Stage 1	$1,890,000.00
11	R-C2.1	Rylstone	40	Upgrade of the Rylstone to Kandos Trail	Priority Stage 1	$4,150,000.00
12	R-C2.2	Rylstone	40	Upgrade of the Rylstone to Kandos Trail	Priority Stage 1	$4,190,000.00
13	G-C5	Gulgong	35	Gulgong High School to Town Centre Route	Priority Stage 1	$190,000.00
14	R-C4	Rylstone	35	Rylstone Rotary Park to KR trail via School, Playground and Hospital	Priority Stage 1	$410,000.00
Total Priority Stage 1						**$32,168,015.83**
15	M-C3	Mudgee	30	Mudgee High Street to Caerleon and western suburbs	Priority Stage 2	$2,480,000.00
16	M-C7	Mudgee	30	St Matthews Secondary Campus to the Industrial Estate	Priority Stage 2	$1,660,000.00
17	R-C3.1	Rylstone	30	Extension of Kandos to Rylstone Trail to Heritage rail station and river trails (Variant 1)	Priority Stage 2	$70,000.00
18	G-C2	Gulgong	25	Gulgong High School to People's Park	Priority Stage 2	$130,000.00
19	G-C3.1	Gulgong	25	Theresa Lane Park & Child CareCentre to Town Centre via Memorial Hall and Library	Priority Stage 2	$280,000.00
20	G-C7	Gulgong	25	Town to Northern Growth Area Route	Priority Stage 2	$200,000.00
21	K-C2	Kandos	25	Swimming pool to town	Priority Stage 2	$220,000.00
22	K-C3	Kandos	25	Angus Avenue Amenity Upgrade	Priority Stage 2	$120,000.00
23	M-C1	Mudgee	25	Horatio Active Transport Link to Glen Willow Sports Complex	Priority Stage 2	$280,000.00
24	G-C6	Gulgong	20	East-West Town Connection Route	Priority Stage 2	$60,000.00
25	K-C4	Kandos	20	School connectivity from Swimming Pool to Dr Darton Memorial Park	Priority Stage 2	$410,000.00
26	M-OP3	Mudgee	20	Connection of Jubilee Oval and White Circle	Priority Stage 2	$20,000.00
27	R-C6	Rylstone	20	Caravan Park to KR Trail	Priority Stage 2	$160,000.00

Rank	Route ID	Town	Score	Route Description	Priority Stage	Cost (nearest $00,000)
28	R-C9	Rylstone	20	Rylstone loop ride	Priority Stage 2	$720,000.00
Total Priority Stage 2						**$6,811,765.82**
29	G-C4	Gulgong	15	Town Centre to Gold Experience and Red Hill Campus	Priority Stage 3	$20,000.00
30	G-C8	Gulgong	15	Hospital to People's Park via Caravan Park, Bowling Club and All Hallow's School	Priority Stage 3	$660,000.00
31	G-C9	Gulgong	15	Town centre to the Lookout	Priority Stage 3	$150,000.00
32	K-C1	Kandos	15	Dr Darton Memorial Town to Campbell Street Trail	Priority Stage 3	$270,000.00
33	K-C5	Kandos	15	Link into Cooper Dr trail	Priority Stage 3	$1,420,000.00
34	M-C10	Mudgee	15	Oporto Road Shops to Horatio Active Transport Link via Mudgee Park and Flirtation Hill	Priority Stage 3	$660,000.00
35	R-C1	Rylstone	15	Riverside and recreation ride to and from town	Priority Stage 3	$1,060,000.00
36	R-C7	Rylstone	15	Louee Street Amenity Upgrade	Priority Stage 3	$30,000.00
37	M-C8	Mudgee	10	Cudgegong Valley PS to Shops	Priority Stage 3	$540,000.00
38	R-C3.2	Rylstone	10	Extension of Kandos to Rylstone Trail to Heritage rail station and river trails (Variant 2)	Priority Stage 3	$190,000.00
39	R-C5	Rylstone	10	Calderwood neighbourhood to School via town and Rylstone Showground	Priority Stage 3	$230,000.00
40	R-C8	Rylstone	10	From Town to Rylstone Railway	Priority Stage 3	$240,000.00
41	G-C11	Gulgong	5	Town to Town connection Gulgong – Mudgee	Priority Stage 3	$240,000.00
42	M-C11	Mudgee	5	Caerleon to Glen Willow Sports Fields	Priority Stage 3	$1,500,000.00
43	M-C5	Mudgee	5	Parks to Wetland	Priority Stage 3	$1,290,000.00
44	M-C9	Mudgee	5	Link from Shops to Redback Creek Active Transport Trail and Lions Park	Priority Stage 3	$170,000.00
Total Priority Stage 3						**$8,664,681.30**

5.3.3 Costs by treatment

The estimated costs for footpaths, footpath upgrades, shared paths, low volume lanes, one-way bicycle paths and two-way bicycle paths were calculated from the length or area of the features provided in the GIS file. The following cost estimates by treatment only include treatment suggestions along priority routes. The provided Mid-Western Regional Council unit amounts were adjusted to appropriate rates in September 2023 to account for inflation. Other unit amounts were sourced from comparable previous projects and adjusted to match Mid-Western Regional Council unit rates. The inflation calculations are based on the Reserve Bank of Australia Inflation Calculator. The cost estimates derived from reference projects are based on the NSW Active Transport Strategy Guidelines and NZ Transport Agency guidance notes and tools[2].

Table 5.4: Costs by treatment and town.

Treatment	Gulgong	Kandos	Mudgee	Rylstone	Grand Total
Bicycle path (one-way)	$175,000.00	$315,000.00	$4,126,000.00	$0.00	$4,616,000.00
Bicycle path (two-way)	$90,000.00	$0.00	$287,000.00	$127,000.00	$504,000.00
Low volume laneway	$221,000.00	$89,000.00	$330,000.00	$137,000.00	$778,000.00
Road shoulder	$0.00	$0.00	$0.00	$0.00	$0.00
Total cycling facility	$487,000.00	$404,000.00	$4,743,000.00	$264,000.00	**$5,898,000.00**
Shared path	$2,209,000.00	$2,288,000.00	$13,412,000.00	$4,859,000.00	$22,768,000.00
Total shared path facility	$2,209,000.00	$2,288,000.00	$13,412,000.00	$4,859,000.00	**$22,768,000.00**
New footpath	$2,626,000.00	$829,000.00	$3,898,000.00	$1,633,000.00	$8,986,000.00
Footpath upgrade	$826,000.00	$550,000.00	$2,135,000.00	$528,000.00	$4,039,000.00
Total walking facility	$3,452,000.00	$1,379,000.00	$6,032,000.00	$2,161,000.00	**$13,025,000.00**
Grand Total	**$6,148,000.00**	**$4,071,000.00**	**$24,188,000.00**	**$7,284,000.00**	**$41,691,000.00**

Disclaimer: Crossley Transport Planning are not registered quantity surveyors so therefore are only able to provide quantity estimates and references to established industry benchmarks. This will provide Council with a high-level estimation to support decision making. These costs should be refined during the concept design and detailed design phases.

5.3.4 Length by treatment

The lengths for each treatment were derived from the GIS feature lengths for each proposed segment and present high-level conceptual proposals. The lengths may vary depending on decisions made for detailed design.

Table 5.5: Length of treatments.

Treatment	Gulgong	Kandos	Mudgee	Rylstone	Grand Total	Type	% of entire network	% of cycling network	% of walking network
Bicycle path (one-way)	318.9m	573.7m	7507.4m	0.0m	8400.0m	on-road	5%	7%	0%
Bicycle path (two-way)	304.6m	0.0m	965.4m	426.4m	1696.4m	on-road	1%	1%	0%
Low volume laneway	4843.2m	1955.5m	7239.9m	3002.1m	17040.7m	on-road	9%	15%	0%
Road shoulder	25473.2m	0.0m	13789.5m	0.0m	39262.7m	on-road	21%	34%	0%
Total cycling facility on-road	30940.0m	2529.1m	29502.2m	3428.5m	**66399.8m**	**on-road**	**36%**	**57%**	**0%**
Shared path	4779.9m	4951.8m	29026.0m	10515.4m	49273.1m	off-road	27%	43%	55%
Total shared path facility	4779.9m	4951.8m	29026.0m	10515.4m	**49273.1m**	**off-road**	**27%**	**43%**	**55%**
Footpath upgrade	8043.4m	2538.3m	11937.0m	5001.9m	27520.5m	off-road	15%	0%	31%
New footpath	2530.1m	1684.7m	6336.2m	1617.8m	12168.9m	off-road	7%	0%	14%
Total walking facility	10573.5m	4222.9m	18273.2m	6619.7m	**39689.4m**	**off-road**	**21%**	**0%**	**45%**
Grand Total	**46293.4m**	**11703.9m**	**76801.3m**	**20563.7m**	**155362.3m**	**all**	**100%**	**100%**	**100%**
Total on-road facilities	30940.0m	2529.1m	29502.2m	3428.5m	**66399.8m**	**on-road**	**43%**	**57%**	**0%**
Total off-road facilities	15353.4m	9174.7m	47299.2m	17135.1m	**88962.5m**	**off-road**	**57%**	**43%**	**100%**

5.4 Footpath and cycleway delivery staging maps

The delivery stages to implement the cycleways is illustrated for each town on the following maps.

