ATTACHMENT TO AGENDA ITEM

Ordinary Meeting

17 June 2014

Agenda Item 9.1 **Greater Shepparton Cycling Strategy 2013 - 2017**

GREATER SHEPPARTON
CYCLING STRATEGY
2013 - 2017

GREATER SHEPPARTON

Greater Shepparton City Council

Cycling Strategy 2013 - 2017

Final Report

Client: Greater Shepparton City Council
Reference: 12M1664000
GTA Consultants Office: VIC

Council would like to acknowledge the contribution of Shepparton's Cycling Sport Clubs, Shepparton Bicycle User Group and Community Planning Groups and Council Advisory Committees in the development of the Cycling Strategy.

Quality Record

Issue	Date	Description	Prepared By	Checked By	Approved By
A-Dr5	30/07/12	Final Draft – Hold Point 6	Alex Blackett / Tom Courtice	David Graham	DG
A-Dr6	13/09/12	Revised Final Draft	Alex Blackett / Tom Courtice	David Graham	DG
A-Dr7	28/09/12	Final Draft	Alex Blackett / Tom Courtice	David Graham	DG
Final	December 2013	Amended following public consultation phase	Kevin Jones	Ian Boyle	Ian Boyle

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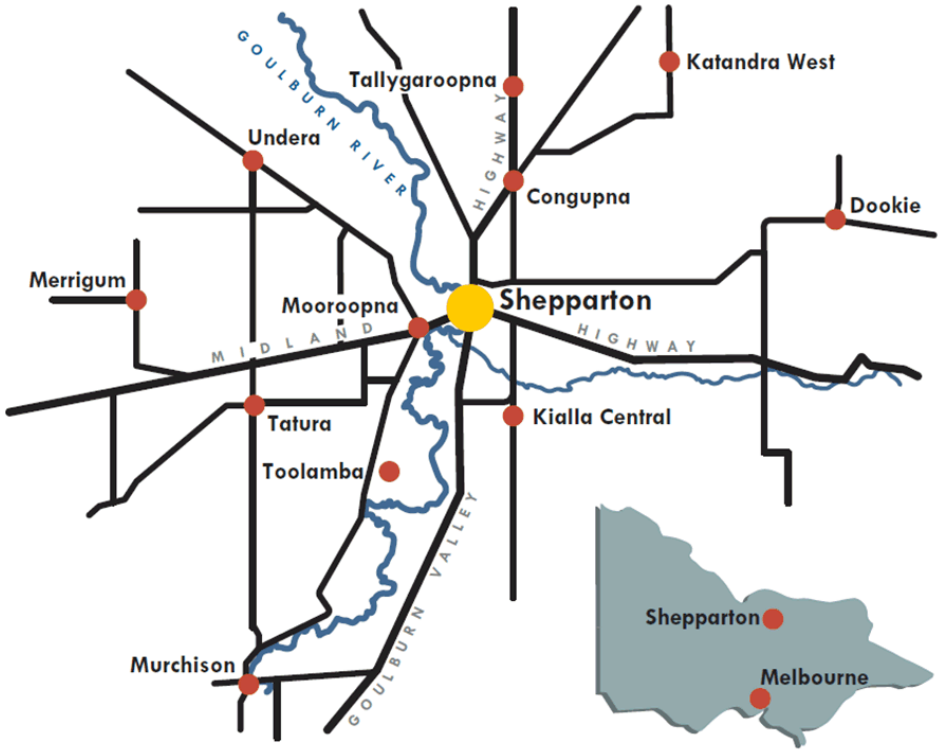
Executive Summary

Greater Shepparton Cycling Strategy

The City of Greater Shepparton is in northern Victoria, approximately 180km north of the Melbourne CBD. The city has a population of around 60,000 and covers approximately 2,400 square kilometres, which makes it the fourth largest municipality in rural Victoria. It is made up of a number of small towns, except for Shepparton, which has a population of around 27,700, and is located in the centre of the study area at the intersections of the Goulburn River and Broken River and the Goulburn Valley Highway and Midland Highway (refer to Figure 1).

Figure 1: City of Greater Shepparton



The area is relatively flat with a mild temperature and low annual rainfall, with the major land uses being associated with dairying and fruit growing. Along the river system, the adjacent land is made up of conservation and flood zoned land.

These elements of Greater Shepparton, along with Council's objective to make it a highly accessible and liveable area, provide it with a create opportunity to actively encourage bicycle use as a form of transport and recreation.

In this regard, Greater Shepparton City Council has undertaken a review of the previous Greater Shepparton Cycling Strategy (2006-2011) and is preparing an updated version (2013-2017). GTA Consultants were engaged to help undertake this review and update of the Greater Shepparton Cycling Strategy.

Executive Summary

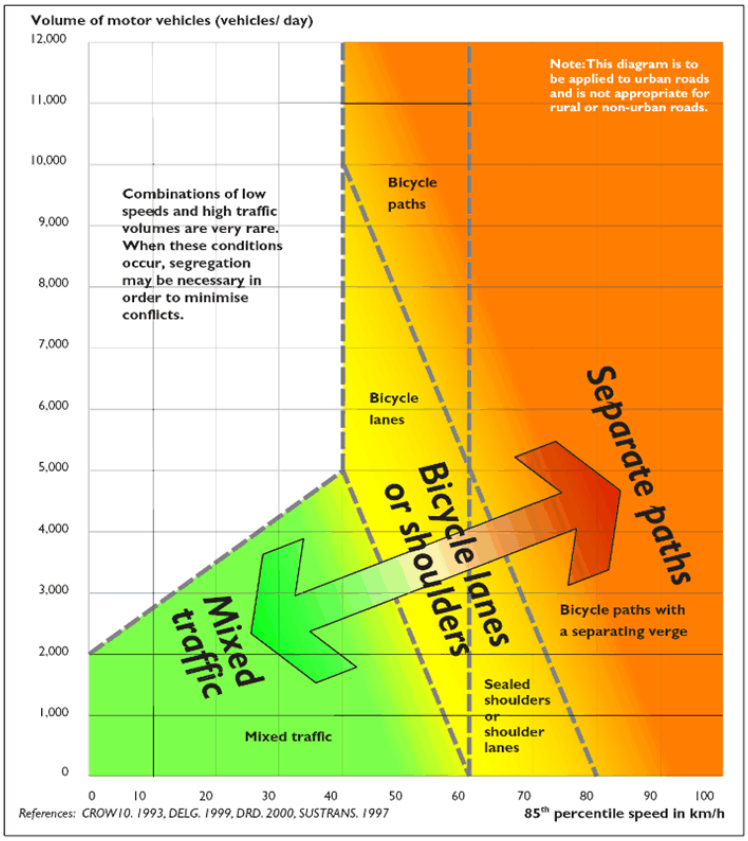
Background research has been undertaken of relevant documents, strategies and policies affecting cycling in Greater Shepparton. This has identified that there is growing support for bicycle use as a legitimate form of transport and recreation, both locally, state wide and nationally due to the wide ranging benefits to communities and individuals, especially in terms of cycling being a preventative health measure, with abilities to reduce rates of obesity, chronic disease, number of sick days and levels of depression, stress and anxiety, as well as being a basis to generate additional tourism, both through organised events and being a cycling holiday destination / stop-over. However, there are also a number of barriers to getting people to cycle. These relate to both the physical facilities provided as well as the attitudes and behaviours of the community that cycle and share the road network.

In terms of the current state of play for cycling within Greater Shepparton, an evaluation of the current cycling conditions, including a review of what facilities have been implemented as part of the 2006 Cycling Strategy has been undertaken. The review indicates that a significant level of investment over the last five years has been completed. These facilities could broadly be considered to be those that have been able to be easily accommodated within the existing built environment. As such, there is the beginning of a connected and continuous bicycle network within Greater Shepparton. However, there are still significant pinch points and missing links. To achieve this end, the on-going consideration and investment in cycling facilities is required, and it is the purpose of the Cycling Strategy to identify the next most feasible facilities and initiatives to be implemented that will see the largest increase in bicycle use in Greater Shepparton.

In order to understand how the community perceives the current cycling environment in Greater Shepparton and where they want to see it head into the future, a range of targeted consultation mechanisms were developed to extract the relevant information from various groups for consideration and identification of the most feasible cycling facilities and initiatives. In this regard, information received revolved around new facilities, the maintenance and condition of existing facilities, and safety concerns. (Refer to Appendix F)

To be able to consider and identify the most feasible cycling facilities and initiatives, the latest cycling design philosophies to support current and potential cycle use has been presented and used. These indicated that there is a large latent demand for cycling as a form of transport and recreation within the general community. However, to engage these potential users, the facilities and initiatives must create an environment whereby people perceive cycling to be a feasible option, especially in comparison to the use of private motor vehicles. More specifically, safety is the key element in determining what facilities are perceived as being viable by cyclists, and one of the main ways that safety is perceived by cyclists is through the level of separation afforded them to motorised traffic. For guidance on what level of separation is generally required, reference is given to Figure 2.1 of Cycling Aspects of Austroads Design (refer to Figure 2). As such, it came as no surprise that residents indicated that physically separated facilities from traffic are preferred. But, due to the limited space and high cost of such facilities, providing this type of facility is not feasible in every location. However, through the modification of the traffic volume and / or operating speed, the resulting cycling environment can potentially be conducive for cycling by the general population.

Figure 2: Minimum Levels of Separation



Other facility considerations were also outlined as well as a process to evaluate and prioritise facilities and initiatives, which becomes critical in achieving the greatest return on investment.

Utilising this design basis, a review of the commuter and recreational cycling facilities within Greater Shepparton was undertaken. The process also noted those facilities proposed within the 2006 Cycling Strategy, VicRoads Municipal Bicycle Network for Shepparton and latest Precinct Structure Plans for the five residential growth corridors. From this, a comprehensive bicycle network was identified within seven of the townships in Greater Shepparton. These proposed bicycle networks are not expected to all be implemented within the short-term, but it is considered appropriate that a network blue print be outlined as early as possible to ensure other competing factors do not compromise the potential for their eventual implementation. Furthermore, the facilities required within the growing urban areas of the seven townships may change, however, as long as the design framework presented within the Cycling Strategy is the basis for choosing the associated bicycle facility, they can be expected to be appropriate and encourage more people to cycle for transport and recreation.

A specific focus of the Cycling Strategy was also on sports cycling. Within Greater Shepparton there are already a strong number of sport cycling clubs, events and facilities. These were reviewed with specific actions outlined to further promote each of the main types of sports cycling and how they more generally link into increasing the number of people cycling for transport and recreation.

A similar process was also undertaken regarding cycling tourism initiatives and facilities within Greater Shepparton. Again, there are already significant activities occurring and it is the aim to further build on these given their link to getting more people cycling, but also due to the potential economic growth it could generate in the area.

All the actions identified through this process have been numbered throughout the strategy and summarised within an action plan in Section 9.1. Each of the actions is to be evaluated and prioritised by the responsible departments within Council to implement over the short to long-term. Furthermore, an identification of the planning mechanisms available to Council to give greater political and policy strength has been provided. It is noted that, should the Cycling Strategy, or at least the design framework, be incorporated into the Greater Shepparton Planning Scheme, it would be a first in Victoria and further demonstrate the City of Greater Shepparton's commitment to cycling, as a legitimate form of transport and recreation.

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1. Introduction

1.1 Background

Greater Shepparton City Council has undertaken a review of the previous Greater Shepparton Cycling Strategy (2006-2011) and has prepared an updated version (2013-2017). After the adoption of the previous Cycling Strategy in 2006, there have been a number of the high priority proposals implemented. This update provides an opportunity to reflect on these successes, identify any on-going or new issues, and capitalise on recent advances in cycle facility design and promotion to help further encourage cycling in Greater Shepparton for commuter and recreational purposes.

GTA Consultants was engaged by Greater Shepparton City Council in February 2012 to help undertake this review and update of the Greater Shepparton Cycling Strategy.

1.2 Cycling Strategy Methodology

The key tasks for the review and update of the Cycling Strategy include the following:

- Undertake background research which reviews relevant documents, strategies and policies affecting cycling in Greater Shepparton and identify the major benefits and barriers to cycling.
- Evaluate the current cycling conditions in Greater Shepparton, including a desktop review of what facilities have been implemented as part of the 2006 Cycling Strategy.
- Engage and consult with the community through the development of a range of targeted consultation mechanisms.
- Present the latest cycling design philosophies to support current and potential cycle use, as well as outlining a design framework for the identification of what facilities are the most appropriate within a given transport corridor and within the overall transport network.
- Review and build on the commuter and recreational cycling facilities within Greater Shepparton, noting what has been proposed within the 2006 Cycling Strategy, VicRoads Municipal Bicycle Network for Shepparton and latest Precinct Structure Plans for the five growth corridors.
- Review and build on the existing sports cycling facilities within Greater Shepparton, through the identification of risks, hazards, maintenance priorities and improvement opportunities, for not only current, but potential sports cyclists and facilities.
- Review and build on the existing cycling tourism initiatives and facilities within Greater Shepparton, through the identification of how to better utilise its benefits and overcome current barriers.
- Summarise the findings and recommendations contained within the strategy in the form of an action plan.
- Identify the planning mechanisms available to Council and their relative advantages and disadvantages.

