tonkin

City of
Mount Gambier

Shared Path Masterplan

Contents

Mayor's Message

In 2016 Council commenced constructing the Mount Gambier Rail Trail, converting the last section of rail line into a shared cycling and walking path in 2020. The Rail Trail has been extremely popular with the local community, as well as visitors. People of all ages use the path for cycling and walking to and from work and school, getting from A to B, and general recreation.

Being active through cycling and walking has many benefits. Getting outside and being active is great for physical health and also mental health. Cycling for just 25 minutes per day can reduce heart disease risk by 50%. Experts say that the form of exercise most likely to be maintained over the long term is incidental exercise – travelling to and from places by cycling and walking, building it into the way we get around – rather than just always using a car. Mount Gambier is a very cyclable (and walkable) town, with it typically taking less than 15 minutes to ride from the outskirts of town to the centre of the city.

Our experience with the Rail Trail has shown that once there is quality, safe infrastructure in place then the community will embrace it, this is especially the case for cycling. Most people need to feel safe in order to actively participate in cycling. When we asked our community about their thoughts on the Rail Trail this is what they told us:

- 91.4% - Rail Trail has made it easier to cycle in Mount Gambier.
- 91.4% - would like to see more cycling infrastructure in Mount Gambier that is separate from motor traffic.
- 92% - would like to see a dedicated bike path loop around the town connected to the Rail Trail.
- 73.7% - would like to see dedicated bike paths along major roads in Mount Gambier.

Constructing dedicated cycling and walking infrastructure also presents a great return on investment, not only does it reduce the strain on the health system, it also good for tourism. Bicycle tourism can generate considerable wealth for regional economies and the nature of the income generated is such that it has high local multiplier effects in both money and employment.

The purpose of this Masterplan is to provide a clear plan and staged approach to guide the implementation of dedicated cycling and walking infrastructure into the future. It is also anticipated that the plan will attract investment from other levels of government.

I am proud to present the Shared Path Masterplan. Through investing in quality dedicated infrastructure, Council is investing in the health and wellbeing of our local community, enabling residents and visitors alike to be active and connected, contributing to a more vibrant community.

Lynette Martin OAM
Mayor of the City of Mount Gambier

Executive Summary

The City of Mount Gambier presents this document as the Shared Path Masterplan for 2035. This document highlights the need for a comprehensive plan to address various active transport challenges, which include road safety, cycling, and walking, accessibility, pedestrian infrastructure, and public transport. It emphasises the importance of communication, alignment with other strategies and best practices, including a vision, objectives, and roadmap for the future.

There are numerous benefits to the uptake of active transport which leads to improved health, social, environmental, safety and economic outcomes.

A staged approach was taken toward the development of this Shared Path Masterplan, which started with a holistic understanding of the City of Mount Gambier's current active transport network. This understanding led to a high level understanding of active transport challenges, limitations, and opportunities. A series of targeted engagement activities were undertaken to gain a community based understanding of the Mount Gambier shared path network. This resulted in the development of a community based vision for active transport associated with the Shared Path Masterplan.

The Shared Path Masterplan aims to improve the quality, connectivity, safety, and support for shared paths throughout the Mount Gambier region. It outlines a priority of actions to achieve these goals, focusing on the vision of creating a well-connected and inclusive community.

By implementing the Shared Path Masterplan, Mount Gambier can expect improved active transport outcomes, fostered on the success of the Mount Gambier Rail Trail. Outcomes of the shared use masterplan include enhanced road safety measures for cycling and walking, increasing the provisions of shared path infrastructure, and building infrastructure that can be used by other forms of accessible and inclusive transport. The plan also aims to foster effective communication, collaboration with relevant stakeholders, and create an adherence to best practice which places Mount Gambier as a leader in active transport.

Overall, the Shared Path Masterplan presents a comprehensive approach to address the transport challenges faced by Mount Gambier. It provides a roadmap for the future development of shared paths, ensuring a safer, more connected, and inclusive community for all residents.

Context

Transport in the City of Mount Gambier - an overview

What Do We Know?

The 2014/2015 National Health Survey Estimates Obesity in Mount Gambier to be over a third for males (35%) and females (38.1%).
In comparison this illustrates a growing instance of obesity from 2007/2008, where obesity was 20.1% & 17.7% for males and females respectively.

Census Data from 2021 2.2% walk to work

Census Data from 2021 0.5% cycled to work

Census Data from 2021 indicates 1.8 motor vehicles per dwelling

Census Data from 2021 Median Age = 41

35% undertake recreational walking

10% recreational cycling

Issues with Public Transport Connectivity

Concerns for vulnerable road users

Concerns for vulnerable road users with an absence of dedicated infrastructure

No low speed limited areas

Lack of accessibility and connectivity.

Why do we need a Shared Path Masterplan

An active lifestyle benefits people and places. People who participate in recreational, sustainable and active modes of transport, such as cycling and walking are rewarded through improved health and social wellbeing. Places that offer comprehensive and integrated pathways contribute to a healthy community and a robust economy.

2.5 to 5 weekly hours of moderate intensity physical activity (brisk walk, mowing the lawn)

1.25 to 2.5 weekly hours of vigorous intensity physical activity (jogging, cycling, football)

Only 27.2% of Australians over the age of 15 years achieved these weekly guidelines.

Active travel, including cycling and walking, can provide 4 key benefits (health, social, environment, economy) to the individual and a community.

Health

Regular activity also keeps your thinking, learning, and judgement skills sharp as you age.

Walking for 30 minutes or cycling for 20 minutes on most days reduces mortality risk by at least 10%;

Cancer-related mortality is 30% lower among bike commuters.

Regular activity reduces joint and muscular stiffness and pain

It takes less energy to bicycle 1km than it takes to walk. A bicycle can be up to 5 times more efficient than walking. One hundred calories can power a cyclist for 5km but it would only power a car 85m.

Social

Active users of shared pathways help build communities by activating our streets and encouraging social interactions.

Environment

In the local environment, air quality and noise pollution are improved for residents.

40% of all private car trips made in Australia are less than 3km

Reducing noise and greenhouse gas emissions and improving air quality equates to around 5.9 cents per km walked or cycled

Safety

Building separated infrastructure and better junctions, moderating speed limits on mixed-use roads is one of the best ways to encourage citizens to take up cycling and to save lives.

Economy

Running a car can cost owners approximately $17,000 per year, maintaining a bicycle can cost up to $300 per year.

Improvements in the cycling and walking environment increase the economic value and activity in the local area

In the Netherlands, the town of Houten, with its high levels of cycling (and walking) has retail turnover 2.5 times higher per square metre than elsewhere in the country.

Locally-owned businesses thrive in densely-built, walkable communities,

Lower speeds are important too: evidence shows that a 15km/h reduction in traffic speeds increases property values for adjacent residences by 18% to 20%

Transport Challenges

Public transport

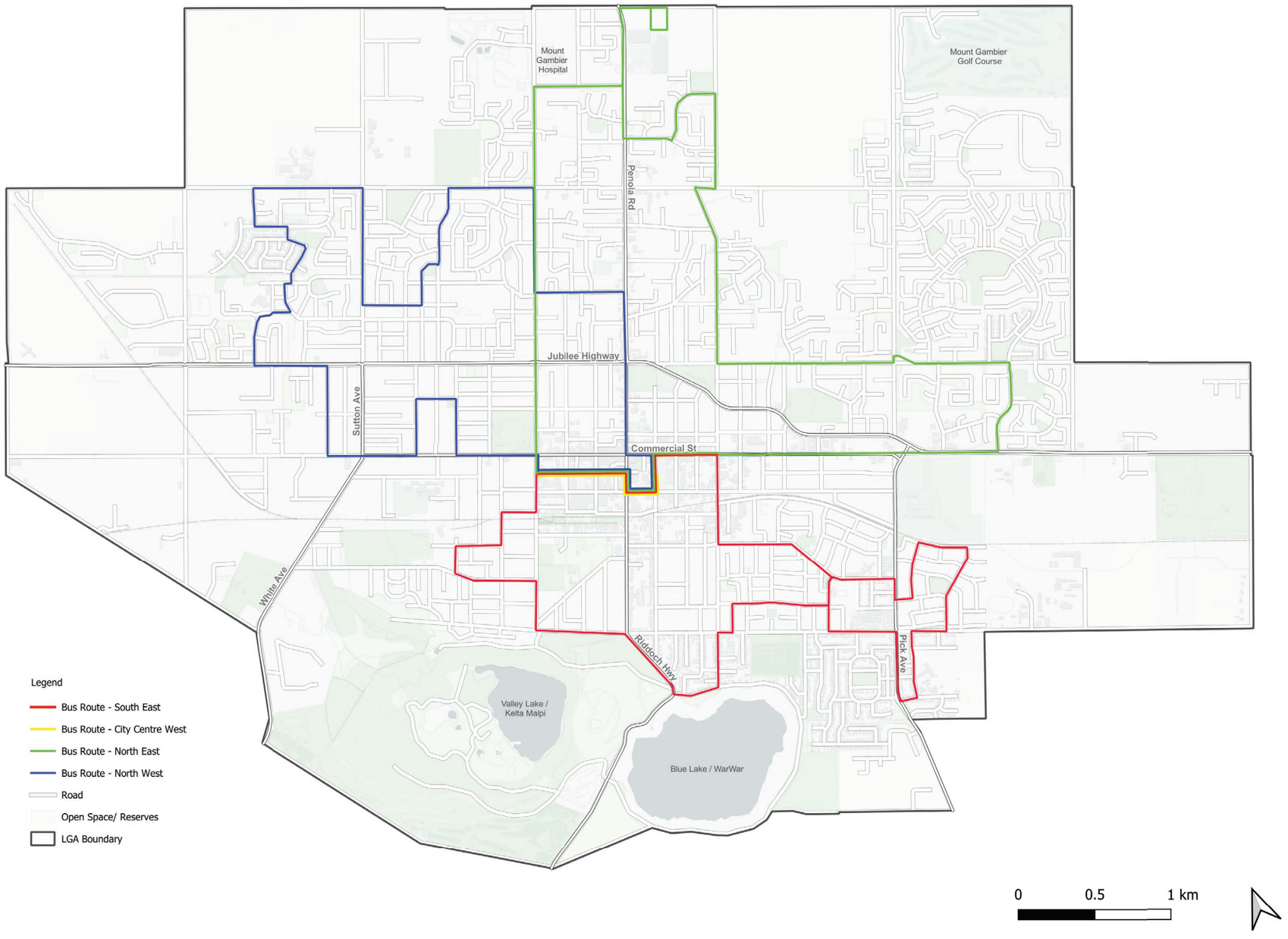
Link SA operates the bus routes within the Mount Gambier region.

- 4 x Loops - North East Loop, South East Loop, North West Loop, City Centre West
- Operates hourly
- Monday – Friday

Approximately 0.2% of people who travel to work utilise the bus service.

This service is heavily underutilised which illustrates a lack of connectivity between public transport and active travel

Map 1 Public transport routes within the region



Road Safety

Crash statistics cover the period from 2018-2022.

Crashes Involving Pedestrians

Commercial Street was an area subject the highest number of crashes involving pedestrians, with 12 crashes involving pedestrians occurring along its length.

The Main Corner of the CBD, and the intersection of Commercial Street/ Penola Road, was subject to a number of pedestrians crashes (5) out of 12 total crashes.

Hedley Street and Commercial Street was subject to 3 crashes involving pedestrians out of a total 6 crashes. There were 7 casualties from the crashes.

Crashes Involving Cyclists

The roundabout of Lake Terrace and Crouch Street received the highest amount of cyclist crashes with 2 cyclist crashes occurring out a total of 3 crashes.