Figure 5.4: Priority stages for walking and cycling routes in Gulgong

Commented [EJ6]: These maps were last updated 30/04/2024, nothing has changed to my knowledge since then.

Figure 5.5: Priority stages for walking and cycling routes in Kandos

Figure 5.6: Priority stages for walking and cycling routes in Mudgee

CROSSLEY

Figure 5.7: Priority stages for walking and cycling routes in Rylstone

5.5 Funding strategy

There are various funding options available for the Council to apply for and secure investment in the development of walking and cycling networks. The grants provide funding for both infrastructure and non-infrastructure programs.

Table 5.6: Funding and grant programs relating to the walk and cycle program.

Funding Name	Agency	Brief Description	Value	Applications	Key Outcomes
Safer Roads Program	Transport for NSW	Designed to fund projects to improve safety at high crash-risk roads and roadsides. Includes sub-programs: • State black spot • Local government road safety • Fatal crash response • Route safety review		Applications open to Council	**Safety** Speeding Pedestrian Safety
Local Government Safety program	Transport for NSW, Regional	A sub-program to the Safer Roads Program. Projects funded provide information and assistance on safe road use to road users.	From $1,000 to $10,000. 50% contribution	Applications open to Council. Ongoing.	**Safety** education. Related outcomes include pedestrian safety and inappropriate speeds.
School Zone Infrastructure Sub Program	Transport for NSW	The School Zone Infrastructure Sub Program is making it safer for pedestrians on their way to and from school, and when walking within school zones. It is part of the $540 million NSW Federal Road Safety Program. Infrastructure includes wombat and zebra crossings, new and upgraded footpaths, 40km/h school zones, lighting for crossings.		Applications open to Council	**Safety**
Community Road Safety Grants	Transport for NSW	The Community Road Safety Grants program provides community groups and charity/not-for-profit organisations across NSW with the opportunity to deliver local safety projects. Locally run projects will help increase road safety and support safer road users.	Up to $5,000	Applications open to Community Groups	**Safety**
Open Streets Program	Transport for NSW	Funding to temporarily close streets to cars and open them on a day, or series of days, for placemaking events and activations. The program purpose is to encourage collaboration between government, business and community to improve the vibrancy of local streets and centres and can support behaviour change and promote walking and cycling.	Up to $150,000	Applications open to Council. Closing 30th April 2024	**Placemaking**

Funding Name	Agency	Brief Description	Value	Applications	Key Outcomes
Get NSW Active	Transport for NSW	The Get NSW Active program provides funding to deliver projects that create safe, easy and enjoyable walking and bike trips.	$50,000 to $1 million for Design. $100,000 to $5 million for Construction.	Applications open to Council. 2024-25 application are closed.	Walking and cycling **access, safety** and participation.
Gets Kids Active	Transport for NSW	Fund street improvement projects which support children walking and riding to school.	$100,000 to $800,000	Announced January 2025	Walking and cycling **access, safety** and participation.
Community Improvement District Pilot Program	Transport for NSW, Minister for Roads.	To support entities to deliver trials that test the viability or diverse governance models that strengthen local place economy. Stimulate day and night activity in local centres, and increase visitation and dwell time through place activation, place marketing and branding activities.	$150,000 - $400,000	Applications for business, council, not-for-profit. Closed. Reopen October.	**Placemaking**
NSW Women's Week	Women NSW	Grants provide funding for organisations to deliver an event or activity that support the NSW Women's Week objectives. In relation to the Walking and Cycling Plan, this funding could be used to encourage female participation in cycling through organising free bike maintenance course, bicycle skills training session, bicycle buddy scheme to ride to work or a group bicycle ride. This fund could support behaviour change and encourage more people to walk or cycle more often.	$5,000 - $10,000	Applications for council, not-for-profit. Closed. Reopen August.	**Inclusion** Education and awareness. Behaviour change.
NSW Seniors Festival	Dept of Communities and Justice.	Funding for community programs and activities that enable older Australians to remain active, healthy and engaged during NSW Seniors Festival. In relation to the Walking and Cycling Plan, activities could include Bicycle Riding Confidence session, or tour-led bike ride, similar to the above. This fund could support behaviour change and ecourage more people to walk or cycle more often.	Up to $10,000	Applications for council, not-for-profit. Closed. Open for 2025 Seniors Week.	**Inclusion** Education and awareness. Behaviour change.

6.

Conclusion

6 Conclusion

If fully implemented, the proposed network could significantly increase access to walking and cycling facilities for a large number of additional households. The following maps illustrate this potential in Mudgee.

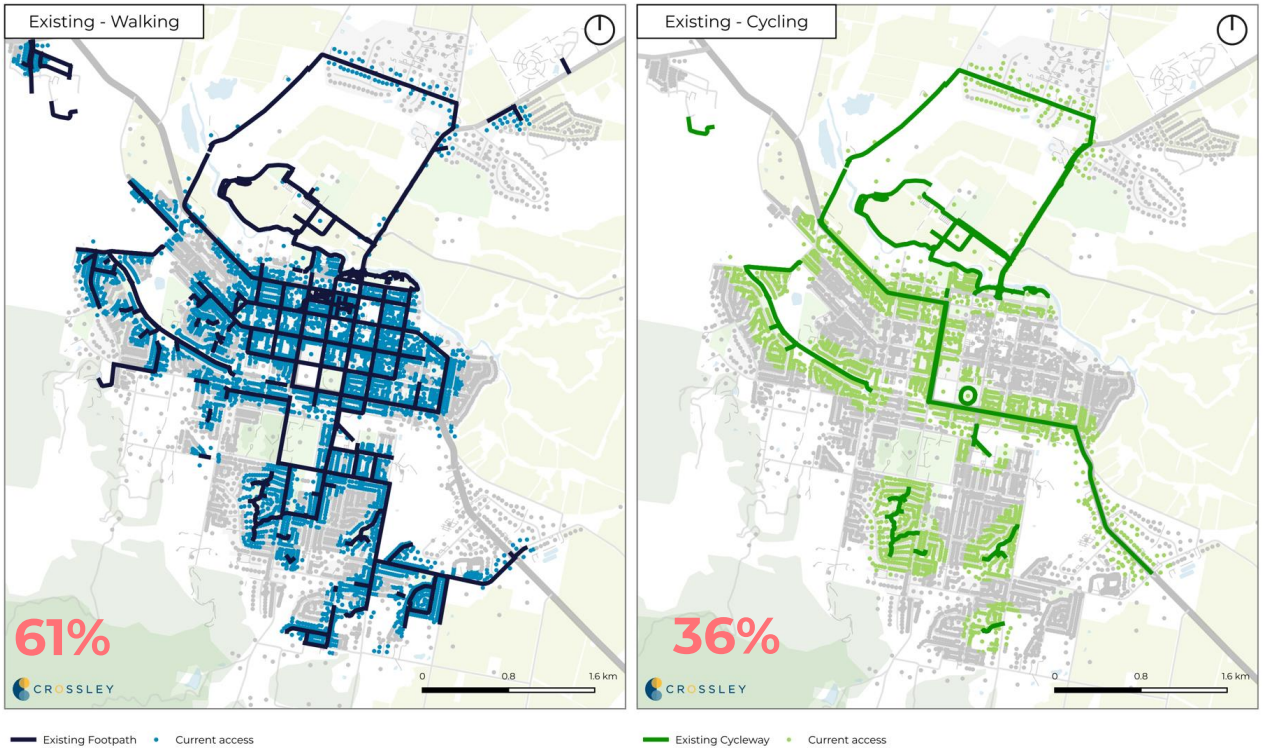

Figure 6.1 Accessibility of households to existing walking and cycling facilities