1.3 References

In preparing this report, a number of references have been made, including:

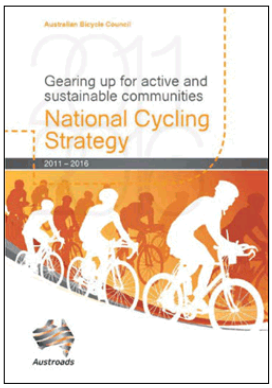
- Greater Shepparton Bicycle Strategy Review, June 2006
- National Cycling Strategy 2011-2016
- Victorian Cycling Strategy 2011-2016
- Victoria's Cycle Tourism Action Plan
- Victorian Trails Strategy 2011-2015
- Victorian Trails Strategy 2002-2010
- Hume Strategy for Sustainable Communities 2010-2020
- Dookie Walking Trail and Mountain Bike Masterplan
- Loddon Mallee Regionally Significant Trails Strategy 2010
- Greater Shepparton Planning Scheme
- Greater Shepparton Council Plan and Strategic Resource Plan 2009-2013
- Draft Greater Shepparton Universal Access and Inclusion Plan 2012-2016
- Greater Shepparton Tourism and Events Strategy
- Greater Shepparton City Council Economic Development Action Plan 2009-2012
- Greater Shepparton BikeScope Survey 2011
- Shepparton CBD Strategy
- Parking in Shepparton's CBD – Discussion Paper
- VicRoads Shepparton Municipal Bicycle Network Map, June 2005
- GIS referenced aerial map (supplied electronically by Greater Shepparton City Council)
- Cycling Aspects of Austroads Guides, March 2011
- Austroads Guide to Road Design Part 6A: Pedestrian and Cyclist Paths, 2009
- VicRoads, Cycle Notes (various)
- NSW Bicycle Guidelines, July 2005
- other documents and data as referenced in this report.

2. Background Research

2.1 Literature Review

In this Section of the Cycling Strategy, summaries of relevant background documents, strategies and policies affecting cycling in Greater Shepparton are provided. Highlighted within these summaries are any specific actions that affect the implementation of an updated Cycling Strategy, and more generally, initiatives and themes on how cycling is encouraged and can be applied in Greater Shepparton.

2.1.1 National Cycling Strategy 2011-2016



The Australian National Cycling Strategy was published in September 2010. It was prepared by the Australian Bicycle Council in partnership with Austroads. It outlines the core vision to "*double the number of people cycling in Australia over the next five years*", as well as the following:

- What cycling can do for Australia (benefits).
- Progress over the past five years (review of previous Strategy).
- Our vision (six priority actions to achieve vision).
- Governance and monitoring (identification of who is responsible for the implementation of the strategy, report requirements and how it will be evaluated).

The strategy provides six priority actions to achieve the core vision. In support of the priority actions, there are the associated objectives and numerous action points. These have been developed through the review of the previous Strategy and understanding of the latest issues and opportunities associated with cycling in Australia. Also of note is that the strategy identifies that it is best positioned to focus on data collection and analysis, consistent decision-making, guidance and sharing best practice.

The six priority actions, objectives and summary of the action points outlined in the National Cycling Strategy (2011-16) are provided as follows:

- Priority 1: Cycling Promotion
  Objective: Promote cycling as both a viable and safe mode of transport and an enjoyable recreational activity.
  Action Points: Develop marketing and educational programs that promote the benefits of cycling, especially for underrepresented groups and other road users, so as to encourage all people to take up cycling. It has been noted that a key to this is the provision of cyclist-friendly workplace facilities.
- Priority 2: Infrastructure and Facilities
  Objective: Create a comprehensive and continuous network of safe and attractive routes to cycle and end-of-trip facilities.
  Action Points: All jurisdictions should continue to invest in developing bicycle networks and commit to the identification of required funds in the relevant budget processes. Where possible, the provision of facilities, be they paths, lanes or end-of-trip facilities, should be mandated and they should all be in line with recognised best practice design.

- Priority 3: Integrated Planning
  Objective: Consider and address cycling needs in all relevant transport and land use planning activities.
  Action Points: All states and territories should develop cycling action plans, and set targets and specific actions through a commitment to integrating cycling. Also, consideration should be given to incorporating active transport needs into all land use planning and infrastructure strategy documents and projects.
- Priority 4: Safety
  Objective: Enable people to cycle safely.
  Action Points: More and specific monitoring and analysis of crash data involving cyclists is required to develop appropriate counter measures. These, where significant, can be developed and implemented as targeted programs, such as bicycle skills training programs for school students aged between 10 and 14.
- Priority 5: Monitoring and Evaluation
  Objective: Improve monitoring and evaluation of cycling programs and develop a national decision-making process for investment in cycling.
  Action Points: Need to develop and agree on a national approach to data collection, which in turn will enable states and territories to set existing baselines and future targets. Also, it enables the ability to assess benefits and develop robust decision-making processes and assessments of future projects and funding.
- Priority 6: Guidance and best practice
  Objective: Support the development of nationally consistent guidance for stakeholders to use and share best practice across jurisdictions.
  Action Points: Development and support of coordinated publications of best practices. A list of best practicians that the government intends to support is provided in the strategy.

2.1.2 Victorian Cycling Related Documents

Victorian Cycling Strategy 2013-2023

Cycling into the Future 2013–23 identifies six directions that will build our understanding of cycling and the types of trips Victorians make by bike, help us to increase these trips in the future and encourage more people to consider cycling:

1. Build evidence – build a stronger evidence base for the Victorian Government to make more informed decisions
2. Enhance governance and streamline processes – clarify accountability and improve co-ordination, planning and delivery
3. Reduce safety risks – reduce conflicts and risks to make cycling safer
4. Encourage cycling – help Victorians feel more confident about cycling and make cycling more attractive
5. Grow the cycling economy – support opportunities to grow and diversify Victoria's economy through cycling
6. Plan networks and prioritise investment – plan urban cycling networks to improve connectivity and better target investment in urban networks, regional trails and specialist cycle sport infrastructure.

Cycling into the Future 2013–23 will be accompanied by a series of Action Plans. The first Action Plan will be for two years. The plans will set out priority actions for the short-term to deliver the strategy's objectives. Actions will be aligned under the six strategic directions.

The Victorian Cycling Action Plan 2013 and 2014 identifies actions that will be put in place during the period of the plan. In response to criticisms by the Victorian Auditor-General's Office, the Action Plan also identifies the Victorian Government agencies that will be responsible for implementing and evaluating the actions. This approach will also be adopted in future Action Plans. The initial Action Plan establishes a whole of Victorian Government committee to co-ordinate, monitor and report on progress.

Victoria's Cycle Tourism Action Plan 2011-15

Victoria's Cycle Tourism Action Plan has been developed by Tourism Victoria. It aims to position "*Victoria as the leading state for cycle tourism*" through the leverage of its existing nature-based tourism and status as an international major event capital.

The action plan provides reason for obtaining this goal with total estimated expenditure for the year ending December 2010 by visitors participating in cycling in Victoria at $362 million and $2.4 billion for the country. It also notes that the Victorian cycle tourism market is highly dominated by the intrastate market with 84 per cent of the above expenditure coming from domestic visitors within Victoria.

In terms of how Victoria is to grow cycling tourism and establish a competitive positioning in Australia, the action plan outlines the following three directions to explore:

- strengthening the supply of cycle tourism experiences
- building consumer demand for cycle tourism experiences
- attracting and leveraging events.

For each, further discussion and specific actions are summarised as follows.

Strengthening the supply of cycle tourism experiences

"*Investment in cycling infrastructure and tourism services is needed to create iconic experiences, attract new markets, better meet the needs of existing visitors and grow yield and regional jobs*", page 14.

In terms of specific actions, they revolve around the following three areas:

- development of facilities (trails network, mountain bike parks and supporting facilities)
- undertake research to determine the current and future feasibility of projects
- attracting and leveraging events.

It also highlights a common issue with cycle tourism, which relates to transport and accessibility of facilities, especially given the inability to utilise public transport given that bicycles are not currently permitted on most services.

Building consumer demand for cycle tourism experiences

"*To attract high yield visitors a collaborative approach needs to be adopted regarding the provision of maps and information to encourage the use of cycling infrastructure*", page 16.

In order to build consumer demand the action plan outlines a need to develop marketing activities that hero the region and the experiences. To do this, the following actions are outlined:

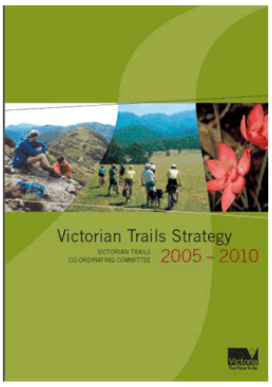
- Promote cycle tourism as a sustainable option for visitors to the state through the sustainable section of visitvictoria.com.
- Develop a brand toolkit for cycle tourism.

Attracting and leveraging events

One of the major actions was to have Melbourne recognised as only the second UCI Bike City in the world, after Copenhagen. This has been achieved and is associated with Melbourne's hosting of a number of UCI Cycling events, including the UCI Track Cycling World Championships on 4-8 April 2012 at Hisense Arena, and the City's commitment to encouraging cycling as a viable form of transport. This provides cycling tourism with the opportunity to leverage off the recognised title and gain widespread coverage through the UCI cycling events.

The development of other events and branding opportunities to leverage off, such as hosting the international cycle planning conference Velocity (which has been awarded to Adelaide in 2014), is also outlined in the action plan.

Victorian Trails Strategy 2002-10



The Victorian Trails Strategy has been developed by Parks Victoria. It indicates a vision "*to have a sustainable trail network that provides diversity of experience and equity of access for the health and wellbeing of Victorians and visitors alike*".

Within the strategy the following is outlined:

- Benefits of trails to individuals and the community.
- Existing management, demand and types.
- Identification of key issues to be overcome.
- Guiding principles to develop and assess trails.
- Key directions to achieve the above vision.

For each, further discussion is provided as follows.

Benefits of trails to individuals and the community

"*Trails provide a variety of benefits to individuals, communities and the environment. These include promotion of physical and social health and wellbeing opportunities, education about natural and cultural environments, and economic returns to local communities and the state*", page 6.

This section of the report indicates a number of benefits associated with trails, as indicated in the above extract, as well as the potential for flow-on benefits when combined with other activities. What also stands out is that at the time of preparing this document there was limited economic data supporting these benefits. This is slowly changing but what has consistently been shown is that investment in such facilities generally has a positive gearing, even in the short term (e.g. Regional Communities and Cycling: the Case of the Murray to Mountain Valley Trail, Victoria, Australia, 2006).

Existing management, demand and types

The majority of the trails in Victoria are managed by Parks Victoria (50%), DSE (35%) and local Councils (15%). One hour walks are the most common form of use but it is noted that there is currently a shortage of mountain bike facilities, which is resulting in uncontrolled access and use. They also mention horse riding, which is expected to remain reasonably static in use into the future, and canoeing and kayaking, which has very low use in comparison but has opportunities to be combined with walks and cycling by tourism operators.

Identification of key issues to be overcome

The key issues associated with trails revolve around the design and ongoing maintenance, lack of standards and classifications, equity of access, conflict on shared use trails, supporting facilities, coordinated research and the identification, development and marketing of iconic trails.

Guiding principles to develop and assess trails

The following guiding principles are defined in the strategy to develop and assess trails:

- Individual and community health and wellbeing.
- Protection of natural and cultural heritage.
- Economic benefits to state or region.

Key directions to achieve the above vision

The following key directions for the strategy were provided:

- Develop a consistent trail network management framework.
- Coordinate and integrate trail marketing.
- Undertake coordinated trail research.

2.1.3 Regional Related Documents

Hume Strategy for Sustainable Communities 2010-20

The Hume Strategy for Sustainable Communities is an integrated plan connecting the four distinct sub regions of Central Hume, Upper Hume, Lower Hume and Goulburn Valley that make up the greater Hume Region and the Shire of Campaspe (Northern Loddon Mallee Region) in North East Victoria. It provides a framework for long term cooperation and investment. Bicycle planning is included within the strategy as a sub-regional action as follows:

"*Develop a Goulburn Valley sub regional strategy for recreation tourism bicycle paths that is linked to a Hume Region wide Cycling Strategy. Elevate the profile and potential of cycle infrastructure to take advantage of the Murray River environmental and tourism experience*", page 20.