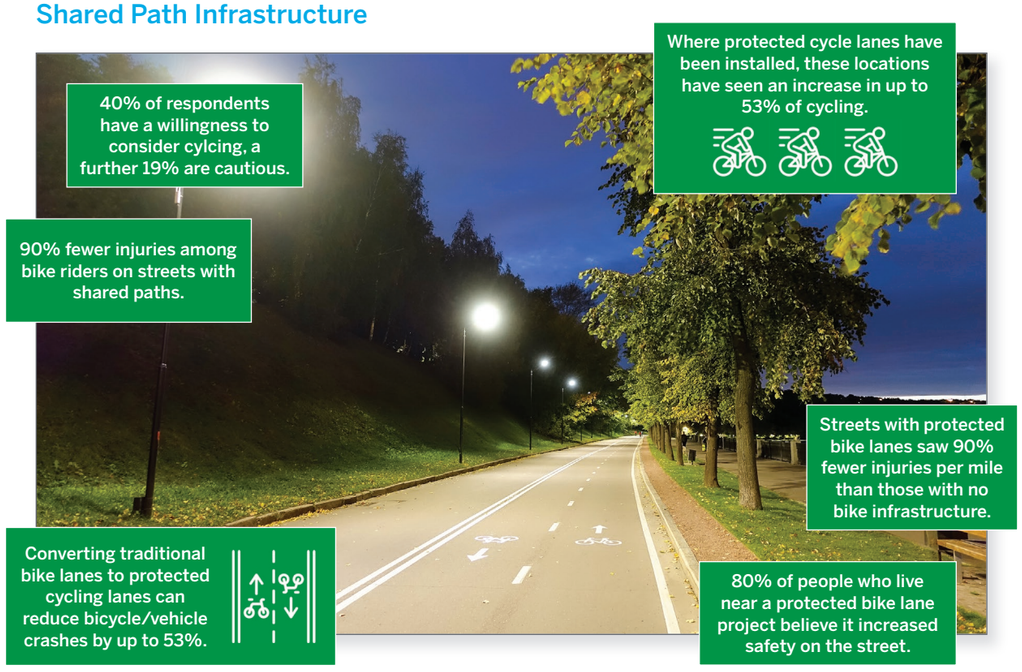
Out of the 31 crashes involving cyclists, 7 of these crashes occurred where there is no separated or protected cycling infrastructure installed, only painted bicycle lanes within the tracked roadway. These included Kennedy Avenue, Lake Terrace, Conroe Drive and Penola Road.

The other 24 crashes involving cyclists occurred where no cycling infrastructure (shared use paths, bicycle lanes, etc.) were installed.

No crashes were recorded on separated infrastructure e.g. the Rail Trail.

Unprotected Infrastructure

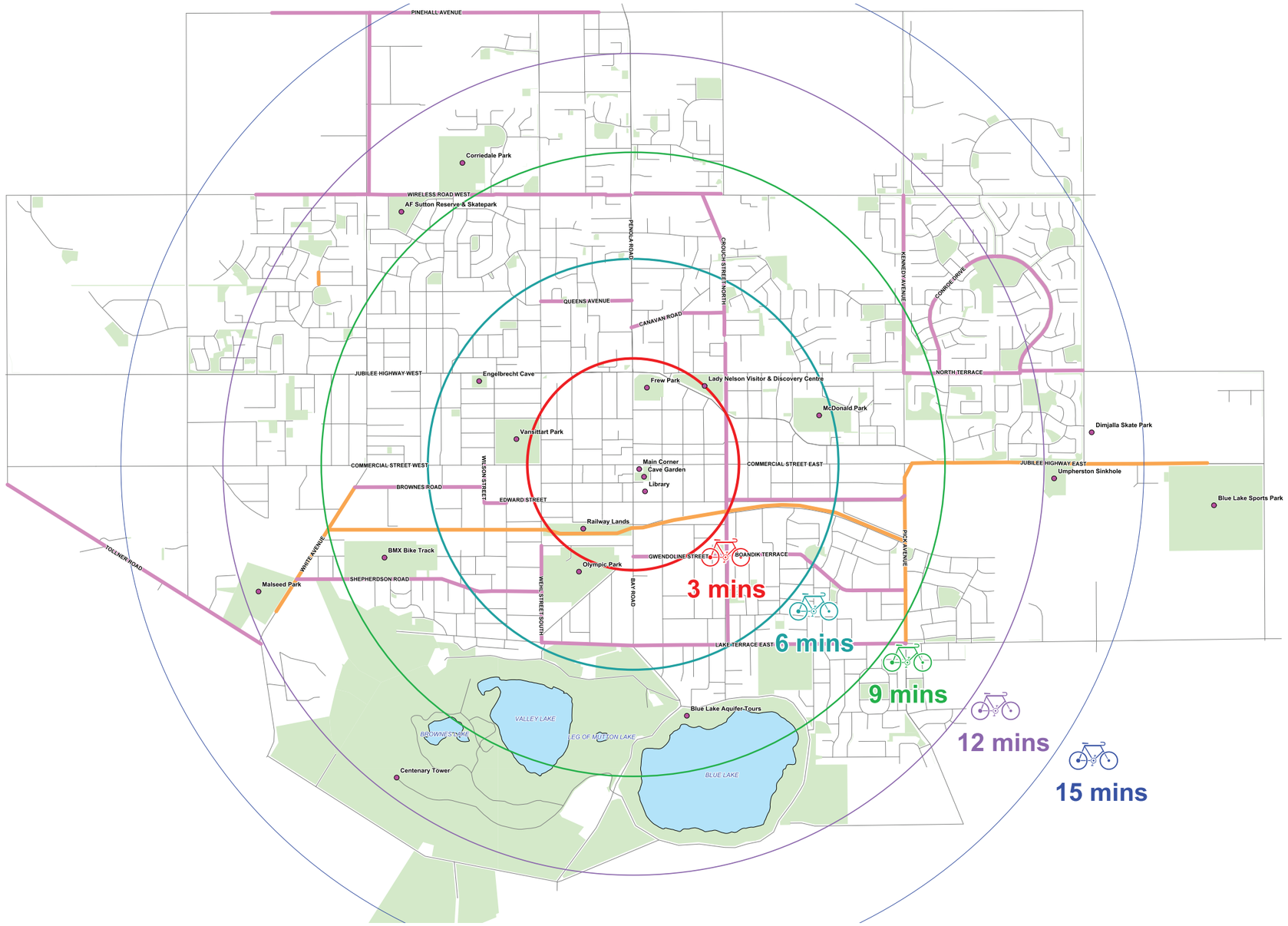
Shared Path Infrastructure



Cycling

The City of Mount Gambier has conducted a travel time analysis utilising a time based buffer tool on the LGA to determine how long a cyclist could travel to the CBD (Main Corner) at 3 minute time intervals. Based on this analysis, a cyclist could be reasonably expected to travel from the outskirts of the LGA boundary to the CBD in 15 minutes.

Map 2 Travel time analysis of Mount Gambier LGA (Cyclist)

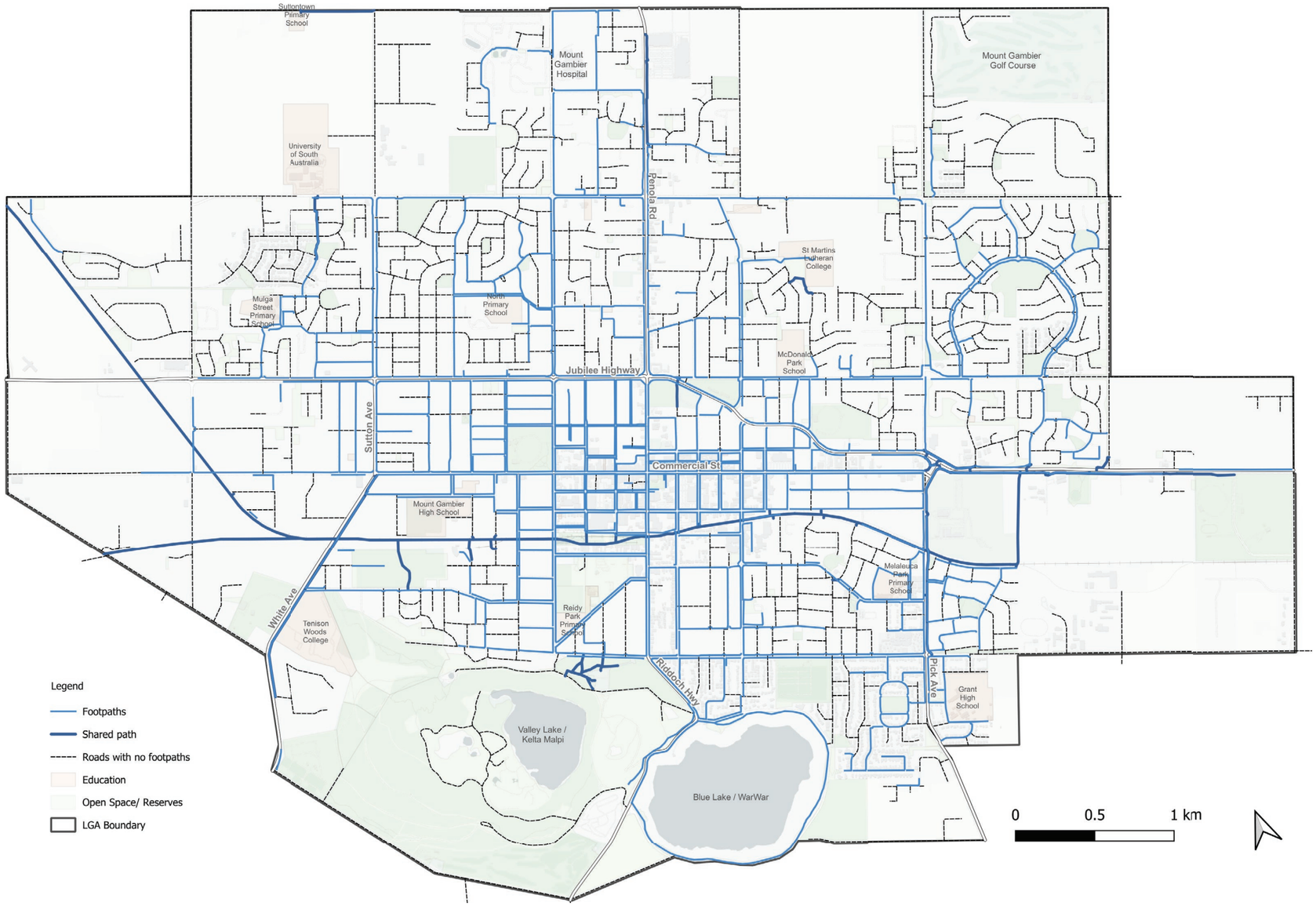


Pedestrians

As we progressively move in all directions away from the main CBD and Commercial Street, footpaths tended to decrease in width and overall coverage (footpaths service one side of the road as opposed to both sides within the CBD). Importantly coverage was limited the further north of the higher order roads, where serviceability of footpaths north of Jubilee Highway equated to only 25% of the total footpath network.

Footpath coverage north of Jubilee Highway does not appear to service walking and accessibility for much of the local road network and residential areas despite accounting for over 50% of the Mount Gambier population, this would certainly impact on both commuting/recreational active transport within the area.