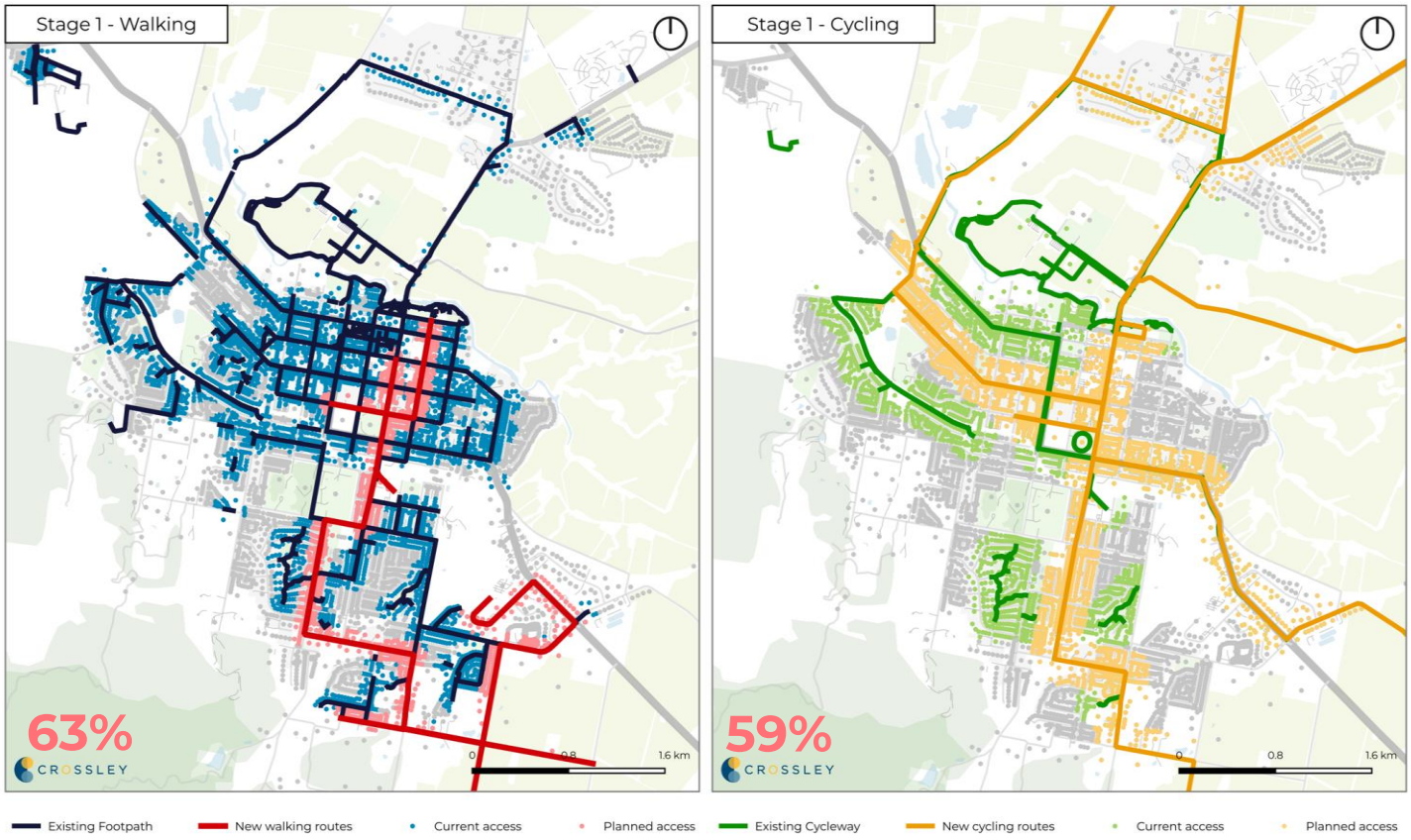

Figure 6.2 Accessibility of households to walking and cycling facilities in stage 1

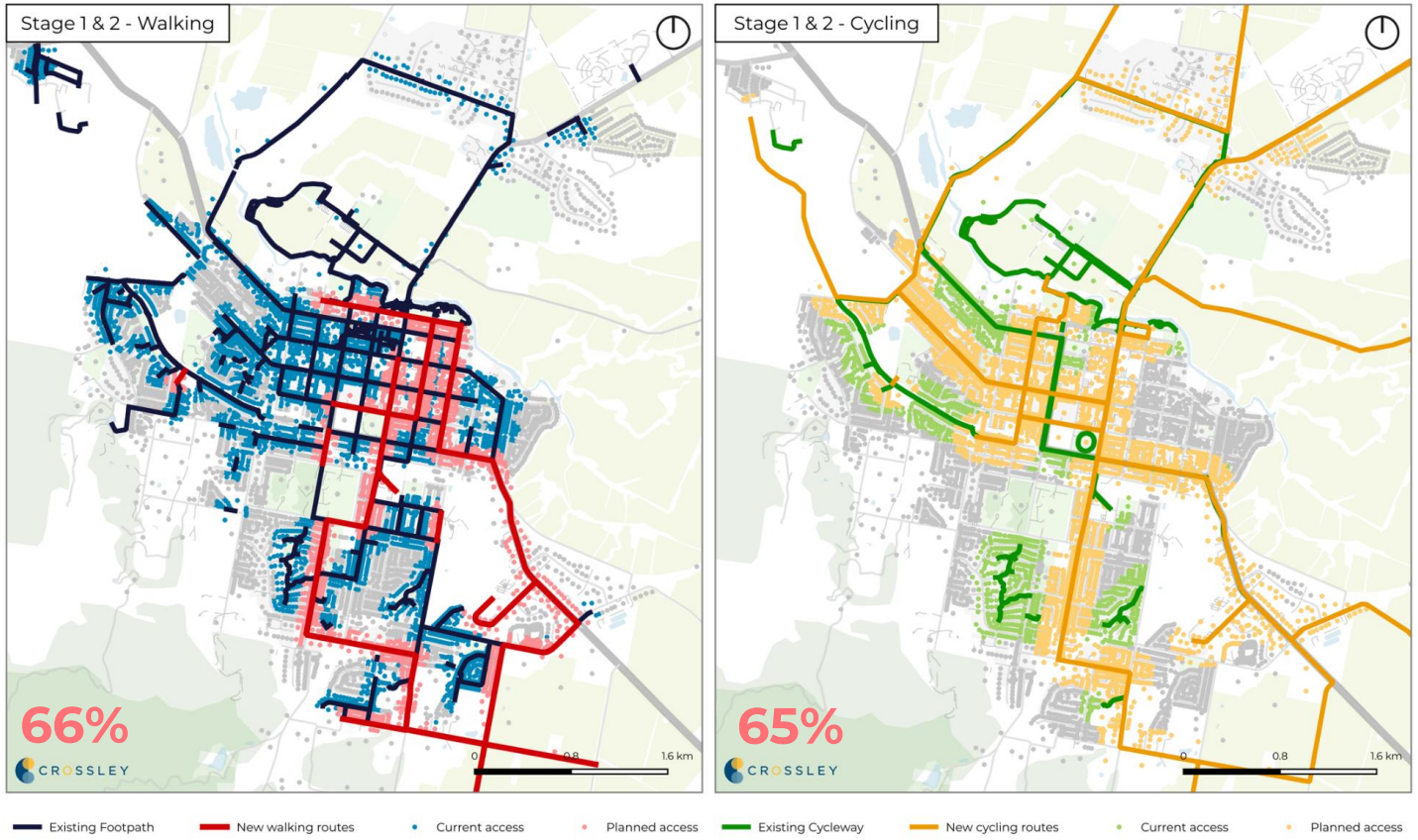

Figure 6.3 Accessibility of households to walking and cycling facilities in stage 2