Dookie Walking Trail and Mountain Bike Park Master Plan

The Dookie Walking Trail and Mountain Bike Park Master Plan has been prepared by Greater Shepparton City Council. It outlines the development of a mountain bike skills park, shared path, earth start mound and trails, including one-way downhill trails on Mount Major. Also, it outlines the need and design for supporting facilities, such as storage sheds, seating, toilets and car parks.

The aim is to make this a strategic asset for Greater Shepparton City Council, Melbourne University and the community (Dookie especially). It is to cater for all abilities of riders, attract mountain bike events, increase access between Dookie College and the township, and be developed as a sustainable facility and business model for Melbourne University and the community.

Loddon Mallee Regionally Significant Trails Strategy 2010

The Loddon Mallee Regionally Significant Trails Strategy was prepared in partnership with a number of local Councils and State Government departments. It identifies seven trail proposals of regional significance, including:

- Waranga Trail – 110km cycling trail through the Heathcote-Graytown National Park and potentially connect with the trail between Murchison and Shepparton.

Furthermore, the strategy details the collective benefits and challenges of the proposals, including consideration of potential marketing opportunities, demand estimates, supporting facilities, initial implementation and maintenance costs, and potential economic returns (complete return on initial investment within three years and the creation of 70 to 87 full time jobs).

2.1.4 Municipality Related Documents

Greater Shepparton Planning Scheme

The Greater Shepparton Planning Scheme has been prepared by the Department of Planning and Community Development, and is a live document that is continually updated. It sets out a framework of state and local policies and requirements for the use, development and protection of land within the municipality.

At a state level, the Planning Scheme sets out a range of overarching objectives and implementation strategies to guide all development within the State of Victoria. Embedded within these are a range of policies with the overall objective to increase the integration and utilisation of more sustainable transport modes. These policy clauses and their associated objectives are reproduced as follows:

- Clause 18.01-1: "To create a safe and sustainable transport system by integrating land-use and transport."
- Clause 18.02-1: "To promote the use of sustainable personal transport."
- Clause 18.02-2: "To integrate planning for cycling with land use and development planning and encourage as alternative modes of travel."

At a local level, the Planning Scheme seeks to encourage cycling as a mode of transport through specific requirements for various development types. The associated clauses and directives are reproduced as follows:

- Clause 52.34: Outlines the provision of secure, accessible and convenient bicycle parking spaces and associated shower and change facilities for a range of land uses.
- Clause 55.03-11: Outlines the provision of resident and visitor bicycle parking spaces in developments of five or more dwellings.
- Clause 56.06: Sets out the access and mobility requirements, including consideration of pedestrians and cyclists, for new subdivisions.

Greater Shepparton 2030 Strategy (Report 6 – Infrastructure)

The Greater Shepparton 2030 Strategy was prepared by Greater Shepparton City Council and the Department of Sustainability and Environment, and formally adopted in October 2006. It is a blueprint for "*building sustainable economic activity and maximising the quality of life in the municipality over the next 30 years*".

Within the strategy, Section 4.2.8 identifies cycling as a legitimate mode of transport and recreational pursuit and provides the following objectives and strategies to further develop it in the municipality:

- Develop and provide a supportive road and bike path network that will service existing and planned residential and other development, including industry and agribusiness.
- Provide a bicycle and pedestrian network which facilitates easy and safe transportation, both commuter and recreational, around the municipality, particularly within the Shepparton-Mooroopna areas.

Further, this section of the strategy outlines the following implementation strategies:

- Construct a shared path network to bring people to the river and focus pedestrian and bicycle traffic.
- Develop an integrated transport plan that addresses key transport issues, road hierarchy, traffic modelling, pedestrian and bicycle network, pavement management, public transport, and parking.

Greater Shepparton Council Plan and Strategic Resource Plan 2009-13

The Greater Shepparton Council Plan and Strategic Resource Plan was prepared by Council and outlines its intended fiscal expenditure. Within the plans, it is intended that investment would be made to improve sustainable transport options through improvements in public transport services, including the development of a public transport hub in the town centre. This provides an opportunity to include end-of-trip facilities and improved access to this new transport destination and aid in the linking of more sustainable trips.

Greater Shepparton Tourism and Events Strategy

The Greater Shepparton Tourism and Events Strategy has been prepared by Council and outlines a vision to "*have a Tourism Industry which is recognised by the community for the economic and social benefit it brigs, characterised by stakeholders who work co-operatively, and an integrated product which provides a memorable experience for the visitor*".

As part of the overall tourism industry in Greater Shepparton, sustainable tourism has been identified as a key area, as it delivers positive economic, social and environmental outcomes. However, it requires a range of strategic and operational actions in key areas of product development and industry development. In regard to this, Section 5 of the strategy outlines the requirement to give consideration to the needs of the visitor, industry, community and environment, and the Challenge for Greater Shepparton is to build a sustainable tourism industry that will provide benefits to both visitors and the community whilst protecting and enhancing the destination's unique attributes.

Tourism in Greater Shepparton must:

- Support the economic and social wellbeing of the host communities.
- Maintain and enhance the quality of the local environment in which it occurs.
- Ensure the efficient management of roads for traffic, public transport, bicycles, pedestrians, parking, scooters and motorized wheelchairs, and for loading and unloading of goods.

Greater Shepparton City Council Economic Development Action Plan 2009-12

The Greater Shepparton City Council Economic Development Action Plan has been prepared for Council to outline how to achieve the following vision:

"Greater Shepparton will be a prosperous, innovative and dynamic place where the strengths of the local and regional economy and the skills and application of the resident population will be promoted as key attributes in fostering innovation, attracting investments, developing labour skills, growing existing businesses, and creating new businesses and new jobs", page iii.

While the action plan does not include any specific mentions of cycling or sustainable transport (other than the sustainable growth of the transport and logistics industry), tourism forms part of the plan, including plans to undertake an economic impact analysis on the contributions that sport and 'sport tourism' make to the Greater Shepparton economy.

Greater Shepparton BikeScope Survey 2011

The Greater Shepparton BikeScope survey was prepared by Bicycle (Network) Victoria. It was a 33 question online survey open to the general public that ran between 7 April 2011 and 5 May 2011. In this time there were a total of 361 completed surveys received. The questions focused on the following areas:

- What are their current cycling activities and facility preferences?
- In what condition are the existing facilities, as well as what infrastructure improvements they would like to see in Greater Shepparton.
- What scope there is to get more children walking and cycling to school and what facilities would assist this.

In regards to each of these areas, the following summaries of the responses are provided.

What are their current cycling activities and facility preferences?

Based on the four categories of bicycle riders within the survey, the most prominent was the 'Low Intensity – Recreational' type, followed by the 'High Intensity – Recreational', then the 'Low Intensity – Transport' and lastly the 'High Intensity – Transport'. Based on this, recreational cycling is the most common form of cycling in Greater Shepparton. It also follows that the preferred facility type was indicated as off-road facilities even through a high proportion indicated that they currently cycle on-road.

It should be noted that the majority of the responses to the survey came from males (58%) and between the ages of 35-49 (38%), 50-59 (32%) and 60-69 (14.5%).

What condition existing facilities are in as well as what infrastructure improvements they would like to see in Greater Shepparton

Generally responses regarding facilities in Greater Shepparton were positive, with a high rating regarding improvements in the last five years, the amount of shared paths and the level of connectivity of the bike network. However, there were low scores associated with the level of funding and ability to combine cycling and public transport.

In terms of facilities, concern was raised about poor surface quality and lack of sealed shoulders, separation from parked vehicles, absence of facilities for short trips and lack of secure bike parking.

More specifically, the locations of concern identified were Wyndham Street, Goulburn Valley Highway, Ferguson Road, Verney Road, Ford Road (also one of the most popular on-road routes), Old Dookie Road, Mitchell Road, Shepparton-Mooroopna path, Goulburn River and Broken River.

What scope there is to get more children walking and cycling to school and what infrastructure would be required to assist them

There was a significant latent demand identified with the survey, with 72% indicating that they would like to get their children walking or cycling to school. They also highlighted that the provision of additional bike paths connecting students to schools was the most desired improvement, especially in regards to Goulbourn Valley Grammar School, which recorded twice as many responses requesting this improvement compared to any other school and improvement option.

2.1.5 Shepparton Related Documents

Shepparton CBD Strategy

The Shepparton CBD Strategy was prepared by Planisphere in 2008 for Council to outline how to achieve the following vision:

"*Shepparton's central business district will be the Victorian leader and regional centre for innovation and sustainability. This will be evidenced in the management and preservation of its natural environment, design of its buildings and spaces, a thriving economy and it consolidation as a regional community and cultural focal point*", page 3.

To achieve the above vision, the strategy outlines 11 key priorities, with the following two relating to the encouragement of active and more sustainable transport modes, including cycling:

- creating a pedestrian and cycling-friendly environment
- improving movement and access by reducing traffic in the CBD, improving public transport services and cycling links and facilities.

Furthermore, the traffic management section of the strategy states that "*whilst private vehicle use will be planned for, the focus of this plan will be to improve alternative transport modes and infrastructure including cycling, walking and public transport amenities to reduce the level of private motor vehicle usage in the CBD*".

In terms of specific actions that the strategy proposes to support cycling within the CBD, it provides the following:

- Implement the Shepparton Bicycle Strategy actions (2006-2011) as a short-term priority in the CBD.
- Provide secure bicycle parking at all Council buildings and community facilities and Council controlled off-street car parks.
- Install Copenhagen-style bicycle lanes on Fryers Street as part of the Fryers Street Master Plan.
- Liaise with Walking and Cycling Branch of Department of Transport regarding the Accessible and Sustainable Travel Grants Package which will assist in encouraging more sustainable travel behaviour and improving ease of access for pedestrian, cyclists and public transport users to local facilities, jobs and activities.
- Facilitate provision of end-of-trip facilities for workers, residents and visitors in existing and new development in the CBD, by advocating Council's position at pre-application meetings and by providing landowners and developers with a copy of Bicycle (Network) Victoria's Bicycle Parking Handbook and other relevant literature.

Parking in Shepparton's CBD – Discussion Paper

The Parking in Shepparton's CBD Discussion Paper was prepared in 2011 for Council to analyse relevant data and make recommendations regarding the future provision of parking in Shepparton. Within this

discussion paper, it draws on the key priorities of the Shepparton CBD Strategy, which looks to encourage alternate modes of transport and reduce the reliance on private motorcar use.

It notes that encouraging alternate modes of transport, especially the active forms of walking and cycling, can have a public health benefit as well as reducing the actual car parking demands and level of congestion within the CBD.

It also uses a number of case studies to demonstrate the level of modal shift aware from private motorcar use that occur with the encouragement of alternate transport modes.

While no specific recommendations are made within the discussion paper regarding cycling, it does elude to giving consideration to what focus should be held for the CBD, whether it should be for through-traffic and short-term, on-street parking, or more diverse traffic modes with car parking relocated to locations that do not detract from the CBD environment.

2.2 Cycling Benefits and Barriers

Based on the review of the background documents and others, the main benefits and barriers associated with cycling are provided as follows.

2.2.1 Benefits

Cycling provides a wealth of benefits, with some being personally tangible and others having a more indirect net community benefit. Both of these types of benefits are listed below with supporting data[1] where appropriate:

Health

Cycling is considered to be a preventative health measure, especially in terms of heart disease, type 2 diabetes and some cancers. It has also been found to lead to a reduction in depression, stress and anxiety levels in individuals.

In 2006, over 1.68 million Australians cycled, which cut sedentary lifestyle disease costs by an estimated $154 million.

Traffic Congestion

Given that the ABS estimates that the annual avoidable cost of traffic congestion in Australian cities will rise to $20.4 billion by 2020 and that bicycles are considered to impose 95% less traffic congestion than an average car, cycling offers an attractive low cost solution with comparable travel speed in urban built-up areas. Particularly when in 2006 the Australian Bureau of Statistics (ABS) determined that 1.35 million (52%) Australians travelled by car to work over a distance less than 5km.

Specific to Greater Shepparton, this is likely to only be applicable to the Shepparton CBD, especially into the future with significant residential development expected within the growth areas and the highest concentration of employment localised to the CBD. As such, a shift away from private motorcar travel when getting to and from work could be expected to reduce congestion and operational demands of the main carriageways and intersections accessing the CBD.

[1] Refer to Economic Benefits of Cycling for Australia, Cycling Promotion Fund, June 2008 and Australian Cycling. An Economic Overview, August 2011

Greenhouse Gas Abatement

As bike riding does not emit any greenhouse gases, so any shift from motorised transport modes to cycling should see a reduction in greenhouse gas emissions. This can be significant when you consider that transport currently generates 15% of Australia's carbon emissions, or that on average a vehicle emits 252 grams of CO_2 per kilometre travelled[2].

Cost

Cycling has a modest initial start-up cost and negligible running costs (approximately 5% of a motor car). Alternatively, the private motor car has a high initial cost, and in terms of running costs, ranges between 40 and 85 cents per kilometre, which is only expected to increase, especially in relation to the fuel cost component.