Map 3 Footpath Coverage in Mount Gambier



Parks

- **P1** Corriedale Park
- **P2** AF Sutton Reserve & Skatepark
- **P3** Frew Park
- **P4** McDonald Park
- **P5** Vansittart Park
- **P6** Dimjalla Skate Park
- **P7** Blue Lake/Warwar Sports Park
- **P8** Olympic Park
- **P9** BMX Bike Track
- **P10** Malseed Park

Trip Advisor Top 10

- **T1** Engelbrecht Cave
- **T2** Lady Nelson Visitor & Discovery Centre
- **T3** Umpherston Sinkhole/Balumbul
- **T4** Cave Garden/Thugi
- **T5** Blue Lake/Warwar Aquifer Tours
- **T6** Echo Farm

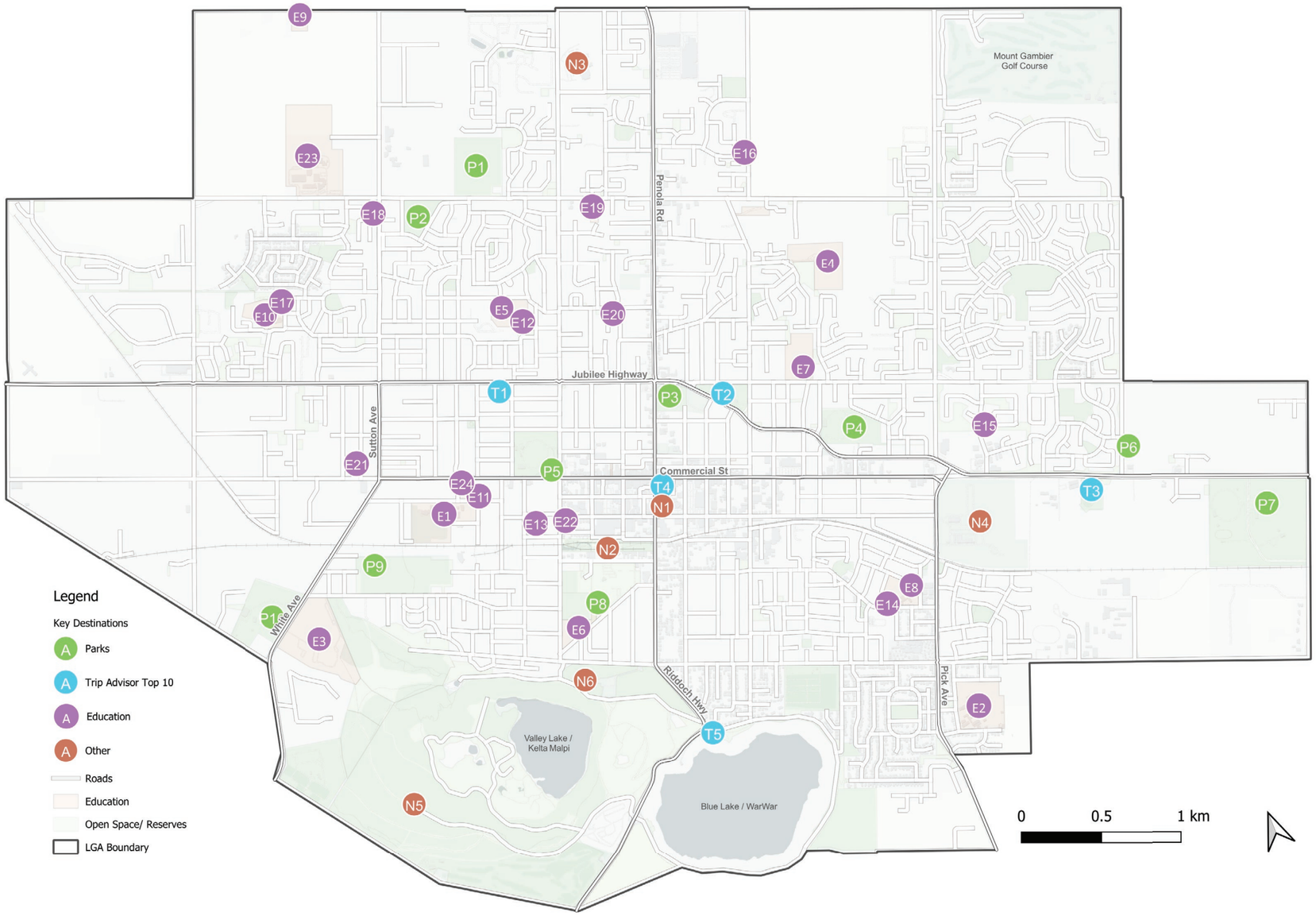
Other Locations

- **N1** Library
- **N2** Railway Lands
- **N3** Mount Gambier Hospital
- **N4** Mount Gambier Showgrounds
- **N5** Centenary Tower
- **N6** Elizabeth Knight Reserve

Schools, Education and Childcare within the City

- **E1** Mount Gambier High School – High School
- **E2** Grant High School – High School
- **E3** Tenison Woods College – R-12
- **E4** St Martins Lutheran College – R-12
- **E5** North Primary School – Primary
- **E6** Reidy Park Primary School – Primary
- **E7** McDonald Park School - Primary
- **E8** Melaleuca Park Primary School - Primary
- **E9** Suttontown Primary School – Primary
- **E10** Mulga Street Primary School - Primary
- **E11** Gordon Education Centre – Special School
- **E12** Acacia Kindergarten
- **E13** St Martins Kindergarten
- **E14** Melaleuca Park Kindergarten
- **E15** Akuna Kindergarten
- **E16** Gladigau Park Kindergarten
- **E17** Mount Gambier Childrens Centre
- **E18** Community Kids Montebello Early Education Centre
- **E19** Community Kids Mount Gambier Early Education Centre
- **E20** Goodstart Early Learning Mount Gambier
- **E21** Mount Gambier Child Care Centre
- **E22** Carma Playhouse
- **E23** UniSA & TAFE SA Campus - Tertiary
- **E24** Pangula Mannamurna – Indigenous Health and Culture

Map 4 Key Destinations in Mount Gambier



Communication

As part of the initial scope of work a series of stakeholder engagement meetings were held with Council and selected members of the community.

Engagement with Council Staff

Engagement with Targeted Stakeholders

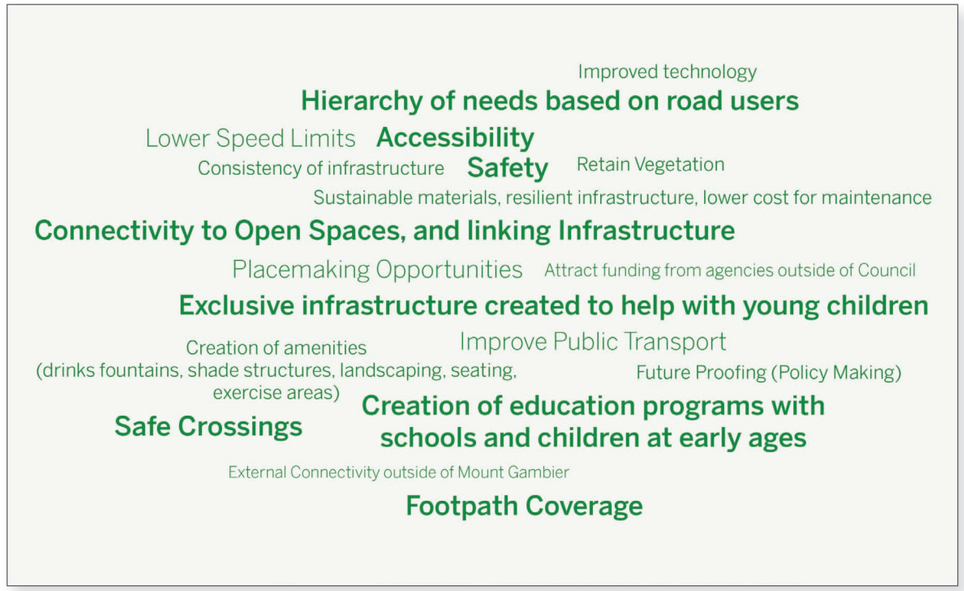
Engagement with the Broader Community

83% of respondents owned a bicycle, 66% 2 or more and 41% 3 or more. 75% of respondents were active at least once a month cycling, 41% at least once a week.

To encourage further usage of these pathways, participants were asked what you would consider the most appealing out of a range of options that they believe would assist with increasing uptake. For cycling, the biggest contributors were seeing more cycling paths and dedicated segregated cycling paths introduced, the least important was improving signage/wayfinding. For walking, improving footpaths was of high importance followed by prioritising pedestrian safety, introducing more amenities and new lighting infrastructure.

In the word clouds below, the phrases that were mentioned most frequently are displayed in larger text, and those that were mentioned less frequently are smaller.

Council Engagement



Targeted Engagement

Alignment

Council is committed to ensuring the Shared Path Masterplan has a strategic alignment with the daily activities, projects, and objectives of likeminded literature. The following section discusses how the Shared Path Masterplan bridges the gap between key strategic documents and literature surrounding best practice studies, design, infrastructure and leadership in active transport.

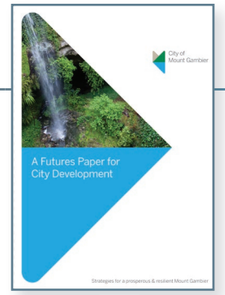
Key Documents

Riding is a legitimate transport, sport and recreation option and people who choose to ride deserve to feel safe and be safe, just like those who choose to walk, use public transport, or drive a car. Investment in safer riding environments in South Australia will encourage more interested, but concerned people, to ride and will assist in improving attitudes towards riding. The Department of Infrastructure and Transport's draft Cycling Plan outlines the vision, objectives, initiatives, and actions along with six priority projects to increase participation, improve physical and mental wellbeing and improve community outcomes.

2022-2032 Cycling Strategy for South Australia

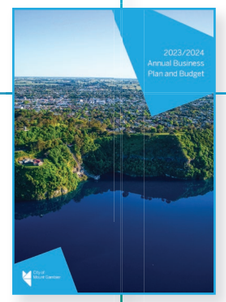
Mount Gambier Sport, Recreation and Open Space Strategy

A Futures Paper for City Development

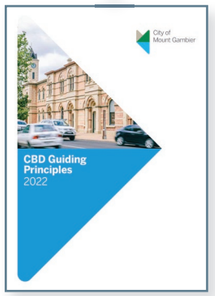


Strategic Plan 2020-2024

2023/2024 Annual Business Plan and Budget



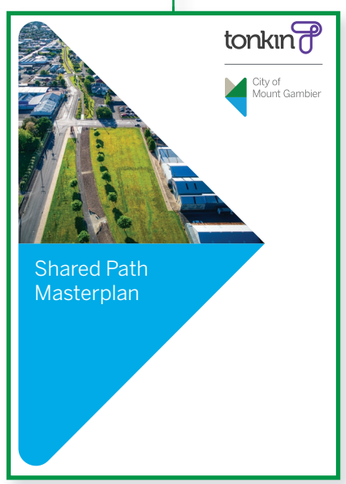
Capital Works Program (future)



CBD Guiding Principles 2022

Disability Access & Inclusion Plan 2020-2024

CBD Accessibility Audit



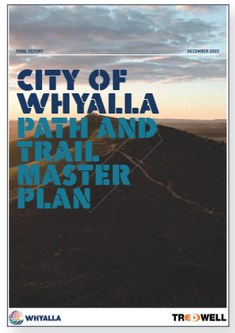
Best Practice

Best practices in developing Shared Paths refer to the approaches, strategies, and principles that have been proven effective in promoting and supporting walking, cycling, and other forms of active transportation. They involve integrating active transport into urban planning and transportation policies, promoting awareness and education campaigns, fostering community engagement, and ensuring connectivity and accessibility to key destinations. By reviewing success stories from regional, state, interstate and international areas ensure the Shared Pathways Masterplan is relevant and effective in it's focus.

Case Studies

Integrated Transport Strategy 2040
City of Wagga Wagga

The Wagga Wagga ITS focuses predominantly on the greater transport network, however, has a section on Active Travel. Themes under Active Transport were principles and strategies focused on improving the cycling network, pedestrian movements.



Draft Path and Trail Masterplan 2022
City of Whyalla

Considered next to Mount Gambier as the next largest regional city in South Australia. Council currently has a draft walking strategy based on improving, at a detailed level, paths and trails in the City of Whyalla. This document focused on the process for the Masterplan including a detailed methodology of strategies and actions.

Walking Cycling and Better Streets Strategy 2031
Lake Macquarie City Council

Provided by Council staff as a comparable Active Transport Strategy that focuses on cycling and walking. This was a comprehensive strategy focused on high level planning and the development of a principle cycling and walking network.

Sustainable Transport Strategy 2010-2020
Warrnambool City Council

With a similar population to Mount Gambier, Warrnambool is considered in the top 10 for the largest regional cities in Victoria. With a similar active transport uptake as Mount Gambier (only 15%), this document focused on improvements to the existing infrastructure to enhance quality, connectedness and safety within the city.

Leaders

RAA

The RAA (Royal Automobile Association) is an organization based in South Australia that focuses on road safety. They work towards creating safer roads for all users, including motorists, pedestrians, and cyclists. The RAA engages in various activities such as advocacy, public awareness campaigns, and education programs aimed at promoting responsible and safe behaviour on the roads. They also conduct research and provide resources to enhance road safety practices and policies, ultimately striving to reduce accidents and save lives on South Australian roads.