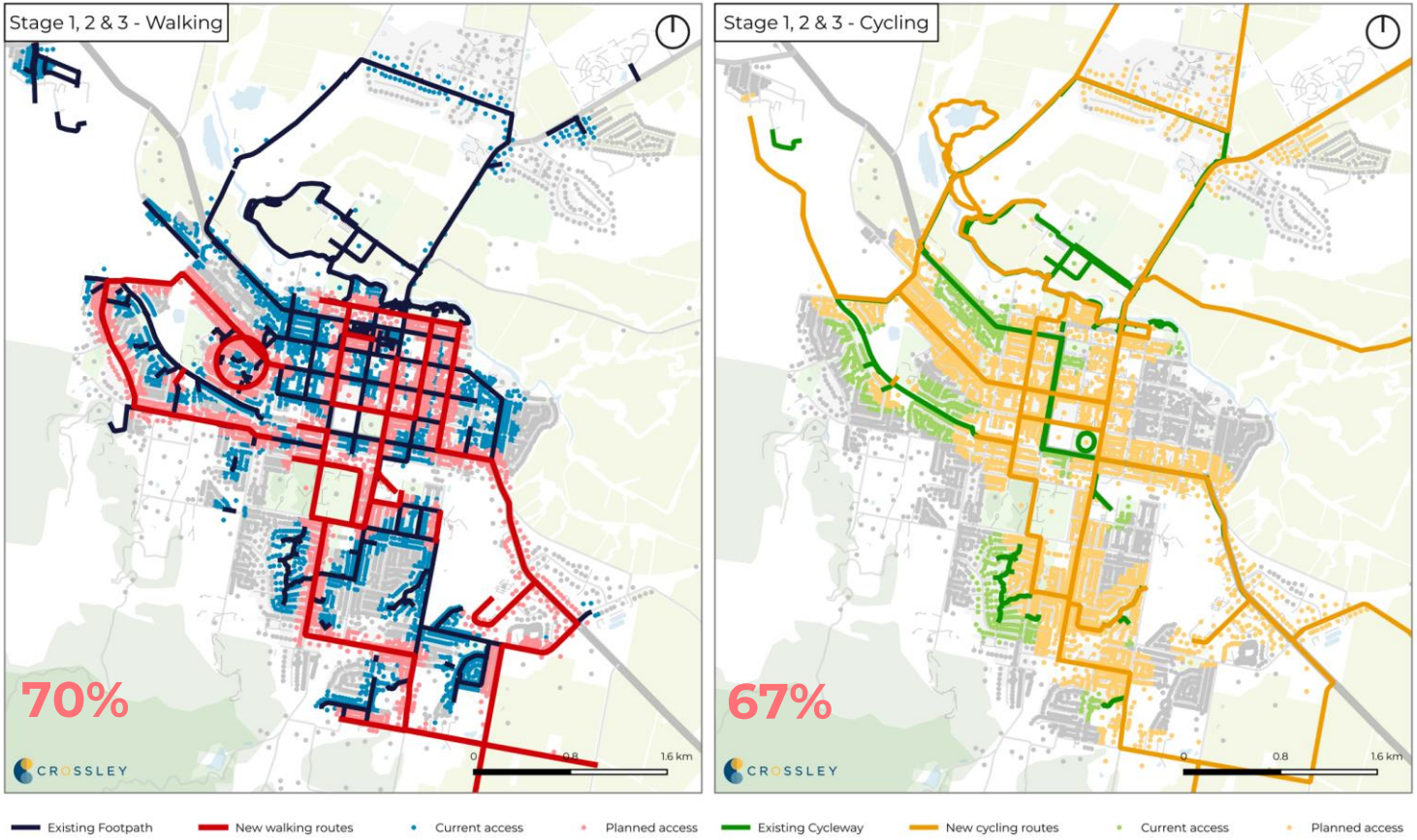

Figure 6.4 Accessibility of households to walking and cycling facilities in stage 3

7.

Citations

7 Citations

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8.

Appendices

8 Appendices

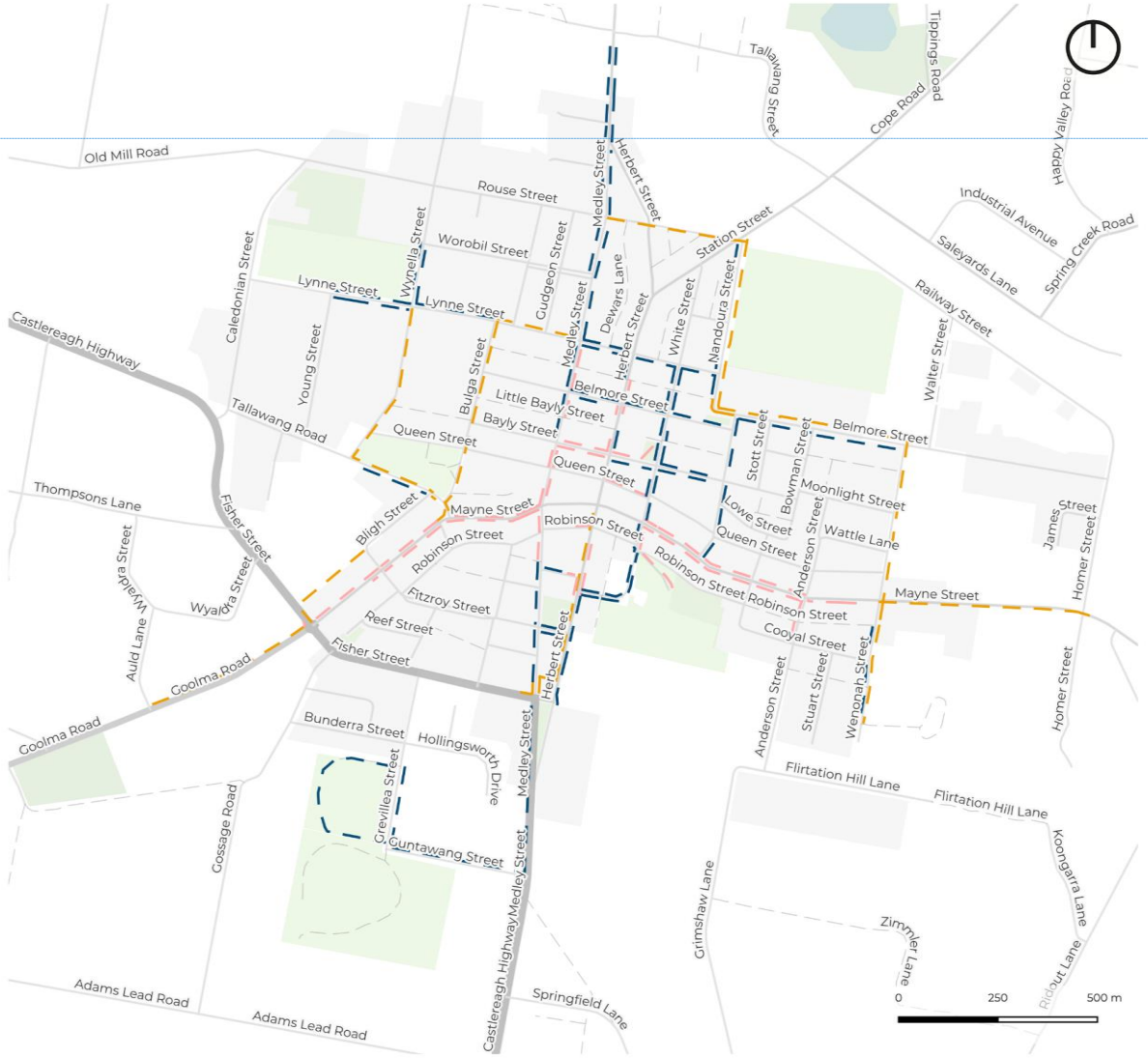
A.1 Proposed walking treatments

The following maps display all the suggested treatments that will improve the walking network for the towns of Gulgong, Kandos, Mudgee and Rylstone. They include all links that form the proposed walking routes as well as additional treatment suggestions which are not part of the priority staging.

Gulgong Walking Treatments

- New shared path
- New footpath
- Upgraded footpath

Note:
Shared paths form part of the walking and cycling network.



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(C) Map produced for Mid-Western Regional Council

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Commented [EJ7]: These maps were last updated 09/07/2024.

Kandos Walking Treatments

- New shared path
- New footpath
- Upgraded footpath

Note:
Shared paths form part of the walking and cycling network.

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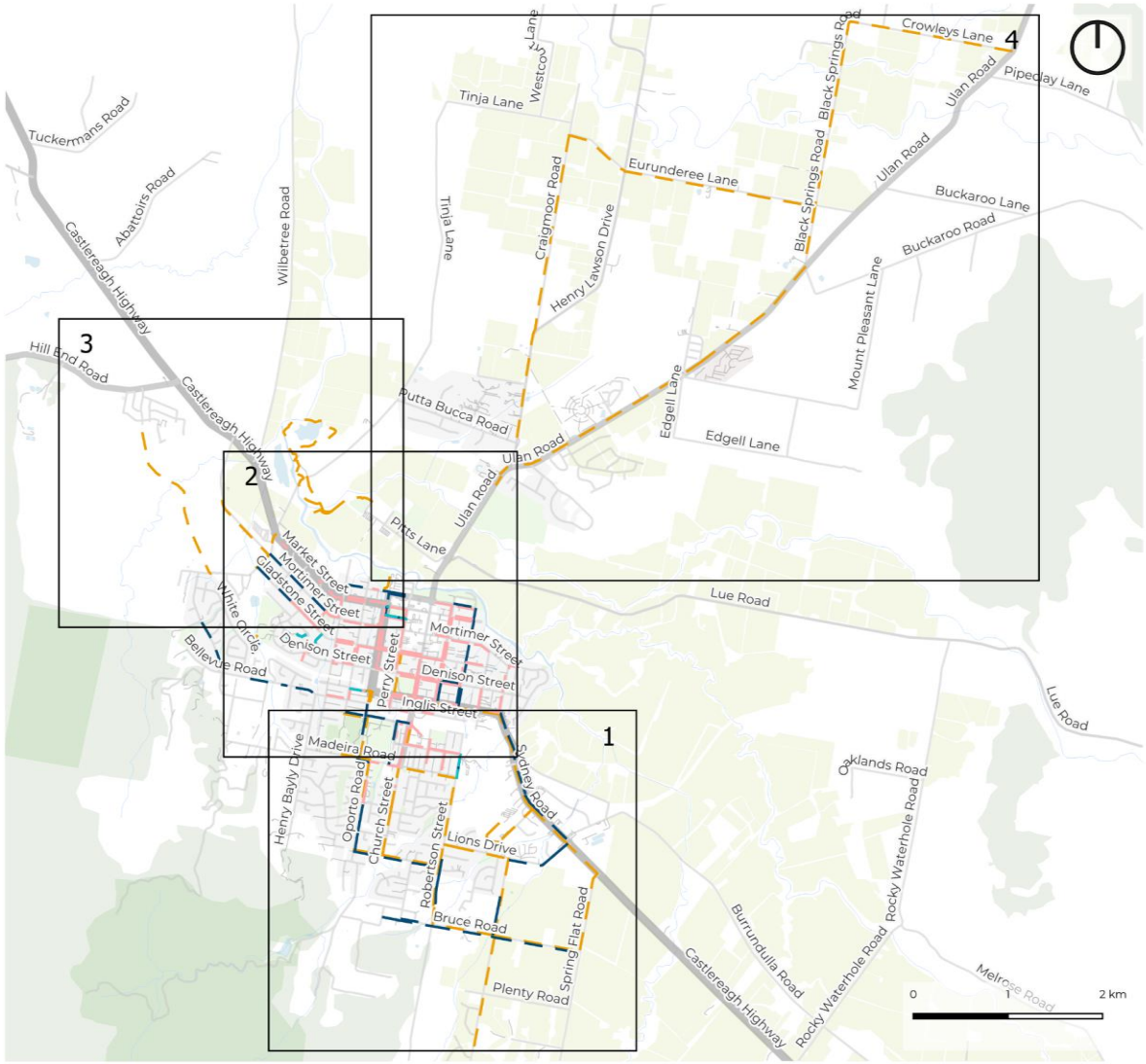
Mudgee Walking Treatments