Economic

The development of cycling facilities generates additional jobs and markets. The Commonwealth stimulus package of $40 million for cycling, when coupled with the additional $60 million invested by local governments, was expected to generate an additional 1,314 jobs in Australia. Also, the bike and accessories market is estimated at $1 billion per year with a work force of 10,000 in Australia.

Based on economic analysis undertaken in England there is estimated to be an overall benefit cost ratio of 3:1 in favour of cycling[3]. Further research is currently being undertaken on the social impact of cycling in many countries, including Australia. A leading source of information of this matter is available at www.bikeability.dk.

Cycling tourism is also a growth area in Australia, with events and tourist trails generating $254 million a year and a total expenditure of $2.4 billion by tourism cyclists each year.

2.2.2 Barriers

Barriers to cycling vary for each person. However, those most commonly found, such as those identified in the BikeScope Survey and Riding a Bike for Transport 2011 Survey (by the Cycling Promotion Fund in partnership with the Heart Foundation), are listed below:

- unsafe road conditions
- conflict with pedestrians and/or drivers
- not confident enough to cycle
- lack of bicycle lanes/path/trails
- no place to park/store bicycle
- no place to change/shower
- nowhere to store clothes
- fear of bike being stolen
- stranger danger
- weather conditions
- distance to travel
- too hilly
- don't like wearing a helmet
- not enough time
- not fit enough
- health problems
- unsure of best route
- can't take bicycles on public transport services
- prefer to walk
- not interested/don't like cycling.

The majority of the above barriers can be overcome through investment in infrastructure and behavioural change and educational programs. However, cycling will always compete against the

[2] Sourced from http://www.mynrma.com.au/motoring/car-care/green-driving-co2.htm

[3] Source: Collection of Cycle Concepts 2012, Cycling Embassy of Denmark.

convenience and low physical effort option of motorised transport. Until the associated barriers as perceived by individuals, with motorised transport outweigh those with cycling, then motorised transport will be preferred by the majority of the community.

3. Review of Existing Cycling Environment

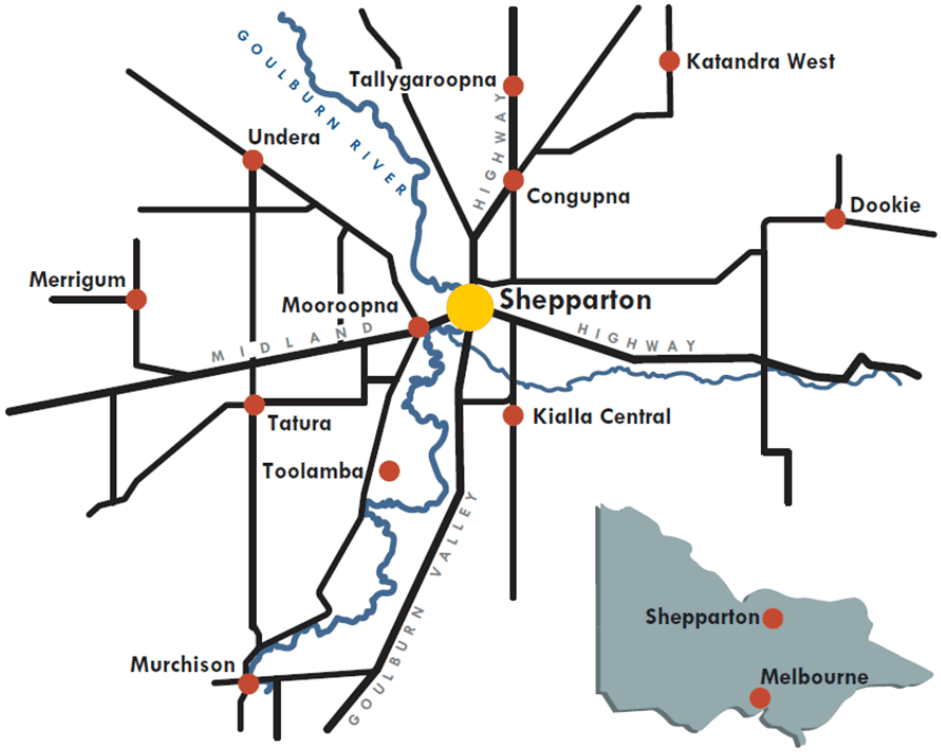
3.1 Study Area

The City of Greater Shepparton is in northern Victoria, approximately 180km north of the Melbourne CBD. It is bounded by the municipalities of Moira to the north, Benalla to the east, Strathbogie to the south and Campaspe to the west. These municipalities, except Campaspe, are located within the Goulburn Valley Sub-Region, which is part of the greater Hume Region.

Greater Shepparton has a population of around 60,000 and covers approximately 2,422 square kilometres (equates to about 25 people per square kilometre), which makes it the fourth largest municipality in rural Victoria. It is made up of a number of small towns, except for Shepparton, which has a population of around 27,700 and is located in the centre of the study area at the intersections of the Goulburn River and Broken River and the Goulburn Valley Highway and Midland Highway (refer to Figure 3.1).

The study area is relatively flat, with the major land uses being associated with dairying and fruit growing. Along the river system, the adjacent land is made up of conservation and flood zoned land.

Figure 3.1: City of Greater Shepparton



3.2 Bicycle Count Data

The current national level of collection and analysis of bicycle volume data is low. This is mostly due to the recent resurgence of cycling, which has resulted in there being demands to provide new high quality facilities and there only being a limited amount of bicycle volume data available in Greater Shepparton. Data collected by Council (various dates) and on two Super Tuesdays (1 March 2011 and 6 March 2012) counts have been summarised and presented within Tables and on maps in Appendix B.

From the tables and maps presented in Appendix B, there are no discernible trends that can be detected about bicycle volumes at the various locations. This is because of the limited data and the fact that the network is currently growing at a significant rate, so while anecdotally the number of cyclists may be increasing, they have more options and cycle more routes. The 2011 Census data (which should be available in August 2012) should help give a better indication of whether more people are cycling, at least for commuter purposes.

Given the above, the ongoing collection and analysis of bicycle volumes is recommended to assess the success of implemented facilities, help determine when new facilities are required, prepare associated business cases and obtain subsequent funding. ACTION 1

To achieve this, identification of critical points in the network (i.e. main routes accessing the Shepparton CBD and mid-block locations along the major recreational facilities) should be undertaken and be surveyed over the same period each year, both in terms of the time of day and the year, as there can be significant variations in cycling volumes over the day, the week and year.

There is a number of counting devices now on the market that can provide continuous data recording and instant feedback. Consideration of such devices for existing and new facilities should be undertaken. They would not be required as part of all facilities, but if installed on facilities that carry the highest volumes, they can be used to factor results from surveys undertaken at other locations and different times of the year to determine normalised peak hour, daily and even yearly volumes.

3.3 Review of Bicycle Crash Stats in Greater Shepparton

A review of the reported casualty accidents involving cyclists in Greater Shepparton has been sourced from the VicRoads accident database. The 'CrashStats' database includes all reported casualty accidents since 1987.

Analysis of the reported casualty accidents for the last available ten year period (1 January 2002 to 31 December 2011) is presented in the following sections, with a complete list of the accidents and locality maps provided in Appendix C.

3.3.1 Locality

Table 3.1 provides a summary of the types of locations of recorded casualty accidents involving cyclists in Greater Shepparton.

Table 3.1: Bicycle Accidents Summary by Location

Location [1]	Mid-block	Roundabout	Unsignalised	Signalised
Shepparton	33	9	50	8
Mooroopna	6	0	4	2
Tatura	3	0	3	0
Other	16	2	10	1
Total	**58**	**11**	**67**	**11**

[1] Location as per the locality maps in Appendix C.

From Table 3.1 we can see that the majority of bicycle crashes occur in Shepparton (68%), with the next highest location being Mooroopna (8%). Furthermore the majority of bicycle crashes occur at unsignalised intersections (46%) and mid-block locations (39%).

3.3.2 Accident Type

Table 3.2 provides a summary of the types of the recorded casualty bicycle accidents (as per the VicRoads Definition for Classifying Accidents [DCA]).

Table 3.2: Bicycle Accidents Summary by DCA Type

Location [1]	Intersection collision (cross traffic)	Driver emerging from driveway / laneway	Cyclist emerging from footway	Vehicle door opening	Intersection collision (right near)	Intersection collision (left near)	Rear end collision	Lane side swipe	Bicyclist out of control on carriageway
Shepparton	15	15	12	8	10	8	7	4	5
Mooroopna	1	1	1	1	1	0	1	0	0
Tatura	0	0	1	3	0	2	0	0	0
Other	4	0	0	0	0	1	2	4	2
Total	**20**	**16**	**14**	**12**	**11**	**11**	**10**	**8**	**7**

[1] Location as per the locality maps in Appendix C.

From Table 3.2 we can see that the most common type of recorded casualty bicycle accident is at intersections with cross traffic (14%), with the next most common being when vehicles emerge from driveways/laneways (11%).

3.3.3 Severity

Table 3.3 provides a summary of the severity of the recorded casualty bicycle accidents.

Table 3.3: Bicycle Accidents Summary by Severity

Location [1]	Death	Serious Injury	Other Injury
Shepparton	0	36	64
Mooroopna	0	2	10
Tatura	0	4	2
Other	2	8	19
Total	**2**	**50**	**95**

[1] Location as per the locality maps in Appendix C.

From Table 3.3 we can see there were a total of two deaths (1%), 50 serious injuries (34%) and 95 other injuries (65%) in the ten year period. Additionally, of the six recorded casualty bicycle accidents in Tatura, four (67%) were serious.

3.4 Review of Previous Greater Shepparton Cycling Strategy

The previous Greater Shepparton Cycling Strategy (2006-11) was prepared for Council and adopted in June 2006. It had a key aim to "*increase the use of cycling as an alternative to motorised traffic*". Furthermore, it proposed the following objectives in order to achieve this:

- Improve the continuity, safety and accessibility of cycling.
- Meet the directions and outcomes of the Greater Shepparton 2030 Strategy Plan.
- Improve linkages to key destinations within major towns.
- Improve route planning development corridors.

Based on these objectives, and through an understanding of the policy context at the time and consultation with relevant stakeholders, the previous strategy outlined a suite of high, medium and low priority infrastructure proposals to be completed within five (lifetime of the strategy), 10 and 15 years respectively. It also identified facilities that should be provided as part of future developments. Timing of these later proposals is dependent on the development of the associated corridors.

A breakdown of the high, medium, low and development based priority proposals, along with any additional facilities that have been implemented over the past five years is provided in Appendix D, along with maps that illustrate all of the existing bicycle facilities in Greater Shepparton and highlight those that have been implemented over the past five years.

3.5 Existing Cycling Environment Summary

Given the above, it is clear that there has been a significant level of investment into the bicycle network within Greater Shepparton over the last five years, and while just under half of the high priority proposals have been completed, the overall expenditure exceeds what would have been required to implement them all.

The facilities that have been implemented could broadly be considered to be those that have been able to be easily accommodated within the existing built environment and not remove or significantly reallocate road capacity away from motor vehicles to cyclists.

As such, there is the beginning of a connected and continuous bicycle network within Greater Shepparton. However, there are still significant pinch points and missing links, along with new corridors and types of facilities required within existing corridors that are required to give each member of the community an opportunity to cycle for transport and recreational purposes.

To achieve this end, the on-going consideration and investment of cycling facilities is required, and it is the purpose of the subsequent sections of the strategy to identify the most feasible facilities that will see the largest increase in bicycle use in Greater Shepparton.

4. Community Engagement and Consultation

4.1 Consultative Approach

Community engagement and consultation for the strategy has been conducted in stages across a number of stakeholder groups to accurately gauge issues and desired outcomes from the Cycling Strategy.

The consultation process for the strategy has occurred in three stages:

- Consultation with Council, relevant State Government departments and authorities, community plan steering groups, Council advisory committees, cycling groups and the general community.
- Upon completion of the draft strategy, Council departments will be given an additional opportunity to review and provide feedback.
- Following Council's initial endorsement of the strategy, the strategy will be publicly exhibited prior to adoption and incorporation into the Planning Scheme.

The first stage of the consultation process was conducted in March and April, with the draft strategy reviewed in June 2012.

4.2 Consultative Scope

A consultation framework was prepared to ensure consistency of engagement across the Council advisory committees, community plan steering groups as well as Council and State Government departments and the wider Greater Shepparton community.

This consisted of the following consultative mechanisms:

- Discussion paper - was used to get all those consulted 'up to speed' and as an initial discussion starter.
- Power point presentations – used at each face-to-face meeting to outline the aim of the strategy and facilitate relevant discussion through targeted questions tailored to each specific group.
- Questionnaires – separate questionnaires prepared for the general public (available through the Council website), school children and teachers.

The dates and consultative forums used to engage with each of the various groups are outlined in Appendix E of the strategy.