Global Designing Cities Initiative

The Global Cities Design Initiative are a team of designers, planners, and urban strategists committed to reimagining streets as places for people, shaping cities that are safe, healthy, accessible, and equitable for everyone.

Design Toolkits

Design toolkits are comprehensive resources that provide guidelines, strategies, and resources for designing and planning infrastructure to support active transportation modes such as walking and cycling. It typically includes design principles, best practices, case studies, and specific recommendations for creating safe and accessible infrastructure for users.

The following best practice toolkits have been developed to support councils in developing sustainable and inclusive transportation networks.

Global Street Design Guide

The strategies and best practices in the Global Street Design Guide are the foundation of the Global Designing Cities Initiative, and they have been applied in cities across the globe. The Global Street Design Guide is supporting practitioners to redefine the role of streets in cities around the world. Created with the input of experts from 72 cities in 42 countries, the Guide offers technical details to inform street design that prioritizes pedestrians, cyclists, and transit riders.

Transport for NSW: Cycleway Design Toolbox

The aim of the Cycleway Design Toolbox is to provide guidance for practitioners on how to design for cycling and micromobility in the context of New South Wales and Greater Sydney. This Toolbox provides practitioners with a range of design tools, being a comprehensive suite of best practice designs across a range of typical on- and off-road environments that can be tailored to their specific environment. It can be used to justify the planning, design and delivery of high-quality cycling infrastructure by demonstrating the positive impact on level of service for people cycling.

Examples of Innovative Infrastructure

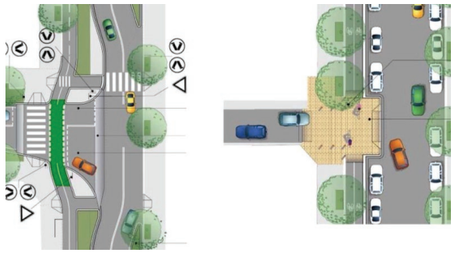
Austroads provided a publication of cycling infrastructure design, planning, and implementation from different cities and regions. The publication aims to showcase best practices and lessons learned in creating safe and attractive cycling infrastructure, promoting active transport, and encouraging cycling as a mode of transport. Examples of innovative infrastructure could be considered for the Shared Path Masterplan.

Bicycle Facilities at Signalised Intersections

This intersection includes dedicated storage areas for cyclists and opportunities for cyclists to move from the road onto the footpath. By moving onto the footpath, this allows for cyclists to safely cross at dedicated locations that are away from vehicles.

Separated Bicycle Facilities at Multi-Lane Roundabout

This roundabout includes off-road paths and median island refuges around the roundabout to connect on-road cycle lanes located on the approach and exit of the roundabout. The paths and refuges permit safe travel around the multi-lane roundabout, reducing the potential for conflict by cyclists travelling through the roundabout in the vehicle lane.



Non-Signalised T Intersection

The following is an example treatment used in NSW for the improvement of cycling facilities across non-signalised T intersections. These treatments involve seperating the cyclist or raising the minor leg of the intersection to prioritise cyclist safety through reduced vehicle speeds and segregation.

Protected Bicycle Paths

Protected facilities are typically used for major cycleway connections. These designs provide a framework for protected cycleway design in various contextual constraints. These facilities provide functional separation of bicycle traffic from risky conflicts with parked cars or traffic lanes.

Separated Cycleways

Separated paths are cycling paths that are separated from both the road (vehicle traffic) and pedestrians (footpaths), seperated cycleways that separate riders from vehicle traffic and provide clear intersection treatments encourage people to ride who would not if there were just painted lanes.

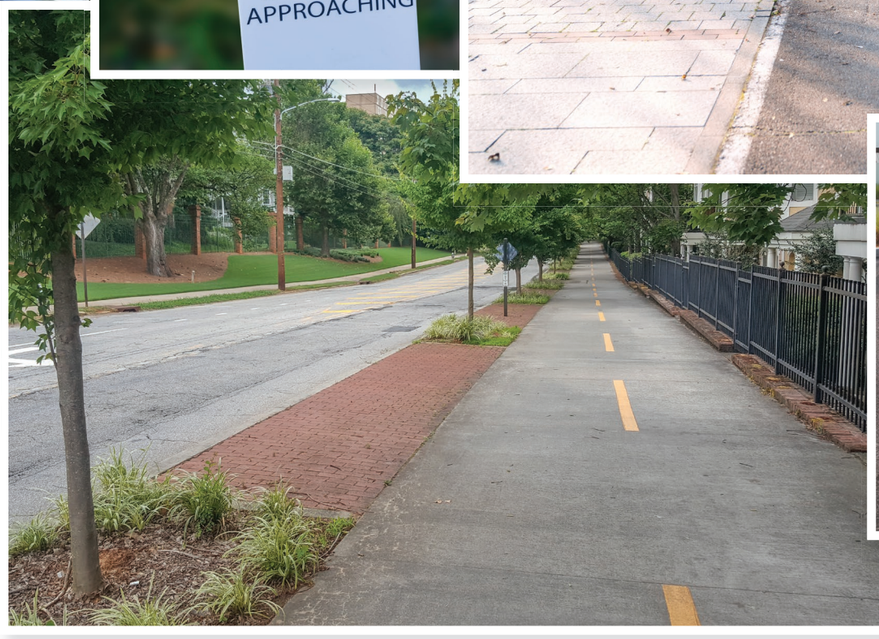
Shared Zones

A shared zone is a road or network of roads or a road related area where space is shared safely by vehicles and pedestrians and where pedestrian priority and quality of life take precedence over ease of vehicle movement. Shared zones give priority to cyclists and pedestrians and functions as a bicycle friendly alternative to areas of higher traffic speeds and/or volumes.

Shared Use Paths in Former Rail Corridor

The rail trail in Mount Gambier is a recreational shared use pathway that follows the former railway line in the region. It offers a scenic and enjoyable route for walking, cycling, and other non-motorised activities. The rail trail in Mount Gambier is a popular route as it provides good connectivity across the region, and provides areas for outdoor recreation exploration.

Treatment Examples



Where do we want to be?

The Plan will illustrate a comprehensive system of separated infrastructure that will safely connect neighbourhoods, while encouraging safe travel options for cycling, pedestrian and mobility impaired users. This gives people with all degrees of mobility a safe, accessible space to cycle, walk and recreate, separate from motor traffic. This is especially important for mobility impaired users and cyclists and above all, for young children.

Vision

The Active City
We will create a high quality, safe and connected shared path network that enables active transport, is accessible to all and enhances our community.

Vision	**Objectives**	**Goals**	**Prioritised Actions**
The Active City	Quality Connected & Inclusive Safe Supported	Actions	Short term Medium term Long term

Objectives

Quality
Focuses on planning and design of the shared pathway network.

Connected & Inclusive
A connected and inclusive shared pathway network.

Safe
A safe shared pathway network that reflects consideration to all users.

Supported
Enhances wellbeing and encourages active transport.

Goals

Objective 1: Quality

Cycling Functional Hierarchy

1.1 Quality in Design

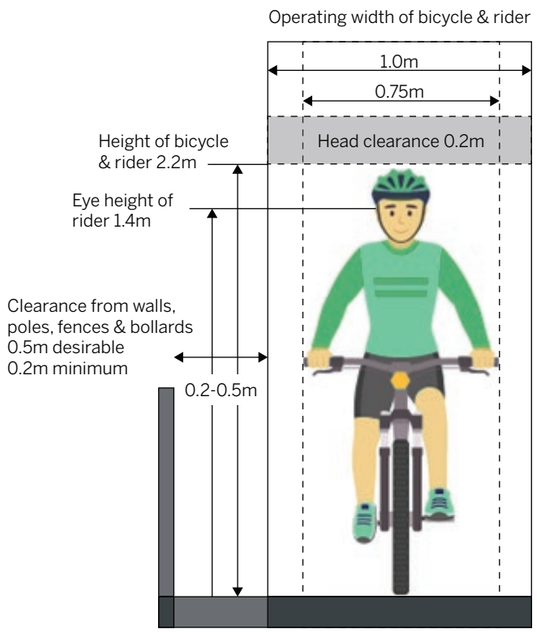
The surroundings encountered when cycling range from attractive to intimidating and can encourage or discourage cycling along a route.

A lack of consistent bicycle infrastructure deters bicycle riders, therefore quality in design must take this into account when promoting a high quality cycling network.

Geometric Design

Cyclist Envelope

The bicycle design envelope and clearances shown in the figure below provide the basis for the design of the bicycle facilities.



Path Widths

Path widths should be reflected by the desired function, expected users and treatment type catering for current and future needs.

Shared Paths

Shared paths are paths shared by both walkers and cyclists. They may or may not have a central dividing line to guide direction of travel.

Minimum Width	Maximum Width
2.5m (local and secondary routes)	3.0m (local and secondary routes)
3.0m (primary route)	4.0m (primary route)

Sourced from Austroads Guide to Road Design Part 6a and AS1428

Separated Paths

Separated paths have a designated area for walkers and a dedicated area for cyclists. Effectively they are separate but adjoining paths. The walking and cycling paths can be differentiated by material (eg concrete path next to an asphalt path), or by paint or colour on the same material.

Minimum Width	Maximum Width
4.0m	4.5m
2.2m cyclists	2.5m+ cyclists
1.8m pedestrians	2.0m+ pedestrians

Sourced from Austroads Guide to Road Design Part 6a and AS1428

Accessible Design

Adopting principles of social inclusion and universal design into the development and implementation of these pathways, to better reflect and meet the needs and abilities of our community. The Disability Discrimination Act 1992 (DDA) will guide design and development in coordination with AS1428 Design for Access and Mobility.

Lighting

Lighting of paths is important to ensure that riders and pedestrians are able to perceive hazards, uneven surfaces and also to provide a sense of safety.

Materials

The higher capital cost bikeways with concrete or asphalt surfaces have lower ongoing maintenance requirements and provide better cycling conditions. Where possible, maximum use should be made of local materials to gain experience in their performance, to minimise costs and to better blend with the environment.

- Granular with Spray Sealed
- Granular with Asphalt
- Concrete
- Concrete Block Paving
- Sustainable Products

Sign and Pavement Markings

Distinctive coloured pavements and/or textures maybe used to highlight the road surface in a visual, tactile or audible manner. Public art helps communicate a socially and culturally rich environment. It provides identity and creates a unique and meaningful sense of place.

Directional Signage & Wayfinding Signage

Signs should promote cycling and walking routes and road safety. They provide clear direction and wayfinding to paths, key nodes, destinations.

Amenities

Roadside amenities improve the quality of road travel.

1.2 Network Design - Cycling

For a cycle network to be an effective and viable transport option, the bicycle facility types selected must be appropriate for the road type and be seamlessly linked along routes.

There are five internationally-recognised requirements that must be balanced in the design of cycling network.

Primary Bicycle Routes

Primary bicycle routes should service a locally significant function in the context of a local government.

Secondary Bicycle Routes

Secondary bicycle routes should service a locally medium to high level function in the context of a local government.

Local Bicycle Routes

Predominantly located in local residential areas, local routes often support the start or end of each trip, and as such need to cater for the needs of users of all ages and abilities.

Directness

Directness means offering the cyclist as direct a route as possible with detours kept to a minimum.

Safety & Perceived Safety

At street design level we want to segregate road users by providing dedicated infrastructure for the different transport modes, especially separating motor traffic from cyclists, pedestrians and other active transport users

Comfort

Comfortable bicycle infrastructure should ensure that cyclists experience minimal stops or nuisance.

Attractiveness

Research shows that generally speaking cyclists find green, open spaces, water and aesthetic quality of the built environment attractive.

Coherence

Coherence is about the possibility of getting somewhere by bicycle, whether it is a single-mode trip by bicycle or a multi-modal trip that involves using a bicycle to access public transport hubs.

1.3 Network Design - Pedestrians

The following functional hierarchy defines the priority of the Mount Gambier footpath network.