- New shared path
- New footpath
- Upgraded footpath
- Walking opportunities

Note:
Shared paths form part of the walking and cycling network.



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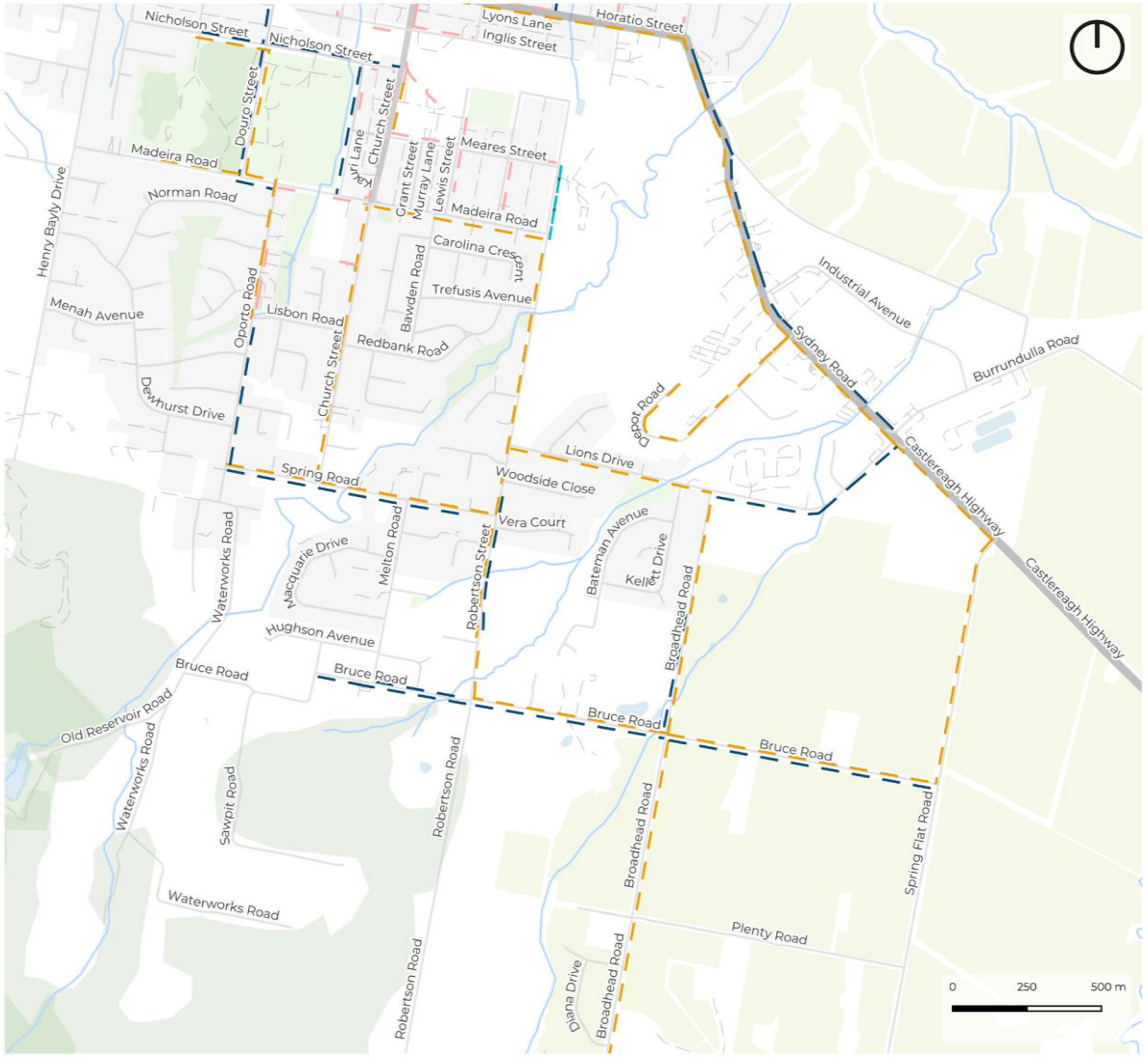
Inset 1:
Mudgee South Walking Treatments

- New shared path
- New footpath
- Upgraded footpath
- Walking opportunities

Note:
Shared paths form part of the walking and cycling network.



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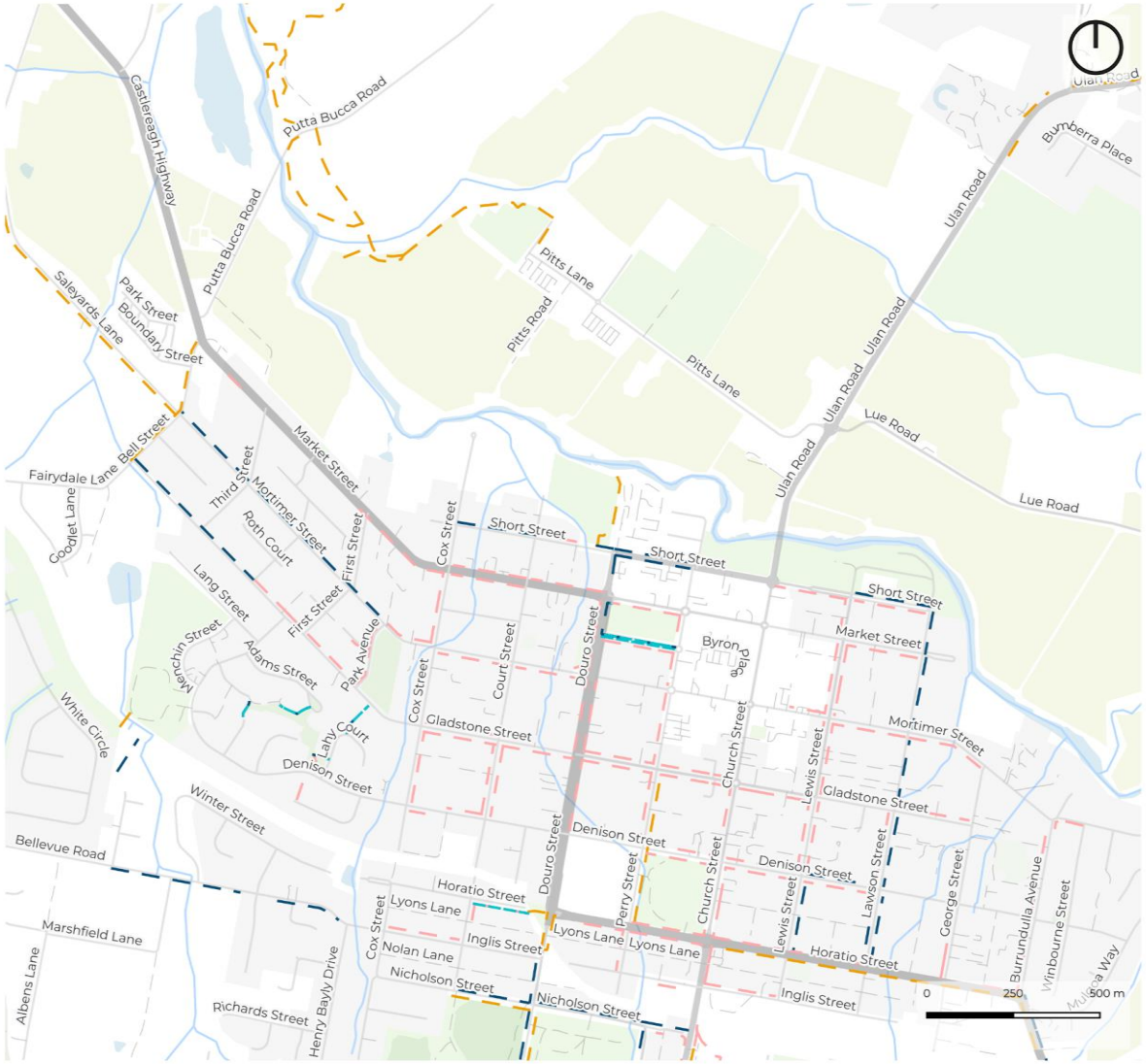
Inset 2:
Mudgee Central Walking Treatments

- New shared path
- New footpath
- Upgraded footpath
- Walking opportunities

Note:
Shared paths form part of the walking and cycling network.