In addition, there is a tabulated summary of all responses received from the various groups, with an indication of whether and where it has been addressed or an explanation of why is hasn't in Appendix F of the strategy.

4.3 Community and Stakeholder Responses

While the majority of feedback was received at a level either specific to local areas or stakeholder interests, there were a number of common themes. They are outlined as follows.

4.3.1 Facilities and Infrastructure

A lack of cycling facilities was an issue noted in almost every consultation meeting held within the region. Specifically, the community groups in Murchison, Merrigum and Toolamba, as well as the cyclists' forum, raised this issue. Their specific concerns related to the following:

- a lack of off-street cycling paths for commuting or recreational cycling
- narrow/unsealed road shoulders that were seen as unsafe for cyclists
- lack of connectivity for cyclists between towns/destinations
- poor road crossing facilities near schools that prevent children from cycling to school
- poor road crossing facilities where paths meet major roads with fast traffic
- poor end-of-trip facilities in a number of areas
- access to bicycles for visitors and some locals was seen as problematic, particularly in Merrigum.

In addition to the concerns raised at these meetings, a number of suggestions were made to improve conditions for cyclists and to encourage more people to ride. These included the following:

- Provide direct, preferably off-road cycling paths between key towns and destinations within cycling distance. Suggested examples included:
  - Murchison – Toolamba – Shepparton (possibly along the river)
  - Murchison – Rushworth
  - Completion of Murchison Rail Trail
  - Toolamba – Old Toolamba
  - Tatura - Shepparton
  - Scenic cycling loop trails via key town destinations.
- Provide end-of-trip facilities such as bicycle racks to aid bicycle security and encourage cycling to major destinations.
- Incentives could be offered to private developments to provide end-of-trip facilities.
- Seal Mount Major TV Road to provide better access to mountain bike facilities on Mount Major.
- Provide a beginner to intermediate mountain bike trail close to Shepparton (possibly along the river).
- Provide Merrigum with a link to Kyabram given the closer proximity to the town (bearing in mind that Kyabram is not within the Greater Shepparton LGA).
- The Merrigum community meeting suggested that the introduction of a bike exchange/share program for children and visitors to be able to buy/sell cheap bicycles easily could be greatly beneficial for cycling within the area.
- A suggestion from the cyclists' forum was to develop cycling trails with community participation and involvement, suggesting that if the community were involved in the building process they would have an interest in the maintenance of the facilities.

4.3.2 Path Maintenance and Condition

The condition of existing cycling paths and routes was a major concern for a number of groups, with the point being raised at the cyclists' forum and most community consultation meetings. Specifically, some of the issues with regards to path conditions were as follows:

- poorly maintained road surfaces
- poorly swept bicycle lanes on roads, as street sweeping did not clear enough road for cyclists
- unswept cycling/shared paths
- high grass growing over/near paths
- unsealed and/or narrow road shoulders, mentioned at the Undera and Toolamba meetings
- unsealed roads, particularly around the Mount Major area where there are mountain bike facilities nearby
- large volumes of trucks cause road condition problems on signed cycling training routes -this was seen throughout the consultation process as a very prevalent issue, tying in with the issue of safety for cyclists, which is discussed below.

4.3.3 Cyclist Safety

Safety concerns were seen by all the groups consulted as one of the biggest hurdles in achieving increased bicycle use. Concerns generally related to the interaction between cyclists and traffic, the presence of large trucks on roads within very close proximity to cyclists, as well as crossing facilities on major roads. Sites identified in the consultation included:

- Wanganui Road and Goulburn Valley Highway
- Verney Road bicycle lane
- Southern railway crossing in Shepparton
- Murchison East railway crossing
- Knight Street and Railway Parade roundabout
- Main roads between the following towns:
  - Merrigum – Kyabram
  - Merrigum – Shepparton
  - New Dookie Road
  - Murchison-Mooroopna Road
  - Undera-Tatura Road
  - Echuca-Mooroopna Road.

Largely, suggestions for addressing these safety issues included the widening of roads and sealing of shoulders, construction of safe crossing points, and most preferably, the construction of off-road bicycle or shared paths. Many of these suggested improvements to facilities and infrastructure have been noted in Section 4.3.1.

4.3.4 Education and Behaviour

Promoting education and behavioural change as a method of encouraging people to cycle was suggested many times throughout the consultation process. In particular, the Goulburn Valley RoadSafe group, as well as the community steering groups in Merrigum and Dookie proposed additional education for cyclists, drivers, children and all other members of the community to promote cycling as a safe and enjoyable mode of travel.

Specifically, feedback was provided about the following points:

- Drivers were often concerned and frustrated by packs of riders riding two or more abreast
- Educating cyclists to wear visible clothing when riding, particularly at night

- Continuing advertising promoting awareness of cyclists on the road
- Promoting the purpose of on-road bicycle lanes
- Improving awareness amongst cyclists of district harvest times and their corresponding impact on traffic within the region
- Encouraging children to ride bicycles through promotional campaigns
- Promoting council programs that encourage cycling (e.g. Ride to Work day).

A specific suggestion made by both the RoadSafe group and at the cyclists' forum was to create some form of "working group" for bike riding events. This group would involve people from bicycle clubs/organisations, local police and council officers to ensure that cycling events were well planned, safe, well promoted throughout the community, and that their impact on non-participants would be minimised. It was believed that this would benefit cyclists in being able to liaise with local authorities for event days, and would benefit the local residents and businesses in being more aware of when these events are happening in their community.

Moreover, an advisory committee for Council on all aspects relating to cycling in Greater Shepparton is also sought. They could look to engage with the community and gain their input and opinion on proposed and implemented facilities and initiatives. Such advisory committee are becoming commonplace within areas that cycling is being genuinely promoted and supported by the community, such as the City of Yarra and Ryde in NSW[4]. As such, it is recommended that an advisory committee for cycling in Greater Shepparton be formed. ACTION 2

4.3.5 Schools and Children

Only two responses were received from schools, which indicate that (at least for teachers), cycling is not a high priority. This was reinforced by telephone conversations with Department of Education and Early Childhood Development Officers who noted that principals were generally focussed on core aspects of education, such as literacy and numeracy, and while they were supportive of cycling they simply had no time or resources to address it.

There are currently no state-funded cycling programs being implemented in Government schools in Shepparton; however some principals indicated that the "bike-ed" scheme (run by Bicycle Network Victoria) has been implemented.

The two survey responses from schools indicated that:

- Generally the end-of-trip facilities fall well short of the requirements set out in Clause 52.34 of the Planning Scheme or what would be considered "good practice"
- Both schools indicated the desire for better facilities, and requested advice / assistance in funding upgrades to facilities.
- Both schools indicated that the existing bicycle parking was normally full / overflowing.

Anecdotal evidence from schools suggests that there is a gap in funding or providing adequate, secure and convenient bicycle parking facilities at schools. Further investigations into the current level of facilities, student and staff travel behaviour, and potential improvements should be undertaken to understand the issues more fully, especially given that within the Greater Shepparton BikeScope

[4] Links to cycling advisory committees are provided below:
http://www.yarracity.vic.gov.au/Your-Council/Consultative-Committees/Bicycle-Advisory-Committee/
http://www.ryde.nsw.gov.au/Council/Committees+/Advisory+Committees/Bicycle+Advisory+Committee+

Survey, 2011, that 72% of parents would like to see their children cycle to school, but currently do not believe there is sufficient facilities to do it safely. ACTION 3

4.3.6 Other feedback

In addition to the primary concerns and suggestions proposed in the feedback received from the consultation period, there were some other suggestions received for inclusion within the Cycling Strategy. These included the following:

- The need to provide additional cycling facilities that are attractive and environmentally friendly in nature. This was seen as particularly relevant for the Mount Major mountain bike hub.
- Potential for cyclists to register their bicycles with police to allow them to be tracked and returned in the event of theft, noting that bicycle insurers are now requiring the serial number imprinted on the bike frames before cover can be provided.
- Including bicycle planning as a consideration for future developments and road network improvements, noting that this is undertaken by Council's Planning Department.
- Concerns about the "rumble strip" treatments at some railway level crossings.

4.4 Council Department Consultation

A number of points were raised from the consultation with the Council departments. Most notably, the following were raised by Council:

- Inclusion of the Cycling Strategy within the Planning Scheme, making it an incorporated document when assessing town planning applications.
- The Cycling Strategy is to be the document used to determine which future bicycle projects are implemented, thus any revised strategy should identify priority areas and projects that will provide the greatest return.
- Any revised Cycling Strategy would need to complement other strategies and policies in place within council, such as the Sustainable Policy, Sport 2050 Strategy, River Connect plan and CBD Strategy.
- Improvements proposed by the Cycling Strategy need to tie in with growth corridors and proposed infrastructure, and not only by Council's Planning Department, but private developers and engaged consultants.
- Points were made about the need to address signage issues, education (for all road users) and encouraging/enabling visitors to the region (tourists and temporary workers) to cycle.
- Consideration needs to be given to construction and maintenance of facilities within the Cycling Strategy to ensure they are long-lasting and easily maintained.
- Novice cyclists need to be considered during the planning and design of facilities.

It is noted that a number of the suggestions provided by council officers and departments were similar to those provided through the community consultation discussed earlier.

4.5 State Government Consultation

Consultation was undertaken by GTA Consultants with each of the following Government departments and agencies individually:

- Department of Planning and Community Development
- Department of Transport
- Department of Business and Innovation (Tourism Victoria)
- VicRoads
- Public Transport Victoria

With each, initial contact was made by telephone to outline the purpose of the strategy and give them an opportunity to provide input, especially in terms of any current policies or programs not identified within the Discussion Paper. All expressed a desire to have input, but did not consider it prudent until the draft strategy is prepared. As such, consultation with the Government departments and agencies is recommended to be undertaken following the preparation of the draft strategy. ACTION 4

In addition to this, more targeted consultation was undertaken with VicRoads, and in particular, the potential to update the Municipal Bicycle Network (MBN) for Shepparton. The current MBN for Shepparton was prepared in 2005, and as such, does not represent 2012 conditions. Also, with the continued growth in and around Shepparton, the current MBN does not connect with the growth corridors.

Based on the consultation with VicRoads, they are willing to review an updated MBN for Shepparton, noting that the majority of the network has already been agreed to with Council (2005 MBN), so the update would identify any proposed facilities that have now been implemented and any missing links to new areas of development.

At this time, VicRoads has not provided any criteria in further developing the MBN. As such, any identified new facilities have been based on the bicycle design framework outlined in the strategy.

5. Cycling Encouragement Approaches

5.1 Preamble

Bicycle use is on the increase throughout Australia. The reasons for this are varied; both in terms of the associated net benefits (refer to Section 2.2.1) to individuals and society, as well as the current policy direction to improve sustainability and health-in-design of infrastructure. As a result of this, cycling is now being considered as a legitimate form of transport and a potential way to achieve a reduced reliance on private motor car use, as well as being a potentially significant form of tourism, through cycling related events and a part of holiday activities.

In order to encourage this desired mode shift from a marginal change to a significant one, a holistic approach is required. It needs to consist of both 'hard' physical infrastructure, as well as 'soft' policies and programs that help identify the benefits and reduce the barriers of cycling to individuals.

In this regard, effective encouragement of cycling involves the following areas, which are discussed further in the following sections:

- bicycle facilities and infrastructure (including route infrastructure and end-of-trip facilities)
- education, awareness and promotion of desired behavioural change
- establishing a consistent project assessment framework across transport projects.

It is also noted that a number of specific issues impacting the encouragement of cycling are currently being experienced within Greater Shepparton. These are listed as follows and are also discussed within this section of the strategy:

- DDA implications on cycling facilities
- Impact of design on maintenance.

5.2 Bicycle Facilities and Infrastructure

5.2.1 Planning Principles

The planning of a new development, redevelopment and/or transport node presents the opportunity to develop sustainable travel habits throughout catchments through adopting a hierarchy of access that gives preference to more sustainable transport modes. This concept is widely accepted and used for transport planning, with a hierarchy as follows:

- Walking
- Cycling
- Public transport
- Other modes.

The location and surrounds of a development presents a series of opportunities for maximising the mode share of cycling for trips. These include:

- Key links to nearby facilities and destinations
- Radial walking and cycling networks
- Bike parking facilities

- Bike parking and storage in conjunction with Transport-Oriented Development
- Bike fleet/ second bike arrangements in conjunction with development and employers within a suitable radius
- Bike shops in close proximity.

5.2.2 Types of Users

With cycling, users are understood along two continuums. The first being those associated with the major trip types. This is presented within Table 2.3 of Cycling Aspects of Austroads Design (2011), which has been reproduced below within Table 5.1.