Primary Footpaths

Primary Footpaths are footpaths considered highly used or in demand by pedestrians.

Primary footpaths should be typically aligned with higher functioning roads and installed on both sides of the road reserve.

Secondary Footpaths

Secondary Footpaths are considered alongside medium levels of demand for pedestrian traffic adjacent to key destinations

Secondary footpaths should be provided on at least one side of the road

Local Footpaths

Local Footpaths are used within local access streets and service the main residential allotments for the start-end trip movements. Local footpaths should be provided on one side of the road and should provide linkage to secondary or primary footpaths.

Lower Service Level Footpaths

Heavy Industrial areas and rural living areas would only see footpaths introduced on a case-by-case basis.

1.4 Infrastructure Hierarchy

The cycling strategy aims to formalise this infrastructure hierarchy into a list of preferred treatments and is linked to the functional cycling hierarchy to provide better consistency and priority for cycling and walking.

Note on implementation: Elements should be installed as high up on the hierarchy as factors such as physical constraints of the particular location, budget, etc. allow.

MOST EFFECTIVE

Hierarchy Treatment	Example
Cycling Only Path	
Cycling Only Path Adjacent to Road	
Shared Cycling/Walking Path Separate from Road	
Shared Cycling/Walking Path Adjacent to Road	

LEAST EFFECTIVE

Hierarchy Treatment	Example
Protected/Separated/ Segregated Bicycle Lane	
Bicycle Lane With Buffer Zone	
Bicycle Lane	

1.5 Development on a Guidance for Treatment

The following table below has been developed to provide the City of Mount Gambier a guide of preferred infrastructure treatments

Road Function	Features	Guidance for Selection (1-5)				
		1. Cycling Only Path Adjacent to Road	**2. Shared Use Path Adjacent to Road**	**3. Protected/ Separated/ Segregated Bicycle Lanes**	**4. Bicycle Lane with Buffer Zone**	**5. Bicycle Lane**
Local Road	Local access street, full of dwellings, low vehicle volumes, low speed < 50km/h	Not required in low volume and low speed areas	Adjacent to schools or key destinations maybe appropriate	Adjacent to schools or key destinations maybe appropriate	Adjacent to schools or key destinations maybe appropriate	
Collector Function (direct access road to key destinations)	Low to Medium Volumes, Road Carriageway > 7.5m, No Parking	Adjacent to schools or key destinations maybe appropriate	Adjacent to schools or key destinations maybe appropriate			
	Low to Medium Volumes, Road Carriageway > 7.5m, With Parking				Not preferred due to door conflict	Safety issues with little protection
Distributor Road (high movement functioning for through access)	Low to High Traffic Volumes, Freight Activity, above 60km/h			Appropriate in areas subject to low speed	Not to consider due to lack of protection	Not to consider due to lack of protection
Regional Road or Arterial Road (State Owned Road*)	Significant Traffic Volumes, Freight, Public Transport, above 60km/h			Appropriate in areas subject to low speed	Not to consider due to lack of protection	Not to consider due to lack of protection

DIT collaboration and liaison will be required to explore the feasibility of each respective treatments along the following roads:

- Bay Road
- Penola Road
- White Avenue
- Sutton Avenue
- Jubilee Highway East and West
- Pick Avenue

KEY ACTIONS - Objective 1: Quality	
Objective	**Description**
Goal 1.1 – Network Design - Cycling	Adopt and Identify a Functional Cycling Hierarchy for Mount Gambier
Goal 1.2 – Network Design - Walking	Adopt and Identify a Functional Walking Hierarchy for Mount Gambier
Goal 1.3 – Guidance for Treatment	Develop and adopt a guidance for treatment in terms of cycling infrastructure
Goal 1.4 – Cycling Infrastructure	Adopt and endorse a Cycling Infrastructure Hierarchy for Mount Gambier
Goal 1.5 – Quality in Design	Adopt a Quality in Design Service Level to integrate within engineering practices.

Objective 2: Connected and Inclusive

Cycling

The following primary, secondary, and local routes that classify Mount Gambier as an integrated network and hierarchy of routes. These routes that have been developed under the five internationally-recognised requirements, mainly focusing on Directness.

2.1 Adoption and Endorsement of **Primary Routes**

- **P1** Suttontown Road
- **P2** Wireless Road East and West
- **P3** Kennedy Avenue
- **P4** Wehl Street South and North
- **P5** Crouch Street South and North
- **P6** Pine Hall Avenue and Bishop Road
- **P7** Grant Avenue/Blue Lake (Warwar)/Crouch Street Loop

2.2 Adoption and Endorsement of **Secondary Routes**

- **S1** Lake Terrace East-West Connection
- **S2** Mulga Street Primary School Connection
- **S3** Mount Gambier North Primary Connection
- **S4** Canavan Road Connection
- **S5** North Terrace Connection
- **S6** Allison Street Connection
- **S7** Tumut Drive Connection
- **S8** Attamura Road Connection
- **S9** Honnington Road Connection
- **S10** Conroe Drive Connection
- **S11** Ferrers Street/Mitchell Street Connection

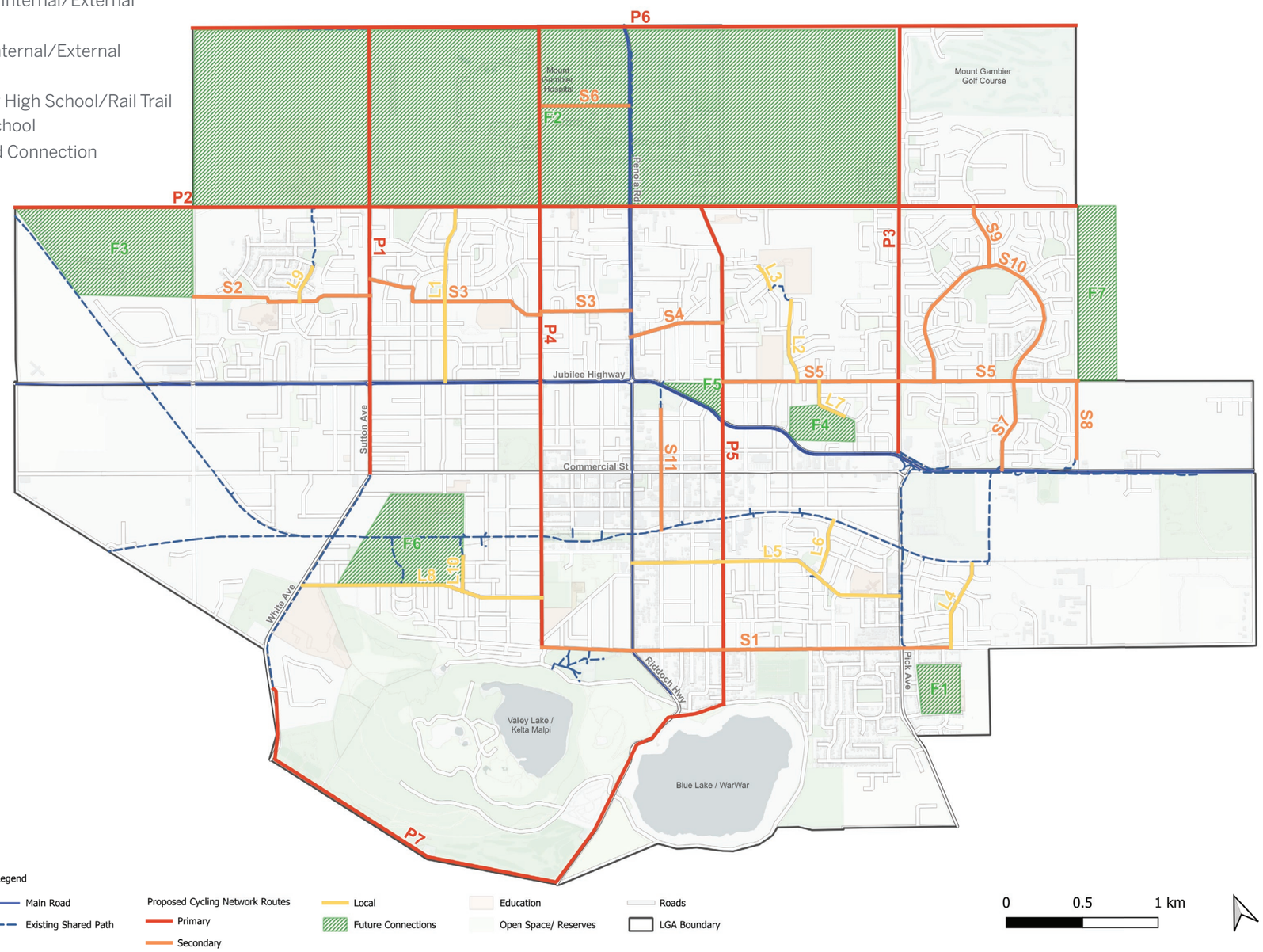
2.3 Adoption and Endorsement of **Local Routes**

- **L1** Acacia Street
- **L2** Dalkeith Drive
- **L3** St Martins Drive
- **L4** Pressey Street
- **L5** Boandik Terrace
- **L6** Hanson Street
- **L7** Comaum Avenue
- **L8** Shepherdson Road

2.4 Adoption and Endorsement of **Future Connections**

- **F1** Grant High School Internal/External Connection - School
- **F2** Northern Growth Area Connection
- **F3** Springview Estate Connection
- **F4** McDonald Park Internal/External Connection
- **F5** City Bike Hire Internal/External Connection
- **F6** Mount Gambier High School/Rail Trail Connection - School
- **F7** Attamurra Road Connection

Map 5 Principal Cycling Network



Pedestrians

This strategy seeks to introduce walking infrastructure that is connected and meets the needs of people of all ages and abilities.

2.5 Integration of Shared Path Network

To ensure an integrated approach to cycling and walking, this goal defines a shared path network surrounding the CBD which integrates primary cycling connections defined under Goal 1.2 to primary walking routes. The Shared Path network aims to provide a connective and inclusive City Wide Loop for universally accessible forms of mobility.

Connectivity to CBD

There is an abundance of footpaths within the CBD (illustrated under Map 3), that provide for suitable walking provisions for the community. Cycling connectivity through the CBD have been illustrated under Objective 2 for P5 – Crouch Street and S11 – Ferrers Street/Mitchell Street.

We want the proposed shared path network to enable people to travel throughout the town and CBD. Dedicated links between the CBD, the Rail Trail and Shared Path routes will continue to be investigated by Council.

Facilitating External Connectivity

Constructing the network so it can connect to other paths outside of CMG and service residents from these areas etc. Liaison should be sought with external road authorities to support the connectivity of residents from surrounding areas that can safely cycle into Mount Gambier.

This objective should also seek to work with other councils and State Government to expand and connect the Rail Trail network throughout the region.

2.6 Improvement of Accessibility for Walking

The following policies set by Mount Gambier under Council Policy F175 – Footways and Crossovers, and L130 – Land Divisions set the following requirements for accessibility and walkability. Both of these policies are recommended for review to update to relevant design standards and guidelines.

2.7 Connectivity to Key Destinations

Links to key destinations is imperative to increase the likelihood of walking for the community.