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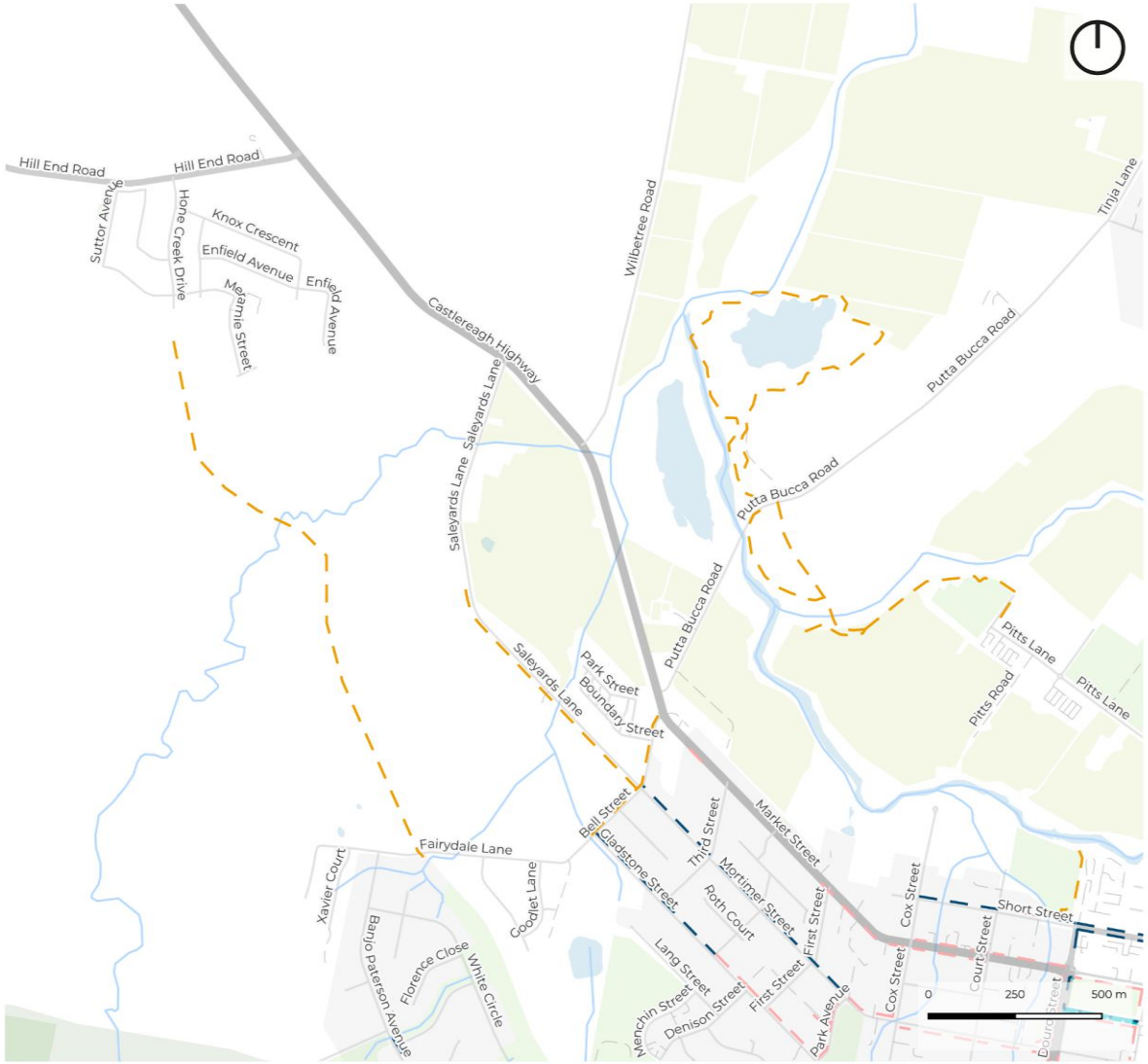
Inset 3:
Mudgee West Walking Treatments

- New shared path
- New footpath
- Upgraded footpath
- Walking opportunities

Note:
Shared paths form part of the walking and cycling network.



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Inset 4:
Mudgee North Walking Treatments

- New shared path
- New footpath

Note:
Shared paths form part of the walking and cycling network.

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Rylstone Walking Treatments

- New shared path
- New footpath
- Upgraded footpath

Note:
Shared paths form part of the walking and cycling network.

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A.2 Proposed Cycling Treatments

The following maps display all the suggested treatments that will improve the cycling network for the towns of Gulgong, Kandos, Mudgee and Rylstone. They include all links that form the proposed cycling routes as well as additional treatment suggestions which are not part of the priority staging.

Gulgong Cycling Treatments

- New one-way bicycle path
- New two-way bicycle path
- Road shoulder
- Low volume laneway
- New shared path

Note:
Shared paths form part of the walking and cycling network.

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Kandos Cycling Treatments

- New one-way bicycle path
- Low volume laneway
- New shared path

Note:
Shared paths form part of the walking and cycling network.

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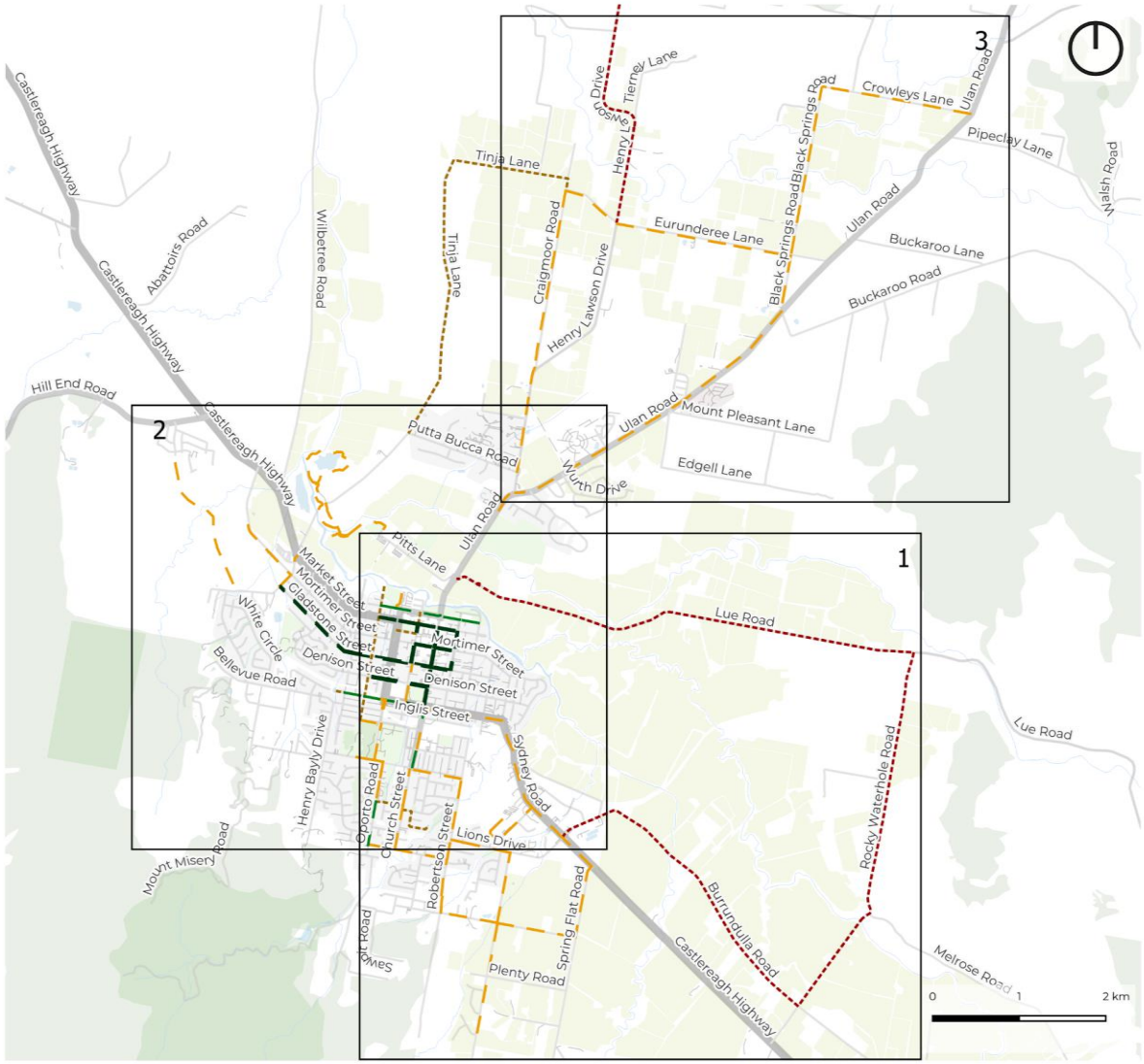
Mudgee Cycling Treatments

- New one-way bicycle path
- New two-way bicycle path
- Road shoulder
- Low volume laneway
- Cycling opportunities
- New shared path

Note:
Shared paths form part of the walking and cycling network.