Table 5.1: Categories of Cyclists and their Characteristics

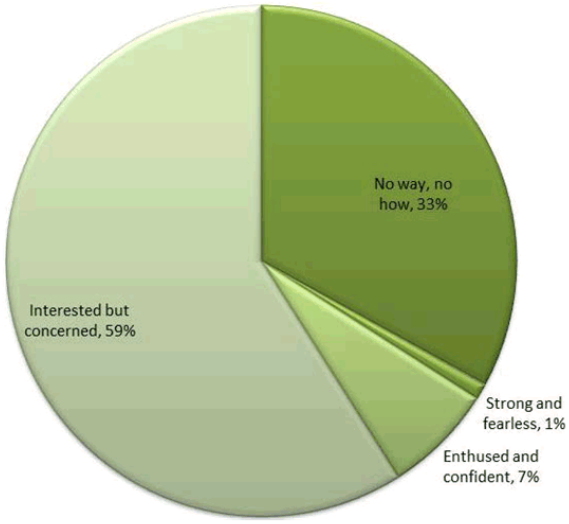
Category	Rider Characteristics	Riding Invironment
Primary school children	Cognitive skills not developed, little knowledge of road rules, require supervision.	Off-road path, footpath (where permitted) or very low volume residential street.
Secondary school children	Skill varies, developing confidence.	Generally use on-road facilities or off-road paths where available.
Recreational	Experience, age, skills vary greatly.	Desire off-road paths and quiet local streets, avoid heavily trafficked routes, more experienced will prefer to use road system for long journeys.
Commuter	Vary in age, skill and fitness, some highly skilled and able to handle a variety of traffic conditions.	Some prefer paths or low-stress roads, willing to take longer to get to destinations, others want quick trips regardless of traffic conditions, primarily require space to ride smooth riding surface, speed maintenance.
Utility	Ride for specific purposes (shopping), short length trips, and routes unpredictable.	Not on highly trafficked roads, needs to include comprehensive, low-stress routes, appropriate end of trip facilities.
Touring	Long distance journeys, may be heavily equipped, some travelling in groups.	Often route is similar to that of other tourists.
Sporting	Often in groups, two abreast occupying left lane, needs similar to commuters.	Travel long distances in training on arterials, may include challenging terrain in outer urban or rural areas, generally do not use off-road routes because of high speed and conflict with other users.

Table 5.1 indicates that there are seven major rider types, along with their general riding characteristics and preferred riding environment. This gives a basic understanding of what facility types are required to support each of these user groups.

However, even within each of these major rider types, there is a wide range of skills and level of confidence that has a major influence on whether individuals chose to cycle or use other forms of transport to commute or for recreational activities, even if they would like to cycle.

This natural variation in individual's comprehension of whether cycling is a viable form of transport and recreation is the second continuum. In regards to this, Figure 5.1 illustrates that there are four main groupings of individuals in how they currently consider the viability of cycling.

Figure 5.1: Four Types of Cyclists[5]



Further explanation of each of these groupings is provided as follows:

- ***Strong and the Fearless*** - ride regardless of road conditions: riding is a strong part of their identity and they are undeterred by cycling conditions.
- ***Enthused and Confident*** - are, and could be, attracted to regular riding by continuing to address the barriers to cycling: shorter trip distances, better bicycle facilities, better end-of-trip facilities.
- ***Interested but Concerned*** - hear messages about how easy it is to cycle, but they are afraid to ride. They don't like the cars speeding down their streets. They get nervous thinking about what will happen to them on a bicycle when a driver runs a red light, or guns their cars around them, or passes too closely and too fast.
- ***No Way, No How*** - not interested in cycling at all, for reasons of topography, inability, or utter lack of interest.

With this understanding, there is a large proportion of the population (nearly two-thirds) that have the potential to consider cycling as a viable form transport and recreation. This would not be for all trips or recreational activities, but cycling could become a regular part of their commute and recreational activities if the barriers associated with their decision making are overcome.

It is noted that these percentages may not be strictly applicable to Greater Shepparton, given that they are a function of many factors, such as land use mix, population densities, social norms, etc., and that surveys of other populations, such as in the UK (24%), NZ (41%) and Chile (87%), have indicated different percentages for those that are not interested in cycling at all[6]. However, what is evident is that there is a significantly larger section of the population interested in cycling than actually currently partake in it on a daily basis.

[5] Portland Bureau of Transportation Website, visited 25/01/11

[6] Sourced from Assessment of the type of cycling infrastructure required to attract new cyclists, NZ Transport Agency research report 449, October 2011.

Moreover, the likely percentage of potential cyclists in Australia has been identified within the published research by the Cycling Promotion Fund and Australian Heart Foundation (2011), which showed that of the 60% of the Australians with access to a bicycle, approximately 70% were not considering using it as a primary means of transport for safety related reasons only ("interested but concern"). The issue of safety, and more generally, the viability of cycling for transport and recreation within Greater Shepparton, was also evident within the findings of the consultation undertaken and presented in Section 4.3.

For Greater Shepparton, the 2006 Census Journey to Work data recorded 3% and 1.8% of trips being undertaken by bicycle from and to Greater Shepparton respectively. While this level of use is considered to be conservative due to its historic nature, it does indicate that currently the "strong and fearless" and some of the "enthused and confident" cyclists already believe that cycling is an attractive, safe and viable transport mode in Greater Shepparton. To further increase cycling use, the barriers associated with the existing and potential riders who are "enthused and confident" and "interested but concerned" need to be overcome.

Given the above, it is recommended that commuter and recreational cyclists be considered based on a more user-ability categorisation. This is outlined in Table 5.2. Such an approach is used with great success in countries with high levels of cycling such as the Netherlands and Germany (TU-DELFT, 2000) as a method for including the broadest range of users. The four user groups listed in Table 5.2 encompass the Cycling Aspects of Austroads Guides categories and consideration of individual's comprehension of the viability of cycling.

Table 5.2: Bicycle User Group Categories and Characteristics

Group	Description	Characteristics
A	Vulnerable to traffic	Children between the ages of 10 and 16, the elderly, the hard of hearing, very short trips, slow speeds (less than 15km/h), traffic shy, slower reaction times.
B	Borderline "fair weather" cyclists	Infrequent adult cyclists, alert but lacking confidence, low to average riding skill, short to medium trips.
C	Active adults	Speeds between 15 and 30 km/h, alert and 'road aware', average to high level of riding skill and proficiency, all trip purposes.
D	Sports and fitness	Speeds higher than 30 km/h, prefers 'main road' environments.

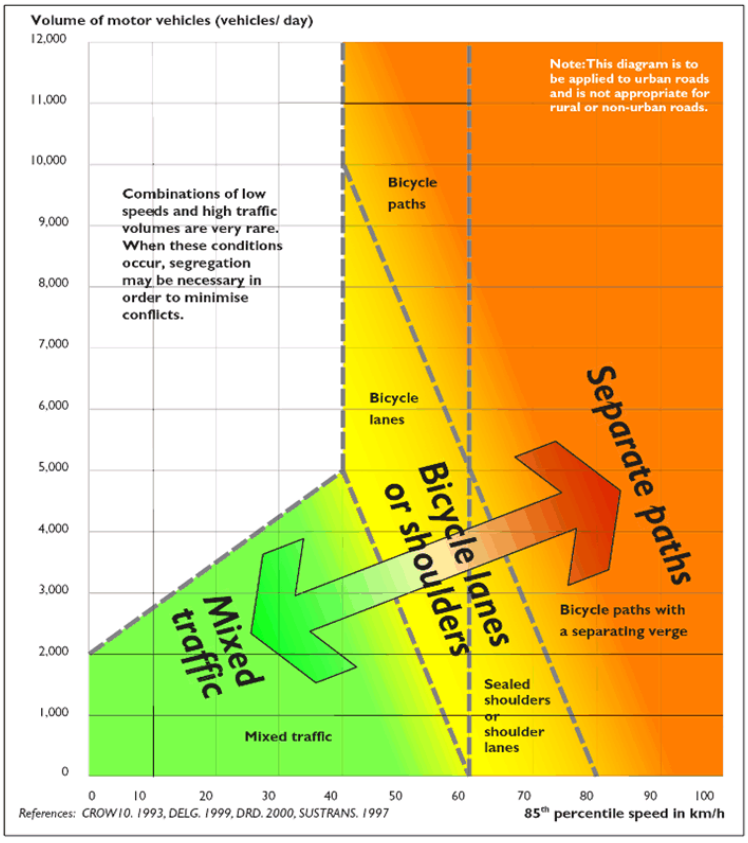
5.2.3 Types of Facilities

There is a range of cycling facilities that can be implemented. These are sometimes based on the available corridor width, intersection operations, traffic volumes and speeds, continuity of an overall route, transport network hierarchy (i.e. SmartRoads) and bicycle user-ability characteristics.

While this can all be relevant, it can cloud the understanding and ability to identify what facilities are required to accommodate and encourage cyclists and result in sub-stand facilities that do not encourage any new cyclists, at best redirect existing users to use them.

What is key in the determination of what facilities are perceived as being viable by cyclists is safety, and one of the major ways that safety is perceived by cyclists is through the level of separation provided to motorised traffic. This varies between each of the four user categories outlined in Table 5.2, but as a good starting point, reference is made to Figure 2.1 of Cycling Aspects of Austroads Design (2011), which is presented in Figure 5.2.

Figure 5.2: Minimum Levels of Separation



Source: Cycling Aspects of Austroads Guides, p13

Figure 5.2 recommends a minimum level of separation between cyclists and motor vehicles on urban roads based on the volume and speed of traffic. At low traffic speeds and volumes, a shared road environment is considered appropriate, and at high traffic speeds and volumes, separated bicycle paths are considered appropriate.

These minimum separation guidelines are considered appropriate for the development of a bicycle network within an urban environment to support the 'borderline "fair weather" cyclist' and 'active adult' cyclists, which makes up the majority of current and the potential users (approx. two-thirds of a community).

'Vulnerable to traffic' cyclists require almost complete separation of bicycle facilities to motorised traffic throughout their associated trips.

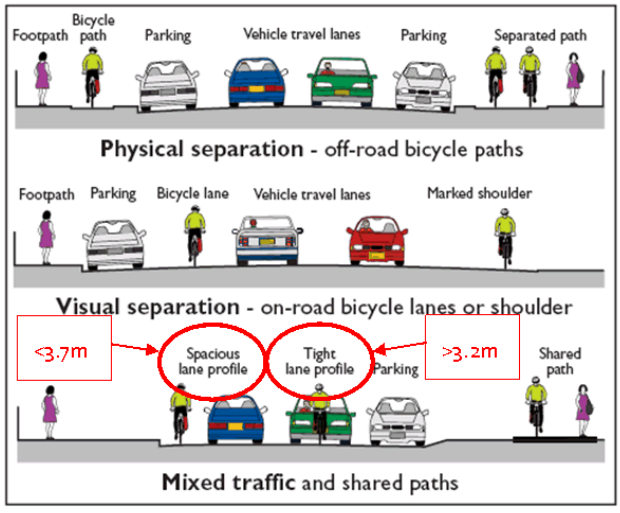
'Sports and fitness' cyclists do not require or desire the same level of separation as other groups, as they are more concerned with maintaining speeds and travelling long distances. Furthermore, they generally do not choose to ride within urban environments for exactly these reasons. Rather, they opt for rural roads with a limited number of intersections and low volumes of traffic, especially heavy vehicle volumes. However, this can result in cyclists being located in high speed environments with narrow road widths, which can either see motorists passing cyclists at close distances or motorists

crossing the centre line to pass them, all at high speeds. Reducing speeds and/or widening carriageways to at least accommodate marked bicycle lanes is advantageous for sports and fitness cyclists, but is not expected to significantly increase their numbers. However, improved facilities are likely to re-route existing users to such supportive routes.

Further to Figure 5.2, which shows the relationship between the minimum level of separation required given the prevailing traffic speeds and volumes, the three methods of separation are described as follows and illustrated in Figure 5.3:

- Physical separation. Paths, shared or exclusive-use, separated from the roadway.
- Visual separation. Line marked space on roads, bicycle lanes or shoulders.
- Mixed traffic. Riders share lane space on the road with motor vehicles and off-road with pedestrians. There are two categories of shared space:
    - Spacious profile shared space is where there is a consistently wide kerb lane to allow riders and drivers to comfortably share space according to the prevailing road speed (i.e. minimum kerbside traffic lane width of 3.7m within a 60km/h speed zone – refer to Table 4.2 of the Cycling Aspects of Austroads Guides, 2011 for further guidance).
    - Tight profile shared space can be used for bicycle routes in low-speed, low motorised traffic volume environments such as residential streets and laneways. In very low speed environments such as residential areas and on very narrow inner-city streets, where the aim is to keep all vehicle speeds low, it is preferable to restrict the lane width so that vehicles cannot pass riders and must follow each in turn (i.e. maximum traffic lane width of 3.2m).
    - It should be noted that mixed traffic lane widths of between 3.2m and 3.7m within a 60km/h speed zone can result in vehicles trying to pass cyclists without crossing the road centreline at an uncomfortable and sometimes unsafe distance. As such, mixed traffic lane widths within this range should be avoided, especially along well utilised bicycle route.