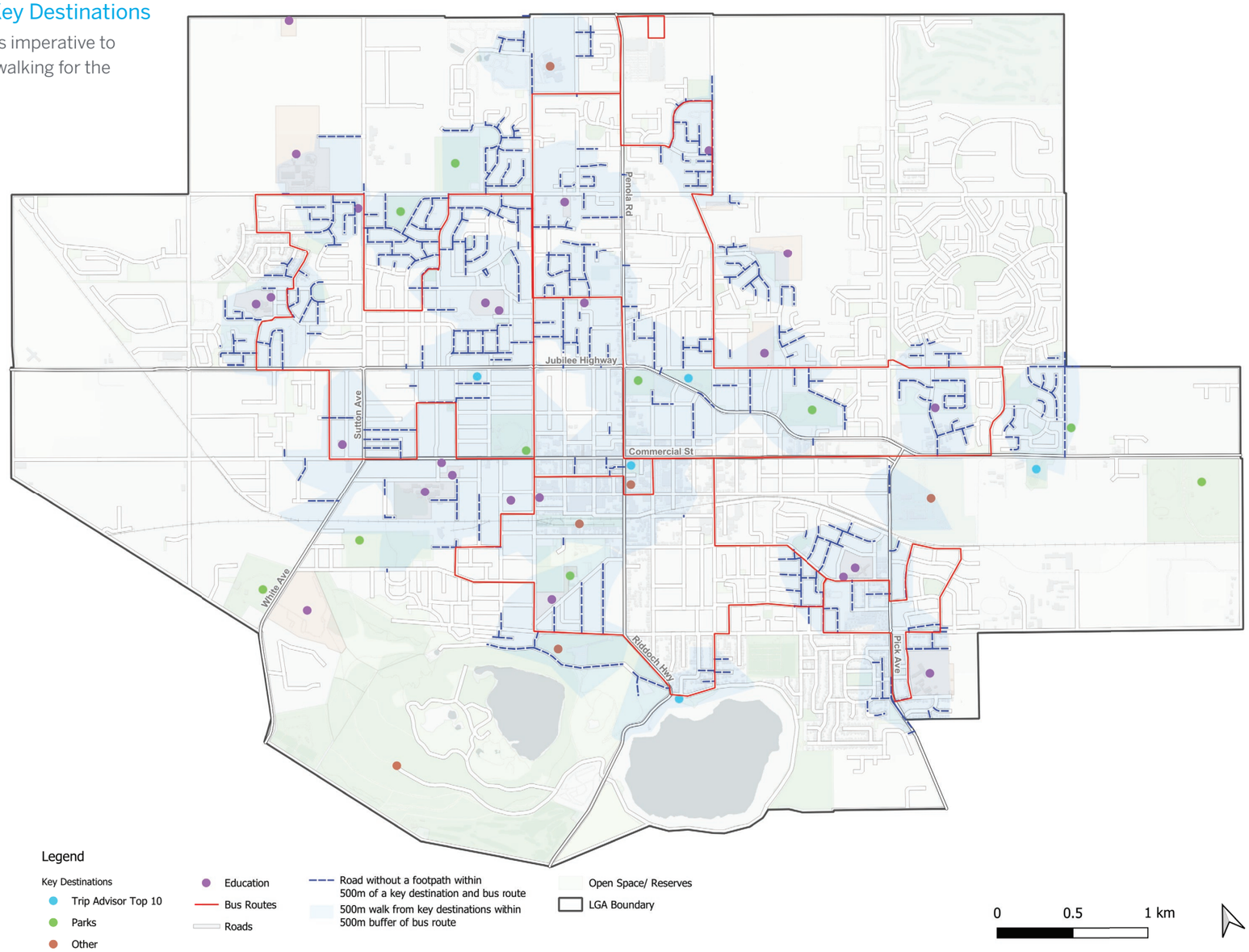
New Footpaths - Connectivity to Key Destinations

Research has illustrated that to increase the likelihood of walking, children who live within 800m of their school are more likely to walk or cycle to school.

New Footpaths - Connectivity to Public Transport

Most South Australians access public transport by walking, therefore bus stops need to connect to high-quality walking routes and environments.

Map 6 Roads Without Footpaths Within Proximity to Key Destinations & Public Transport Stops



2.8 Missing Links Program

A schedule for auditing should be developed on the existing footpath network in Mount Gambier, to assist identifying deficiencies in the existing connectivity of the network.

Audits should be undertaken and separated from 'new footpaths' under Goal 2.6 as 'missing links'.

2.9 Accessibility and Inclusion

The City of Mount Gambier acknowledges the importance of high-quality and well-planned pathways in their role in facilitating improved access within the city for people of all levels of ability. Through a well-considered shared path masterplan, Council's ultimate role is to encourage Active Transport relating to the promotion of physical activity as a mode to reach a destination, whilst also improving transport pathways for those who require the use of alternative transport within our city.

Acknowledging our role as South Australia's Regional Capital, the City of Mount Gambier's Disability Action and Inclusion Plan (DAIP) provides a range of commitments which are over and above our requirements under the Disability Inclusion Act (SA).

This includes a focus on universal design, ensuring participation of people with lived experience of disability to inform decision making and planning and opportunities to 'road test', assess and inform the accessibility of new infrastructure.

In approaching the planning of shared paths, Council acknowledges that the term 'accessibility' aligns to whether the designs are 'enabling' or 'disabling', 'empowering' or 'disempowering', and whether the experience of the place feels inclusive or marginalised.

The City of Mount Gambier commits to being directly informed by those with lived experience of disability in its delivery of shared paths across the city. We will continue to focus on universal design principles and seek opportunity to deliver inclusive functionality aimed at improving the lives of all that use our city.

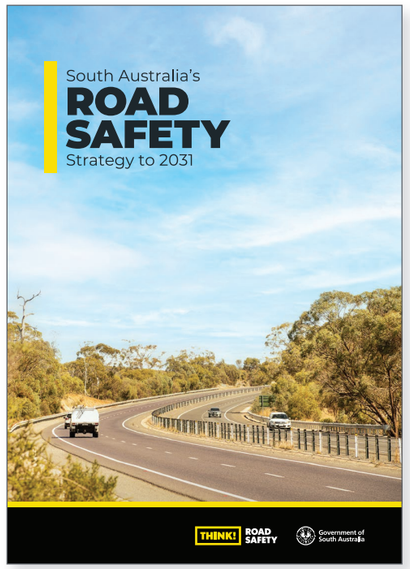
KEY ACTIONS - Objective 2: Connected & Inclusive	
Objective	**Description**
Goal 2.1 – Primary Routes	Adoption and Endorsement of Primary Routes
Goal 2.2 – Secondary Routes	Adoption and Endorsement of Secondary Routes
Goal 2.3 – Local Routes	Adoption and Endorsement of Local Routes
Goal 2.4 – Future Connections	Adoption and Endorsement of Future Connections
Goal 2.5 – Accessibility	Continue to review existing Council policies and endorse a service level as per Goal 1.2
Goal 2.6 – Connectivity	Increase footpath connectivity within Mount Gambier. Priority given to key destinations, public transport and network design set as per Goal 1.2.
Goal 2.8 – Missing Links	Establish a missing link program that focuses on identifying and repairing defects in the existing footpath network.

Objective 3: Safe

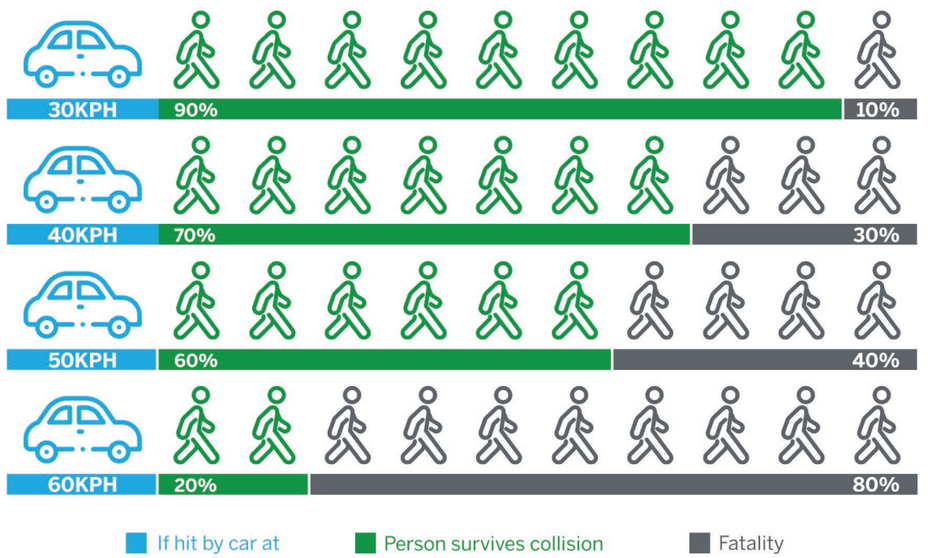
One of the main criteria under South Australia's Road Safety Strategy is to improve safety for people who cycle and walk. Strategies 36-52 under the Road Safety Strategy focus on methods to improve safety for road users under cycling and walking.

Pedestrians
13% Lives Lost
9% Serious Injuries

Cyclists
5% Lives Lost
9% Serious Injuries



The following image provides an indication of the energies involved in pedestrian crashes and the mortality rates as a proportion of speed.



Infrastructure

Infrastructure improvements under this objective were selected based on the following criteria:

- **Route Hierarchy** (Primary, Secondary, Local) – Primary bicycle routes would be subject to a greater likelihood of cyclists.
- **Traffic Volumes** (high, medium, low volumes) – High vehicle volumes are directly proportional to the frequency of crashes.
- **Speed** (High - above 80km/h, Medium - between 50km/h – 80km/h, Low - below 50km/h).

For indicative costs associated with infrastructure under Objective 3, high level cost ranges have been produced, refer Appendix A - High Level Cost Estimates - Infrastructure.

Note these costs are only indicative and are subject to change.

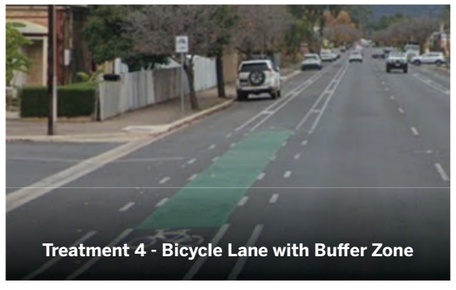
3.1 Mid-Block Improvements

The following tables provide information on the recommended treatments under the Primary, Secondary and Local cycling routes, against the previously developed Guidance for Treatment under Goal 1.5.

Treatment 1 - Cycling Only Path


Treatment 2 - Shared Use Path Adjacent to Road


Treatment 3 - Segregated Cycle Lanes


Treatment 4 - Bicycle Lane with Buffer Zone


Treatment 5 - Bicycle Lane

	Masterplan Location Reference	Route Name	Speed	Volumes	Parking	Recommended Treatment
Primary Routes	P1	Suttontown Road	M	H	Y	1, 2
	P2	Wireless Road E	M	M	N	1, 2
	P2	Wireless Road W	H	M	Y	1, 2
	P3	Kennedy Avenue	H	M	Y	1, 2
	P4	Wehl Street N	M	H	Y	1, 2, 3
	P4	Wehl Street S	M	H	Y	1, 2, 3
	P5	Crouch Street N	L	M	Y	1, 2, 3,
	P5	Crouch Street S	L	H	Y	1, 2, 3
	P6	Bishop Road	H	L	N	1, 2
	P6	Pinehall Avenue	H	L	N	1, 2
Secondary Routes	S1	Lake Terrace E	L	M	Y	2, 3
	S2	Heaver Drive	L	L	Y	2, 3, 4, 5
	S2	John Powell Drive	L	L	Y	2, 3, 4, 5
	S2	Wilga Road	L	L	Y	2, 3, 4
	S3	Betula Road	L	L	Y	2, 3, 4, 5
	S3	Fartch Street	L	L	Y	4, 5
	S3	Heath Street	L	L	Y	2, 3, 4
	S3	Kurrajong Street	L	L	Y	3, 4, 5
	S3	Queens Avenue	L	M	Y	2, 3
	S4	Canavan Road	L	L	Y	2, 3
	S5	North Terrace	L	L	Y	3, 4
	S6	Allison Street	L	M	Y	2, 3
	S7	Tumut Drive	L	L	Y	3, 4, 5
	S8	Attamura Road	L	L	N	2, 3, 4, 5
	S9	Honnington Boulevard	L	L	Y	3, 4 ,5
	S10	Conroe Drive	L	M	N	3, 4, 5
	S11	Ferres Street	L	L	Y	3, 4
	S11	Mitchell Street	L	L	Y	3, 4, 5
Local Routes	L1	Acacia Street	L	L	Y	3, 4, 5
	L2	Dalkeith Drive	L	L	Y	3, 4, 5
	L3	St Martins Drive	L	L	Y	2, 4, 5
	L4	Pressey Street	L	L	Y	3,4,5
	L5	Boandik Terrace	L	L	Y	3, 4, 5
	L6	Hanson Street	L	L	Y	2, 3, 4, 5
	L7	Comaum Avenue	L	L	Y	3, 4, 5
	L8	Shepherdson Road	L	M	Y	2, 3
	L9	Mallee Street	L	L	Y	4, 5

For examples of intersections that could be implemented at the following locations, page 26 refers to some innovative infrastructure at roundabouts, signalised intersections and non-signalised intersections.