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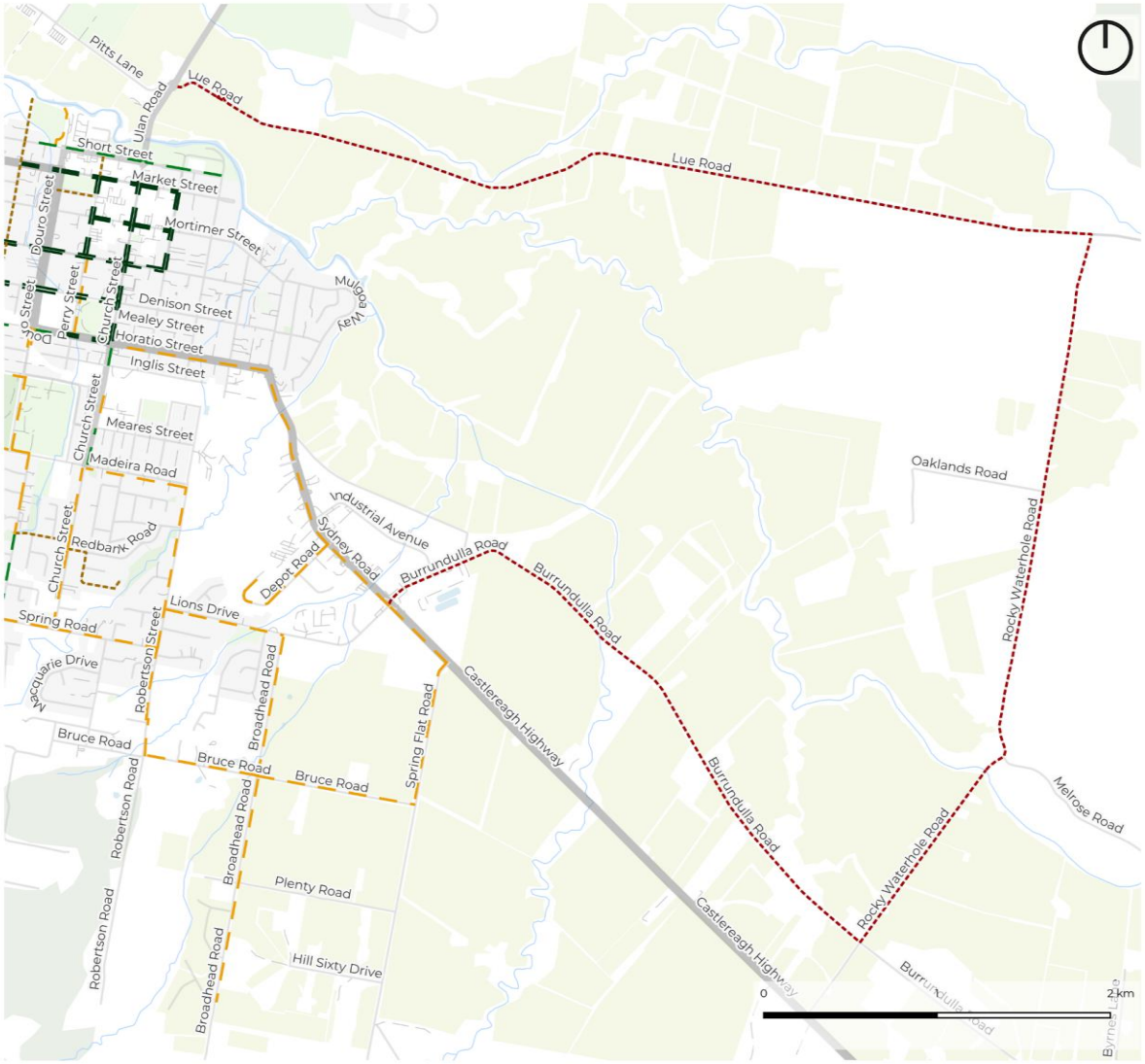
Inset 1:
Mudgee South Cycling Treatments

- New one-way bicycle path
- New two-way bicycle path
- Road shoulder
- Low volume laneway
- New shared path

Note:
Shared paths form part of the walking and cycling network



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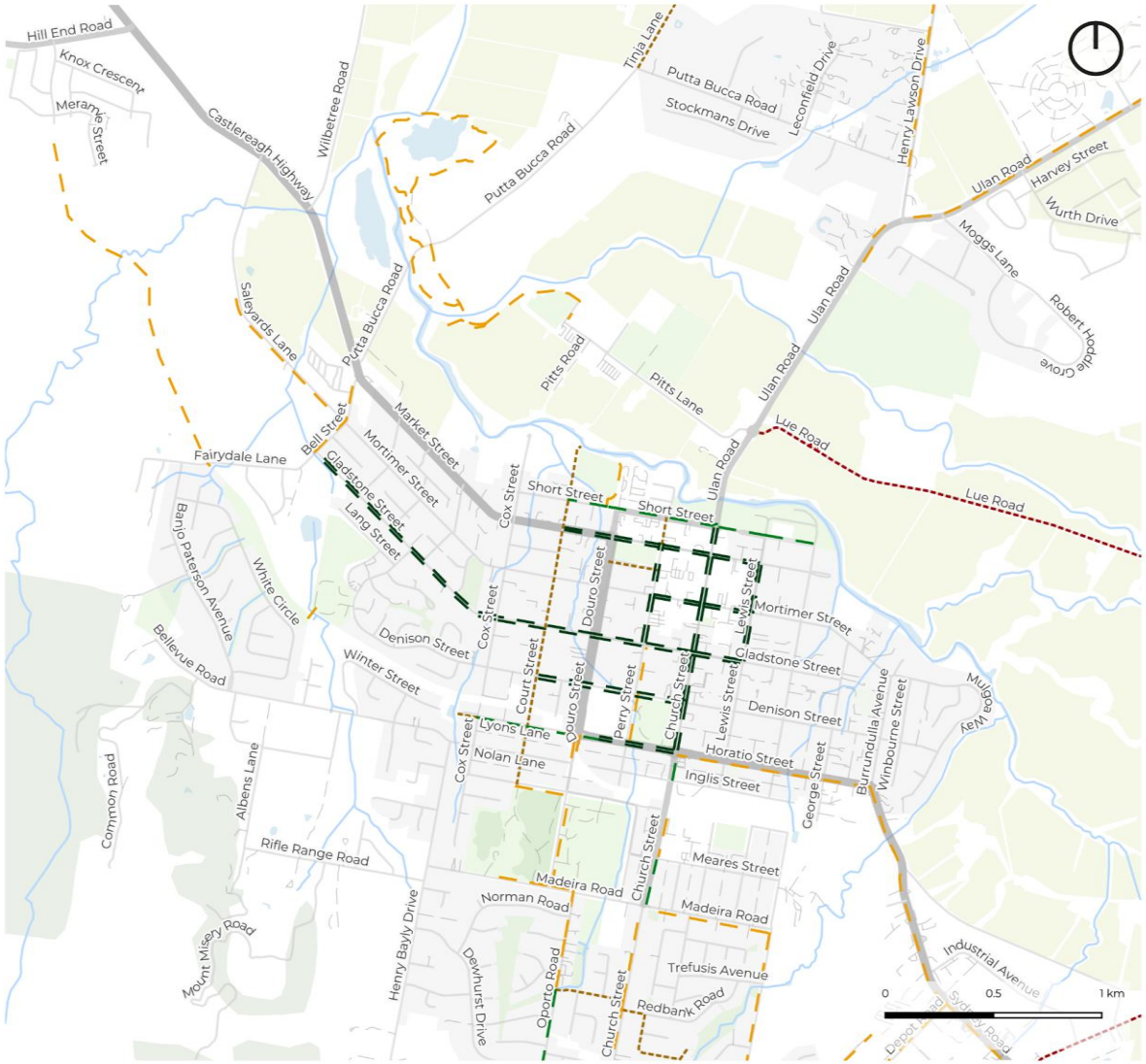
Inset 2:
Mudgee Central Cycling Treatments