Figure 5.3: Methods of Separation



Source: RTA 2003, p14

The feedback received from residents indicated facilities which were physically separated from traffic are preferred. However, due to the limited space and high cost of these facilities, providing this type of facility is not practical in every location.

As such, and in reference to the road characteristics outlined in Table C1 of Clause 56.06 of the Greater Shepparton Planning Scheme, the minimum recommended bicycle facilities that should be provided in conjunction with the overall urban road network are provided within Table 5.3. ACTION 5

Table 5.3: Recommended Bicycle Facilities based on Road Characteristics

Access Lane	Traffic Volume	Target Speed	Carriageway Width [1]	Recommend Bicycle Facility
Access Lane	300vpd	10kph	5.5m	No dedicated facilities
Access Place	300-1,000vpd	15kph	5.5	
Access Street – Level 1	1,000 to 2,000vpd	30kph	5.5	
Access Street – Level 2	2,000 to 3,000vpd	40kmh	7-7.5m	
Connector Street – Level 1	3,000vpd	50kph	9.5m	Mixed traffic conditions
Connector Street – Level 1	3,000 to 5,000vpd	60kph	13.0m	On-road bicycle lanes
	5,000 to 7,000vpd	60kph	16.0m	Segregated bicycle path
Arterial Road	+7,000vph	As appropriate	As appropriate	Segregated bicycle path

[1] Width based on providing two-way traffic and the recommended bicycle facilities

If such facilities are provided, they would be expected to cater for the majority of potential commuter and recreational users within urban environments. However, additional care is required for primary schools and other trip generators with significant proportions of "adverse to traffic" cyclists, as they require segregated facilities throughout their trip. As such, shared paths are recommended along the frontage of such developments and connecting to the connector and arterial roads that have segregated bicycle facilities.

Specific to Greater Shepparton, there are a number of bicycle facilities types already in use. These are listed as follows with a brief explanation:

- Footpath – paths in residential streets and commercial areas for pedestrian use only, except for children under the age of 12 who can cycle with or without an accompanying adult.
- Shared Path – signed 'shared paths' for cyclists and pedestrians.
- Recreational Path – paths for walkers and cyclists on developed recreational reserves in urban areas.
- Recreational Trail – walking and cycle paths in remote river / bushland / road reserve.
- On-Road Bike Lanes – marked bicycle only lanes within the road carriageway.

In addition to these, it is proposed to utilise the following facility types as part of further developing the bicycle network in Greater Shepparton:

- Segregated Bicycle Lanes – Physically segregated bicycle only lanes from motorised traffic within the road carriageway.
- Off-Road Bicycle Path – Bicycle only path within a road reserve, used to connect with other bicycle only facilities within adjacent road carriageways.

- Contra-Flow Lane – Marked bicycle only lane permitting cyclists to travel in the opposing direction to motorised vehicles within a given one-way road carriageway.
- Formalised Mixed Traffic – signposted and marked route along a road carriageway that has a cycling environment consistent with Figure 5.2 (i.e. may require Local Traffic Management measures to achieve such an environment).

5.2.4 Intersection Treatments

Another common facility issue with bicycle routes is the lack and/or inconsistent approach of on-road bicycle related intersection treatments, especially at roundabouts, which leads to indecision and potential conflict with vehicles. This is considered to be an issue within the Shepparton CBD given the number of recorded casualty accidents in Table 3.1 involving cyclists at intersections and it being a common point raised during consultation.

Roundabouts are notoriously bad for safely accommodating cyclists and it is understood that Austroads is currently undertaking research to develop improved design guidance for roundabouts.

What is currently evident is that cyclists are not clearly advised where they should position themselves as they travel through a roundabout. Currently, most on-road bicycle facilities stop short of roundabouts and cyclists try to travel on the outside of the circulating lane with vehicles travelling on their inside. Also, motorists approaching the roundabout are currently not overtly aware of cyclists within the circulating lane, given their position on the outside of the circulating lane and low volumes.

As such, it is recommended that for circulating lanes that can accommodate (or through minor widening) a bicycle lane on the outside, this should be provided with green pavement markings, bicycle logos and raised delineation techniques (such as of vibra line, rumble strips, RRPM's and/or riley kerbs[7]). For reference on such a treatment refer to Figure 5.4.

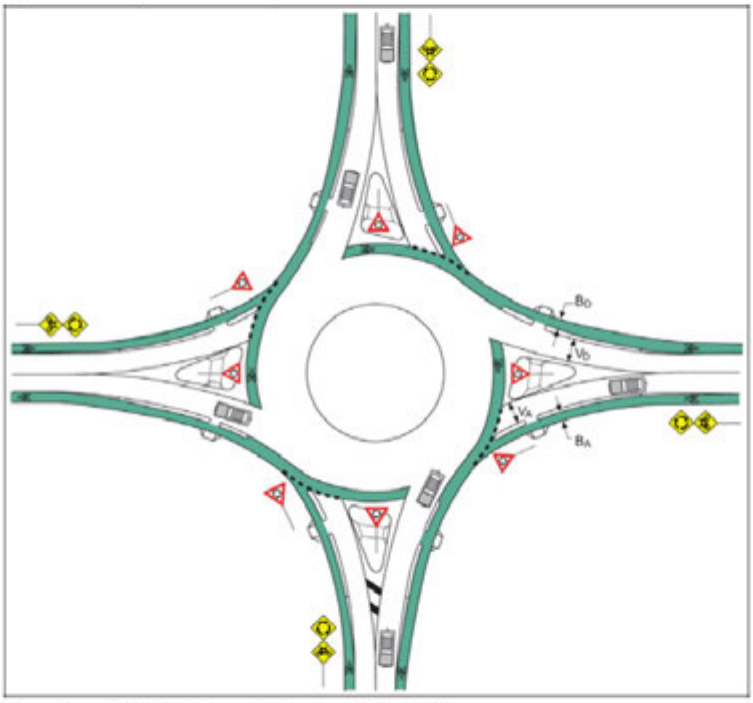
When there is insufficient width to accommodate a bicycle lane on the outside of the circulating lane, then cyclists on approach to the roundabout should be directed to travel in the centre of the lane through a narrowed approach lane. For reference on such a treatment refer to Figure 5.5. This approach can be emphasised through the use kerb extensions, signage and sharrow markings (refer to Figure 5.6) or similar.

Regardless of whichever treatment is used, speed on approach and through the roundabout is critical and needs to be addressed through increased central island circumference or revised vehicle approach alignment.

[7] Refer to http://www.tcaaustralia.com.au/riley.html for an example of a riley kerb.

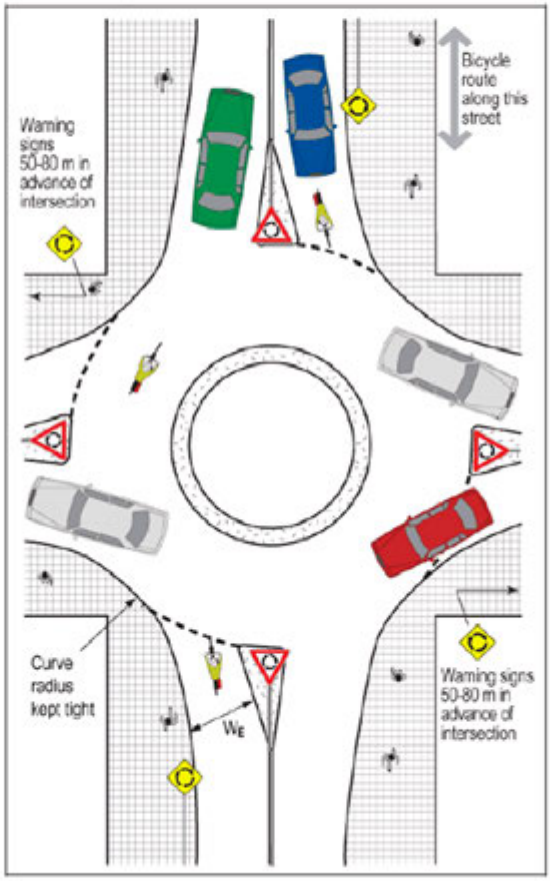
Cycling Encouragement Approaches

Figure 5.4: Bicycle Circulating Lane within a Roundabout



Source: Figure 5.22 of Cycling Aspects of Austroads Guides (2011)

Figure 5.5: Mixed Traffic Circulating Lane within a Roundabout



Note: The width of the entry W_E should cater for the design vehicle (e.g. service vehicle or fire truck). However, it is preferable that W_E is less than 3.0m so that drivers do not attempt to enter the roundabout alongside cyclists and 'squeeze' them into the kerb.
Source: Figure 5.20 of Cycling Aspects of Austroads Guides (2011)

Figure 5.6: Sharrow Bicycle Marking

In terms of other intersection types, reference is made to Section 5 of the Cycling Aspects of Austroads Guides (2011), which identifies the continuation of facilities up to the give way / hold lines and guidance through signalised and unsignalised intersections. These treatments along with consideration of additional green pavement markings, bicycle logos and raised delineation techniques are recommended.

For intersection treatments of off-road bicycle facilities, reference is made to Section 7.6 of the Cycling Aspects of Austroads Guides (2011), which identifies differing types of intersection treatments depending on who has priority and the level of traffic. When an off-road facility intersects a low volume road consideration can be given to providing the off-road facility with priority over the road. The decision on whether this is appropriate should be based on the resulting sightlines and respective intersecting volumes of vehicles and bicycles.

With the above, it is recommended that Greater Shepparton develop design guidelines for intersection treatments for both on-road and off-road facilities based on the above referenced sections of the Cycling Aspects of Austroads Guides (2011) and additional identified considerations. ACTION 6

5.2.5 Comprehensive Bike Route Signage

Signing routes is very important for cyclists in complex urban street networks and along recreational trails with multiple route options. Signage can inform bicycle riders of routes which are often more direct, less heavily trafficked or more desired routes with high levels of amenity. Cycle network signage can help the community to become aware of the many route possibilities other than the prominently-signed main road network.

Directional and wayfinding signage is a critical element of any transport system. Every transport system needs these signs to help the users find their way around the network and to make full use of the system's infrastructure. We are all so use to the signage systems which are integrated into airports and railway stations along with the ubiquitous big green highway signs, that we often forget how dysfunctional these transport systems would become without their accompanying signage. Though the bicycle has been in use in our cities and towns since the end of the 19th Century, providing an urban system for bicycle travel is only a fairly recent development.

Signage provides great cohesion for the cycle network by regulating the use of roads, streets and paths, warning of hazards and difficulties, and indicating destinations where individual trips may start and end.

Further consideration of what bicycle signage is required within Greater Shepparton to support cyclist for both commuter and recreational trips, which is undertaken in Section 6.7 of the strategy.

5.2.6 End-of-Trip Facilities

End of trip facilities include:

- Bicycle parking
- Showers and change rooms
- Lockers (for clothes and equipment)
- Bicycle sales, renting and repair shops.

Bicycle parking at key trip attractors and transport nodes is an essential requirement of an integrated transport system. It helps to indicate that cycling is a legitimate and desired form of transport and recreation. Without parking facilities at locations people travel to and from, they either don't cycle or

secure their bikes informally along footpaths and in back-rooms where they leave them open to theft, vandalism and in the way of others. Key aspects of high quality bicycle parking include:

- Security: to minimise the risk of theft. Best practice involves either attended bicycle parking or a lockable shelter with internal bicycle racks for secondary locking.
- Visibility: located in an area with a high volume of passing foot traffic, to deter theft.
- Shelter: to protect against rain.
- Convenient: positioned as close as possible to the trip attractor or transport node, or within a prominent area.
- Signage: to clearly identify the direction of bicycle parking facilities from areas where the parking facility is not visible.

Bicycle parking needs to cater for both the regular and infrequent users. Whilst there may be a small degree of cross over, regular users will generally prefer high security bicycle enclosures and infrequent users will generally have their needs met by casual bicycle parking arrangements. Short term users (parking for less than 4 hours) will usually be satisfied by casual parking as well.

In terms of the other end of trip bicycle facilities, these can have just as significant an impact on encouraging and helping to support and grow bicycle use. They should be considered at every location that bicycle parking is provided, but will be dependent on the types of users, with long-term commuters requiring showers, change rooms and lockers, when short term users may only need lockers. Moreover, with both types of users, they can be further attracted through bicycle stores, be it sales, renting or repair of bikes, and bicycle friendly cafes and other commercial stores that target clientele that arrive in an informal manner. While end-of-trip commercial opportunities are likely to be realised as bicycle volumes increase, they can be fast-tracked through the supportive initiatives by Council.

5.3 Education, Awareness and Promotion

Raising the awareness, attractiveness and profile of cycling in Greater Shepparton is essential in order to change attitudes and foster a supportive environment that will enable the community to benefit from the many positive outcomes that result from a shared vision and goal to endorse cycling as a way of life.