Note that consideration of these innovative examples should include consideration of physical constraints, the particular location and budget.

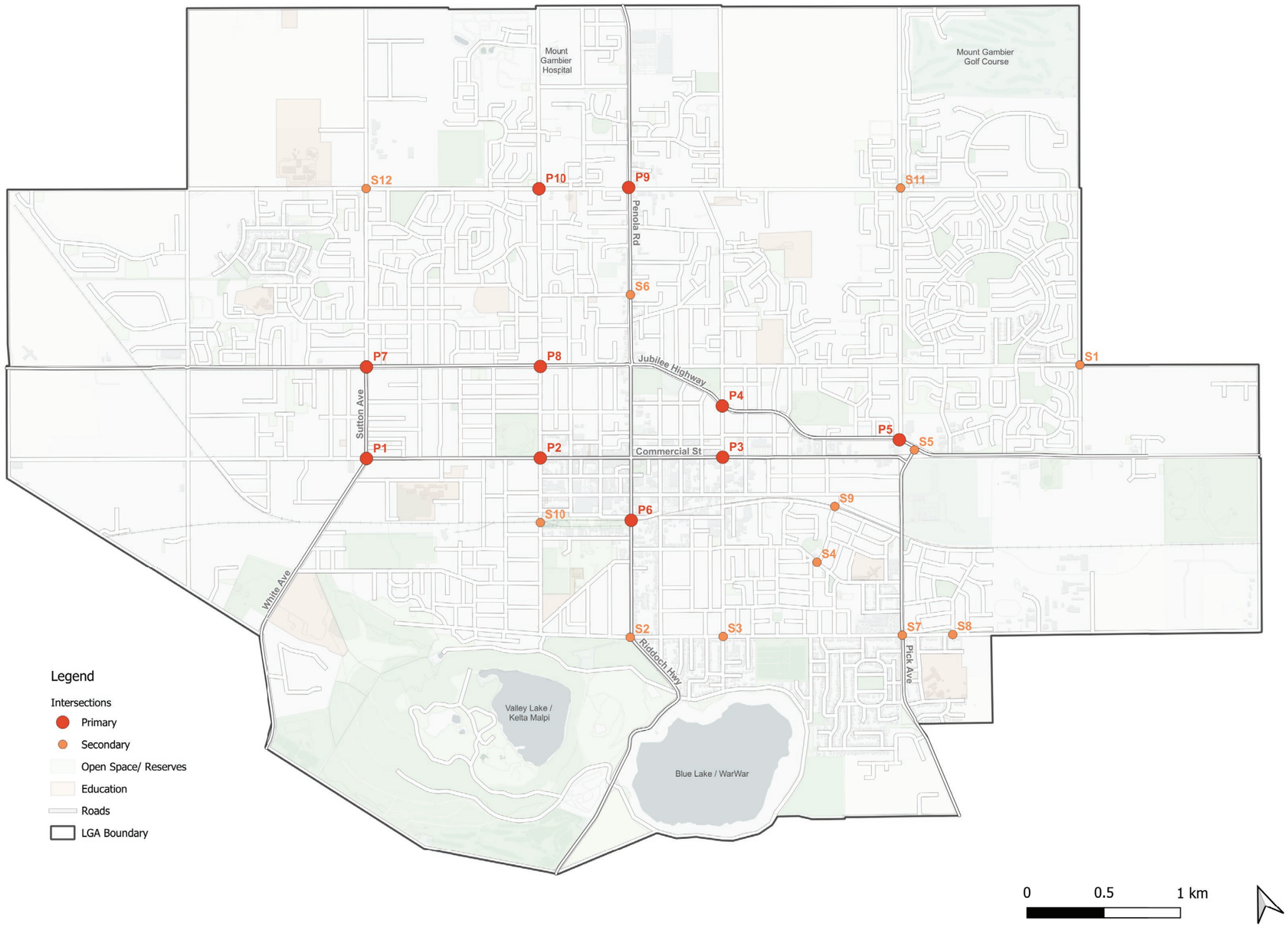
3.2 Primary Intersections - Cycling

P1 Commercial Street/Suttontown Avenue
P2 Commercial Street/Wehl Street
P3 Crouch Street/Commercial Street
P4 Crouch Street/Jubilee Highway
P5 Kennedy Avenue/Jubilee Highway
P6 Rail Trail Intersections
P7 Sutton Avenue/Jubilee Highway
P8 Wehl Street/Jubilee Highway
P9 Wireless Road/Penola Road
P10 Wireless Road/Wehl Street

3.3 Secondary Intersections - Cycling

S1 Attamura Road Connection/North Terrace Connection
S2 Bay Road/Lake Terrace E Connection
S3 Crouch Street/Lake Terrace E Connection
S4 Hanson Street/Boandik Terrace
S5 Jubilee Highway/Pick Avenue
S6 Penola Road/Queens Avenue Connection
S7 Pick Avenue/Lake Terrace E Connection
S8 Pressy Street/Lake Terrace E Connection
S9 Rail Trail/Hanson Street
S10 Rail Trail/Wehl Street
S11 Wireless Road/Kennedy Avenue
S12 Wireless Road/Sutton Avenue

Map 7 Key Primary and Secondary Intersections for Cycling Improvements



3.4 Pedestrians

Given the lack of footpath coverage north of Jubilee Highway, and the future plans within this strategy to increase footpath coverage/ connectivity, it will be difficult to plan for safer crossings. Pedestrian improvements were based on both existing history of crashes involving pedestrians and high volume roads.

- High Volume Roads
- Rail Trail intersections

3.5 Pedestrian Planning

The Code of Technical Requirements provides guidelines on the warrants for children/pedestrian crossing upgrades which focuses on improving safety for pedestrians. This should be based on conducting pedestrian and vehicle surveys at specific locations.

Locations should be developed based firstly on roads that exceed 2,000 vehicles/day, and locations where high pedestrian demand is expected.

3.6 Skill Building Facilities

Road and Cycle Safety Centres make learning how to ride a bicycle fun for children of all ages and teaches young and old riders how to be more confident on the road network

Pump Tracks not only offer a space to exercise and improve skills, such as balance and coordination, they also provide a community focal point.

The City of Mount Gambier has seen the success of the Rail Trail, and with a purpose of continuing to increase the level of safety and confidence in cycling and walking, the introduction of skill building facilities are recommended, preferably adjacent to primary or secondary cycling/walking routes.

Speed Limits

3.7 Safer Speeds

Primary, Secondary and Local Bike Routes should be assessed and reviewed for reduced speeds to further increase the safety and alignment with the State's Road Network Strategy.

KEY ACTIONS - Objective 3: Safe

Objective	Description
Goal 3.1 – Mid-Block Improvements	Feasibility, assessment, design and implementation of mid-block cycling improvements based on Primary, Secondary and Local definitions.
Goal 3.2 – Primary Cycling Intersections	Prioritise identified primary intersections with a focus on cycling safety improvements
Goal 3.3 – Secondary Cycling Intersections	Prioritise identified secondary intersections with a focus on cycling safety improvements
Goal 3.4 – Pedestrians	Prioritise and investigate pedestrian improvements at high demand and high traffic volume locations
Goal 3.5 – Pedestrian Planning	Schedule a plan for proactively identifying pedestrian locations based on select criteria.
Goal 3.6 – Skill Building Facilities	Investigate demand to consider a new skill building facility adjacent to primary or secondary cycling/ walking routes.
Goal 3.7 – Safer Speeds	Consider area wide speed reductions in Mount Gambier.

Objective 4: Supported

Amenities

4.1 Natural Landscaping

Consultation prior to the installation of bicycle facilities which incorporate natural landscaping elements, and trees and shrubs should be undertaken across the relevant departments within Council to ensure supported collaboration between infrastructure and the natural environment. Sufficient resources must be allocated for ongoing maintenance.

4.2 Facilities

The development of amenities and destinations adjacent to the path, such as bicycle skills tracks, natural planting will add to the overall user experience.

Mid and end-of-trip facilities should reflect the specific climate and terrain of the area and emphasise the unique landscape of Mount Gambier.

The following facilities along Primary and Secondary bicycle routes are essential in supporting the community.

- Shade/Shelters
- Bicycle Parking
- Maintenance Stations
- Water Stations
- Rest Areas
- Skill Building Facilities
- Public Art.

4.3 Council Policies and Procedures

Council will need to review policies and procedures e.g. the L130 Land Divisions policy, to incorporate the Shared Path Masterplans objectives and goals (Quality, Connected, Safe, Supported).

Council procedures, such as maintenance frequency is to be reviewed in line with Council's Asset Management Plan Framework and Council budgets. Frequency of maintenance may need to increase based on adverse weather events.

Scheduling and maintenance of shared path assets shall be developed as a goal of this Masterplan.

Education

4.4 Skills Building Facilities

Promotion of skills building facility, such as a mini-road network gives children a real-life experience as they learn how to ride a bicycle in a safe and controlled environment. Council should utilise its marketing resources to encourage, educate and promote the use of the facility. Birthday Parties and other promotional events could be held at the facility.

4.5 Way2Go Program

Encouragement for schools to participate in the Way2Go Program

4.6 Events

Incorporate walking and cycling events into the Council event calendar.

4.7 Design of Wayfinding and Interpretive Signs/Public Art

Design and create Mount Gambier themed wayfinding and interpretative signs to encourage a sense of place and culture within the City.

By engaging with local artists, road murals and public art could be introduced as entry statements to places or within primary cycling routes.

4.8 Digital Integration of the Cycling and Walking Network

With new capabilities for digital asset mapping, the integration of the shared pathway network should be represented on a spatial mapping system, suitable for viewing online.

4.9 Encourage of Uptake in Strava

Strava Metro is a tool to work with urban planners, trail networks, city governments and safe-infrastructure advocates to understand mobility patterns, identify opportunities for investment and evaluate the impact of infrastructure changes.

Greater use of Strava would assist Council in assessing the active transport network within Mount Gambier, and plan for future improvements."

KEY ACTIONS - Objective 4: Supported

Objective	Description
Goal 4.1 – Natural Landscaping	Incorporate holistic planning of infrastructure that incorporates attractive natural greening measures
Goal 4.2 – Facilities/Amenities	Introduce and support start-mid-end trip facilities and amenities on primary/secondary bicycle routes
Goal 4.3 – Maintenance	Support through maintenance on cycling and walking routes, inclusive of Goal 2.7
Goal 4.4 – Skill Building Facilities	Promotion of new skill building facilities, and utilising marketing resources to encourage use of the facility.
Goal 4.5 – Way2Go Program	Encourage schools to participate in the Way2Go Program.
Goal 4.6 - Events	Incorporate Walking/Running and Cycling events through liaison with Tourism Agencies
Goal 4.7 – Design of Signage/ Public Art	Design and create place based signage and public art for integration into primary cycling and walking routes.
Goal 4.8 – Digital Integration of Cycling and Walking Network	Digital integration of the cycling and walking network into the Council's spatial database.
Goal 4.9 – Encourage Uptake of Strava	Encourage use of Strava to further understand travel patterns and planning for infrastructure.

Priority of Actions

The following tables summarise the strategies and actions for implementing cycling and walking improvements in Mount Gambier.

The Action Plan provides the following timeframes:

- Short (next 3 years);
- Medium (3 to 5 years); and
- Long term (5 to 10 years and beyond)
- Ongoing (continue to monitor throughout the Masterplan.

The masterplan applies the following principles when setting priorities:

- Prioritising safe solutions that will have a known net benefit cost ratio in terms of road safety.
- Connecting the gaps in the existing network and providing 'quick wins' to build momentum.
- Aligning with planned Council projects and those identified in State Government strategies and plans.
- Addressing solutions as under it's defined level of change so that the most pressing needs are addressed as a priority.
- Complexity of the action in terms of resourcing effort by relevant stakeholders.
- Investigating better use of existing assets and sustainability along with investment in new facilities and services to maximise benefits and provide value for money.