- New one-way bicycle path
- New two-way bicycle path
- Road shoulder
- Low volume laneway
- Cycling opportunities
- New shared path

Note:
Shared paths form part of the walking and cycling network



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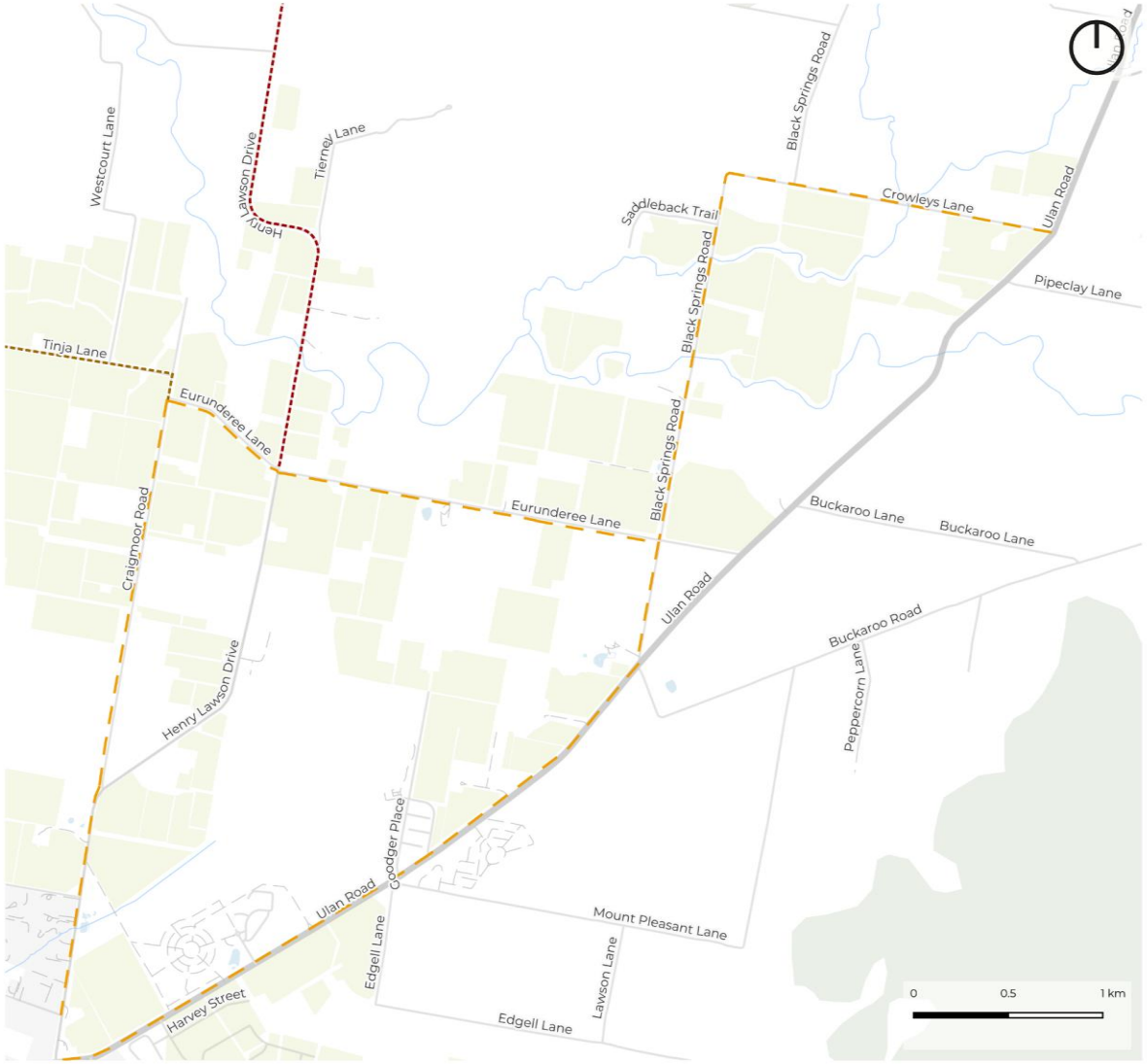
Inset 3:
Mudgee North Cycling Treatments

- Road shoulder
- Low volume laneway
- New shared path

Note:
Shared paths form part of the walking and cycling network



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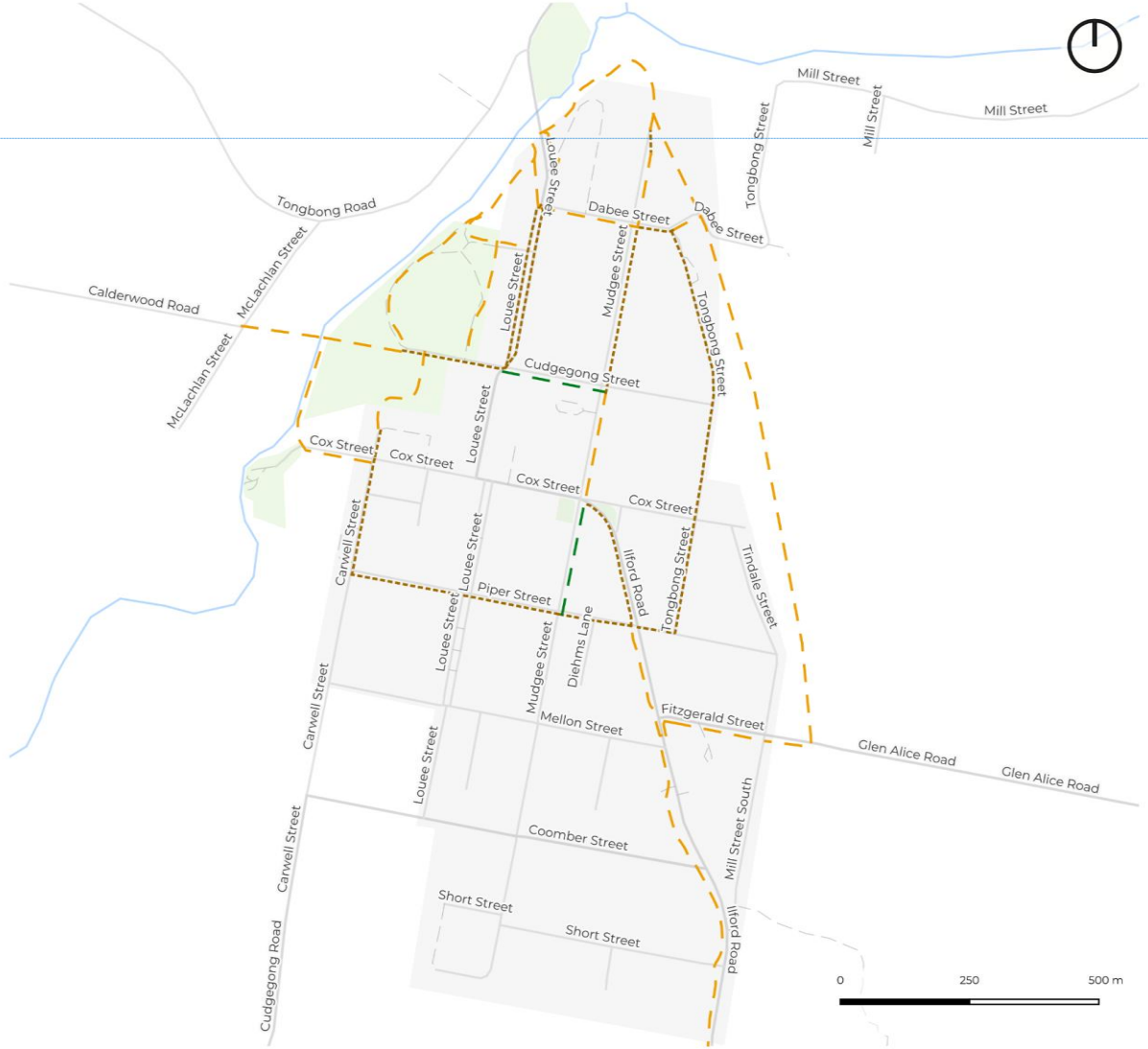
Rylstone Cycling Treatments

- New two-way bicycle path
- Low volume laneway
- New shared path

Note:
Shared paths form part of the walking and cycling network



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Commented [EJ8]: All maps that are in the action plan and strategy v5 are saved in Figures & Drawings - EJ Maps (updated 09/07/2024)

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