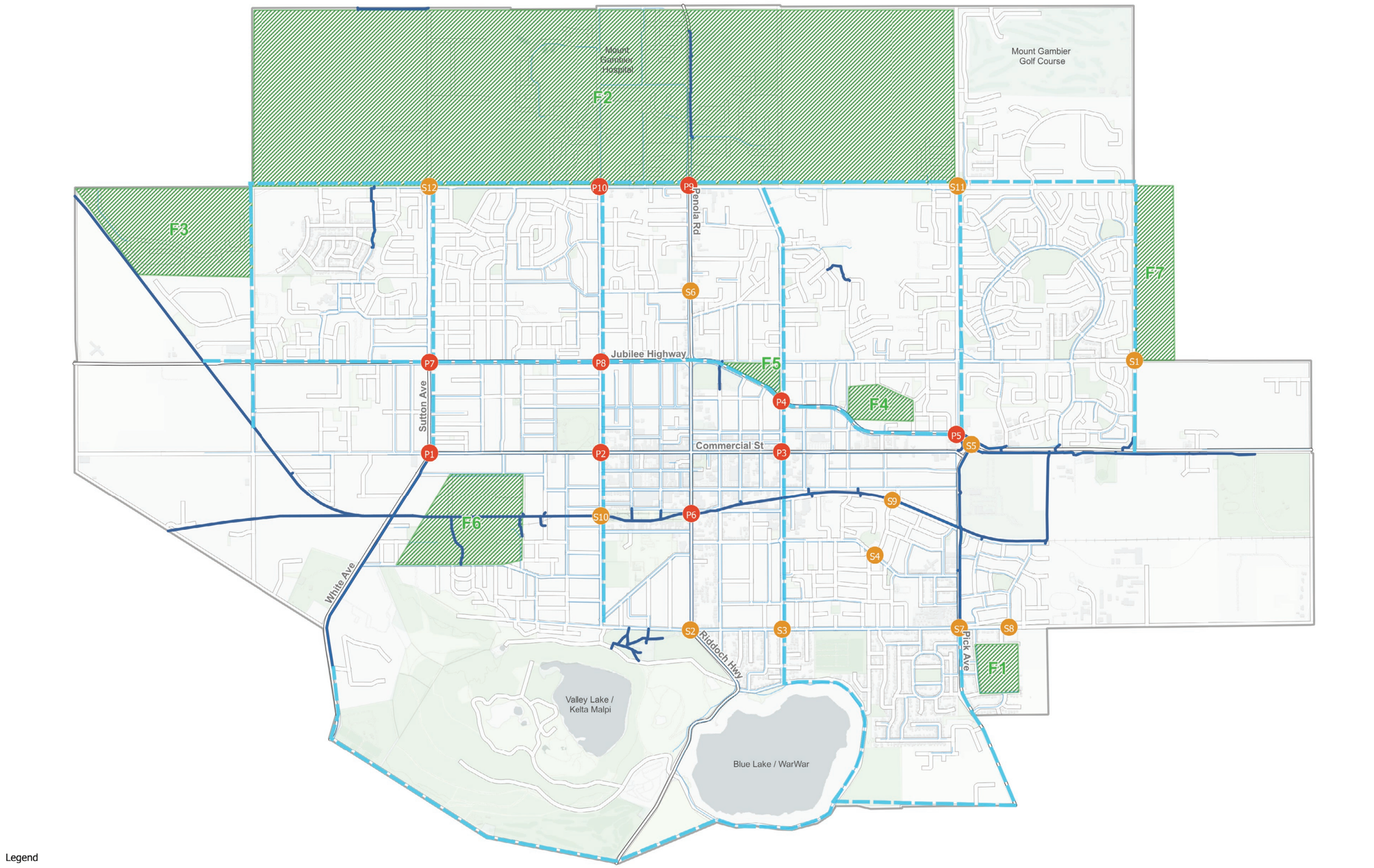
Quality			Short	Medium	Long	Ongoing
Goal 1.1	Quality in Design	Adopt a Quality in Design Service Level to integrate within engineering practices.				
Goal 1.2	Cycling Infrastructure	Adopt and endorse a Cycling Infrastructure Hierarchy for Mount Gambier				
Goal 1.3	Network Design - Cycling	Adopt and Identify a Functional Cycling Hierarchy for Mount Gambier				
Goal 1.4	Network Design - Walking	Adopt and Identify a Functional Walking Hierarchy for Mount Gambier				
Goal 1.5	Guidance for Treatment	Develop and adopt a guidance for treatment in terms of cycling infrastructure				

Connected & Inclusive			Short	Medium	Long	Ongoing
Goal 2.1	Primary Routes	Adoption and Endorsement of Primary Routes				
Goal 2.2	Secondary Routes	Adoption and Endorsement of Secondary Routes				
Goal 2.3	Local Routes	Adoption and Endorsement of Local Routes				
Goal 2.4	Future Connections	Adoption and Endorsement of Future Connections				
Goal 2.5	Integration of Shared Path Network	The Shared Path network aims to provide a connective and inclusive City Wide Loop for cycling and walking				
Goal 2.5	Accessibility	Continue to review existing Council policies and endorse a service level as per Goal 1.2				
Goal 2.6	Connectivity	Increase footpath connectivity within Mount Gambier. Priority given to key destinations, public transport and network design set as per Goal 1.4				
Goal 2.7	Missing Links	Establish a missing link program that focuses on identifying and repairing defects in the existing footpath network.				

Safe			Short	Medium	Long	Ongoing
Goal 3.1	Mid-Block Improvements	Feasiblity and Design of Cycling Treatments established under Goal 1.5				
Goal 3.2	Primary Cycling Intersections	Prioritise identified primary intersections with a focus on cycling safety improvements				
Goal 3.3	Secondary Cycling Intersections	Prioritise identified secondary intersections with a focus on cycling safety improvements				
Goal 3.4	Pedestrians	Prioritise and investigate pedestrian improvements at high demand and high traffic volume locations				
Goal 3.5	Pedestrian Crossing Planning	Schedule a plan for proactively identifying pedestrian locations based on select criteria.				
Goal 3.6	Skill Building Facilities	Installation of a new skill building facility adjacent to primary or secondary cycling/walking routes.				
Goal 3.7	Safer Speeds	Consider area wide speed reductions in Mount Gambier				

Supported			Short	Medium	Long	Ongoing
Goal 4.1	Natural Landscaping	Incorporate holistic planning of infrastructure that incorporates attractive natural greening measures				
Goal 4.2	Facilities/Amenities	Introduce and support start-mid-end trip facilities and amenities on primary/secondary bicycle routes				
Goal 4.3	Maintenance	Support through maintenance on cycling and walking routes, inclusive of Goal 2.7				
Goal 4.4	Skill Building Facilities	Promotion of new skill building facilities, and utilising marketing resources to encourage use of the facility.				
Goal 4.5	Way2Go Program	Encourage schools to participate in the Way2Go Program.				
Goal 4.6 - Events		Incorporate Walking/Running and Cycling events through liaison with Tourism Agencies				
Goal 4.7	Design of Signage/Public Art	Design and create place based signage and public art for integration into primary cycling and walking routes.				
Goal 4.8	Digital Integration of Cycling and Walking Network	Digital integration of the cycling and walking network into the Council's spatial database.				
Goal 4.9	Encourage Uptake of Strava	Encourage use of Strava to further understand travel patterns and planning for infrastructure.				

Map 8 Map of Shared Path Recommendations



Appendix A High Level Cost Estimates Infrastructure

Masterplan Location Reference	Route Name	Length (km)	Cost (Upper)	Cost (Lower)	Shared Path Loop (Y/N)
P1	Suttontown Road	3	$450,000	$330,000	Y
P2	Wireless Road E/W	7	$1,050,000	$770,000	Y
P3	Kennedy Avenue	3	$450,000	$330,000	Y
P4	Wehl Street N/S	4	$600,000	$380,000	Y
P5	Crouch Street N/S	2	$300,000	$190,000	Y
P6	Bishop Road	3	$450,000	$330,000	N
P6	Pinehall Avenue	4	$600,000	$440,000	N
S1	Lake Terrace E	2	$220,000	$190,000	N
S2	Heaver Drive	0.4	$44,000	$10,000	N
S2	John Powell Drive	0.5	$55,000	$12,500	N
S2	Wilga Road	0.4	$44,000	$20,000	N
S3	Betula Road	0.3	$33,000	$7,500	N
S3	Fartch Street	0.2	$10,000	$5,000	N
S3	Heath Street	0.7	$77,000	$35,000	N
S3	Kurrajong Street	0.1	$9,500	$2,500	N
S3	Queens Avenue	0.6	$66,000	$57,000	N
S4	Canavan Road	0.6	$66,000	$57,000	N
S5	North Terrace	1.2	$114,000	$60,000	N
S6	Allison Street	0.6	$66,000	$57,000	N
S7	Tumut Drive	0.6	$57,000	$15,000	N
S8	Attamura Road	0.6	$66,000	$15,000	Y
S9	Honnington Boulevard	0.4	$38,000	$10,000	N
S10	Conroe Drive	2	$190,000	$50,000	N
S11	Ferres Street	1.2	$114,000	$60,000	N
S11	Mitchell Street	0.6	$57,000	$15,000	N

Masterplan Location Reference	Route Name	Length (km)	Cost (Upper)	Cost (Lower)	Shared Path Loop (Y/N)
L1	Acacia Street	1.2	$114,000	$30,000	N
L2	Dalkeith Drive	0.6	$57,000	$15,000	N
L3	St Martins Drive	0.4	$44,000	$10,000	N
L4	Pressey Street	0.6	$57,000	$15,000	N
L5	Boandik Terrace	1.4	$133,000	$35,000	N
L6	Hanson Street	0.4	$44,000	$10,000	N
L7	Comaum Avenue	0.4	$38,000	$10,000	N
L8	Shepherdson Road	1.6	$176,000	$152,000	N
L9	Mallee Street	0.3	$15,000	$7,500	N

Appendix B High Level Cost Estimates Intersections

Masterplan Location Reference	Intersections	Cost	Shared Path Loop
P1	Commercial Street/Suttontown Avenue	$500,000 - $1,000,000	Y
P2	Commercial Street/Wehl Street	$500,000 - $1,000,000	Y
P3	Crouch Street/Commercial Street	$100,000 - $500,000	Y
P4	Crouch Street/Jubilee Highway	$100,000 - $1,000,000	Y
P5	Kennedy Avenue/Jubilee Highway	$100,000 - $1,000,000	Y
P6	Rail Trail Intersections	$1,000,000	Y
P7	Sutton Avenue/Jubilee Highway	$200,000 - $1,000,000	Y
P8	Wehl Street/Jubilee Highway	$200,000 - $1,000,000	Y
P9	Wireless Road/Penola Road	$500,000 - $1,000,000	Y
P10	Wireless Road/Wehl Street	$100,000 - $500,000	Y
S1	Attamura Road Connection/North Terrace Connection	$50,000 - $100,000	Y
S2	Bay Road/Lake Terrace E Connection	$100,000 - $500,000	N
S3	Crouch Street/Lake Terrace E Connection	$50,000 - $200,000	Y
S4	Hanson Street/Boandik Terrace	$20,000 - $100,000	N
S5	Jubilee Highway/Pick Avenue	$100,000 - $1,000,000	Y
S6	Penola Road/Queens Avenue Connection	$50,000 - $200,000	N
S7	Pick Avenue/Lake Terrace E Connection	$200,000 - $500,000	Y
S8	Pressy Street/Lake Terrace E	$50,000 - $100,000	N
S9	Rail Trail/Hanson Street	$50,000 - $150,000	Y
S10	Rail Trail/Wehl Street	$50,000 - $150,000	Y
S11	Wireless Road/Kennedy Avenue	$50,000 - $500,000	Y
S12	Wireless Road/Sutton Avenue	$50,000 - $500,000	Y