A number of national initiatives designed to encourage cycling currently exist and can be readily adopted by cities, towns, schools, communities and businesses. These national initiatives provide a terrific opportunity to gather support for cycling as a viable transport mode and can provide the impetus to change an individual's behaviour and perceptions associated with cycling. For example, a five month follow-up survey for the National Ride to Work Program showed that 43% of new registered riders where still riding to work[8].

At a local level, communities, businesses and local governments can continue to host events throughout the year to build upon the rising interest and enthusiasm of cycling. More investment in infrastructure and a continued demonstrated commitment to improving the conditions for cyclists in Greater Shepparton will further assist in attracting more people to cycle for trips to work, school, fitness, recreation as well as other opportunities such as shopping trips.

[8] Source: National Ride to Work Day follow-up survey, 2010. http://ride2work.com.au/general/ride-to-work/93071/

Providing clear, quality and up to date maps and information on existing and proposed cycle facilities in Greater Shepparton is important, along with regular opportunities to share information locally and obtain advice through the establishment of specific bicycle user groups or informative websites.

The undertaking of targeted behavioural change programs to address significant behavioural barriers or the identification of mechanisms to increase the appeal (benefits) of cycling has been shown to be highly effective, especially when compared to the educational based campaigns that have historically been used and only generated small changes in behaviour. The strength of behavioural change programs is in their focus to not only educate but identify the specific decision or action that contributes to a given behaviour and addresses it through communicating initiatives, such as commitments, prompts and incentives, to develop the more desired behaviour into a social norm.

The development of behavioural change programs are not only recommended to be targeted at getting more people to cycle but at all users that share the road network, as a more harmonious environment is required to breakdown generalised perceptions and create a safer and more welcoming environment that the whole of the community is permitted to use. ACTION 7

At the very least, the use of behaviour based assessments of various initiatives should be undertaken to investigate the level of penetration they are likely to have on changing behaviours (and the eventual goal of increasing the number of people cycling). An understanding of the likely penetration can help determine the relative effectiveness of initiatives and funding priority, because the greatest benefit that can be made is getting more people to cycle.

5.4 Project Assessment Framework

Historically, in terms of local cycling projects, prioritisation of projects has often been on the basis of cost (absolute or distance-based), ease of funding or perceived feasibility (often a measure of political or community resistance). This relatively ad-hoc approach has focused on "quick wins" at an infrastructure level, creating an under-utilised and often disjointed network.

In the current political environment, there is increasing pressure on the application of limited funding across a wide range of transport-related projects. Therefore it is important to establish a consistent project assessment framework across all transport projects such that the relative merits of (for example) a small cycling project can be compared to a major highway upgrade project.

One common tool used for road projects is cost-benefit analysis. Such analysis seeks to derive a benefit-cost ratio (BCR) through valuing in current terms:

- Capital project cost
- Maintenance and other ongoing costs
- Vehicle operating cost (VOC) savings
- Time cost savings per vehicle hour
- Accident cost savings
- Environmental externalities (costs or benefits).

Such analysis can relatively easily be applied to cycling projects with additional economic parameters, such as health benefits and tourism income. Such analysis is dependent on the availability of suitable data which can be difficult, particularly for smaller projects and the ability to accurately determine the likely increase in usership as a result of the initiative. Due to the wide-ranging benefits, quantification

can be difficult where these involve other government sectors and indirect links, such as health benefits and increased sales at the local stores from cycling related tourism.

Until recently, it was difficult to provide an objective assessment of the economic benefits of investment in cycling infrastructure. However, through the following recent research by three Australian agencies, some early insights to the likely monetary benefits have been identified:

- Cycling Promotion Fund[9] - Cycling: Getting Australia Moving
- City of Sydney[10] - Inner Sydney Regional Bicycle Network Demand Assessment and Economic Appraisal
- North Sydney Council and NSW Government - to be released in September/October 2010.

Table 5.4 provides an overview of the economic benefits of cycling identified in these three studies.

Table 5.4: Economic Benefits of Cycling

Item	$/km Travelled (Low)	$/km Travelled (High)
Health Benefits	0.0377	0.2538
Pollution Reduction	0.0253	0.0215
Greenhouse Gas Reduction	0.0145	0.0125
Congestion Decrease	0.2666	0.2344
Noise Reduction	0.0091	0.0076
Infrastructure Provision	0.0398	0.0341
Other User Benefits	0.1449	0.1449
Other Economic Benefits	0.1600	0.1600
TOTAL	**0.6979**	**0.8688**

This data primarily relates to commuter related cycling in urban areas, so a number of the benefits, such as the decongestion benefit, is unlikely to be relevant within Greater Shepparton. However, a number of these are appropriate and are able to be used to develop detailed business cases of specific facilities and initiatives.

In terms of recreational cycling, there has also been similar economic data developed, however, more limited. An example of such data is the tourism benefits identified within the La Trobe University research paper entitled "An economic analysis of rail trails in Victoria, Australia" (Beeton, 2003). The research paper looked at three trails within Victoria, including the East Gippsland trail, the Murray to Mountains trail and the Warburton trail. The average amount spent by visitors to these trails was found to be $51.10 per person per day. This value was calculated through the collection of questionnaires from which duration of stay information was obtained, along with expenditure data on accommodation and non-accommodation items.

More recent research undertaken by La Trobe University and presented in "Regional Communities and Cycling: the Case of the Murray to the Mountains Trail, Victoria, Australia" (Beeton, 2006), identified that the average amount spent by visitors to only the Murray to Mountains Trail over the Easter weekend in 2006 was $258.00 per person per day.

And even more recently, research presented by Dr Sue Beeton at Parks and Leisure Australia Nature Based Tourism and Trails Seminar in Bendigo on 19 May 2010, indicated that the average amount spent

[9] Bauman A., Rissel C., Garrard J., Ker I., Speidel R., Fishman E., 2008. Cycling: Getting Australia Moving: Barriers, facilitators and interventions to get more Australians physically active through cycling, Cycling Promotion Fund, Melbourne.

[10] City of Sydney, 2010. Inner Sydney Regional Bicycle Network Demand Assessment and Economic Appraisal. Prepared by AECOM Australia Pty Ltd, Sydney.

by visitors to only the Murray to Mountains Trail in 2009 was $244.00 per person per day. Furthermore, there was a breakdown of this amount as follows:

- Accommodation $52
- Food / Beverages $123
- Fuel $18
- Cycling Expenses $6.50
- Souvenirs / Grifts $6.50
- Other $38

Unlike the health benefits, tourism benefits are largely private commercial benefits, albeit with significant secondary community benefits in terms of employment. Employment in Greater Shepparton is of particular importance, particularly with the differences in employment levels between the winter and the summer holiday seasons and associated fruit picking months.

There is a need for further refinement and development of the various parameters in discussion with relevant agencies, such as VicRoads, to develop a methodology that stands up to scrutiny for State and Federal Government funding applications.

In the interim, as a simple yet effective method of prioritising projects where consistent quantitative data is not available, the following two-stage process is recommended. ACTION 8

The first stage matrix shown in Table 5.5 allows equal standing to be given to both infrastructure and non-infrastructure projects. It places the overall cost of the initiative against the potential benefits. While costing is relatively well understood, the identification of the potential benefit is sometimes not. However, through the understanding of user types, proportion of the population they are affecting, an understanding of the potential benefit can be ascertained. To gain an even finer grain understanding of what is likely to provide the greatest benefit, consultation or sample testing with a focus group on a range of initiatives can be beneficial.

Table 5.5: Priority Evaluation Matrix

Cost Estimate		Potential Benefits (High to Low)		
<$20,000*	Low	Priority 1	Priority 1	Priority 2
$20,000 - $100,000*	Medium	Priority 1	Priority 2	Priority 3
>$100,000*	High	Priority 2	Priority 3	Priority 3

* Values are indicative only and can be varied to suit the needs of local areas or government agencies

Once the relative priorities have been established, it is valuable to consider the overall feasibility of the projects or initiatives being considered. This includes, engineering feasibility, political feasibility, community consultation, environmental impact and opinion, as well as conflicting priorities and needs. This "degree of difficulty" for implementation should avoid overlap with cost considerations where possible, as this has already been considered in the first step.

Table 5.6 shows how the priorities from Table 5.5 can be translated to short, medium and long term actions through consideration of project feasibility.

Table 5.6: Action Evaluation Matrix

Priority	Project Feasibility		
	High	Medium	Low
Priority 1	Short Term	Short Term	Medium Term
Priority 2	Short Term	Medium Term	Long Term
Priority 3	Medium Term	Long Term	Long Term

5.5 DDA Considerations

The Federal Disability Discrimination Act 1992 (DDA) aims to provide protection to anyone in Australia against discrimination based on disability. Specific to Greater Shepparton, Council's Disability Action Plan aims to allow all residents and visitors to Greater Shepparton access to services and facilities, while improving health and wellbeing, and social connectedness.

In terms of the impact on cycling facilities, consideration should be given to who the potential user groups are and their abilities. However, site and budgetary constraints can limit the useability of some facilities. It should always be a desire with any facility to enable all potential users to utilise it, but limitations exist and need to be made clear and minimised as best as possible, such as the identification of alternate routes, adjacent facilities and current and up-to-date information material to enable people of all abilities to identify how best they might access the main-stream services and facilities within Greater Shepparton.

There are specific facility types that will be designed with the aim of providing a universal bicycle network and maximise the number of community cycling for transport and recreation. The provision of equitable access must be considered for all levels of mobility. This should be delivered in consultation with the Greater Shepparton Disability Advisory Committee.

5.6 Design Implications on Maintenance

Maintenance of bicycle facilities should be considered as part of initial design and any associated development in the area and/or along the corridor. What is important in terms of the Cycling Strategy and development of the associated facilities is the identification of what design elements contribute to maintenance and how they are programmed and undertaken in Greater Shepparton.

A number of elements that can have a significant impact on the on-going maintenance of a facility are discussed as follows.

5.6.1 Surface Treatment

One of the main design elements affecting maintenance of cycling facilities is the surface treatment. There are three main types, which consist of the following:

- Concrete slab (rigid)
- Asphalt or bitumen surfacing (flexible)
- Crushed aggregate (loose).

Each of the above surface treatments requires various levels of maintenance, both in terms of frequency and how it is undertaken. Over the life-time of a facility, the level of maintenance and associated cost of a particular surface treatment can be significant. In this regard, reference is made to

Table 8.2 of the NSW Bicycle Guidelines (2005), which compares the life-cycle costs of a number of surface treatments. This comparison of surface treatments has been reproduced in Table 5.7.

Table 5.7: Life Cycle Costs for Path Surface Materials

Material	Construction Cost[1]	Annual Maintenance Costs[2]	Life Cycle Costs[3]	Environmental impacts
Decomposed granite	$105,000	$27,000	$391,000	Reduced run-off and visual intrusion
Asphalt / bitumen	$120,000	$3,000	$152,000	Visual intrusion due to path width
Concrete	$195,000	$1,500	$210,000	Visual intrusion due to path width and colour
Boardwalk[4]	$1,200,000	$2,000	$1,221,000	Visual intrusion varies depending on location
Fibreglass reinforcement plastics	$900,000	$2,000	$921,000	Reduced visual intrusion depending on colour and width, minimal run-off

[1] Assuming a 20 year period, 3.0m wide path, 1km, no structures.
[2] Assuming regular periods of significant rain and flooding 30% replacement of surface annually.
[3] Alternatives such as bluestone and limestone were also considered but there were concerns about leaching effects; shell grit is widely used in the Netherlands as a surface material for pathways through forested areas but is not commonly used in Australia.
[4] For use in special areas where constraints exist.

Table 5.7 indicates that using concrete as a surface material has the lowest annual maintenance cost, asphalt / bitumen has the lowest overall life-cycle costs. Decomposed granite, while being the cheapest to construct, has the highest annual maintenance costs, which results in it being the most expensive over its life cycle (assumed to be 20 years) of these three options.

The decision of which surface treatment should be used for a specific facility does not start and end with the overall life-cycle cost. Consideration should also be given to the surrounding environment, specific climatic and terrain constraints, as well as the user types and volumes, which each have an impact on the on-going maintenance. With each of these considerations, discussion is provided as follows.

Surrounding Environment

The selected surface treatment should be complementary to the surrounding environment. In built-up urban environments concrete is most suited, when in national parks and reserves, crushed aggregate probably is. There is also an ability to have a surface treatment more suited to a given environment, through the use of different colours or texturing. This has been used to great effect with concrete surfaces within environmentally significant areas by texturing and colouring the surface to reduce the visual impact. Crushed rock paths are also used in parks within urban environments, where they usually have an adjacent bitumen or concrete facility, but are well used and accepted by specific users, such as joggers.

What should also be considered is whether development in the area is expected in the near future. If duplication of the roadway or development of the adjacent properties is expected in the coming years, the crushed aggregate or bitumen surface treatments may be appropriate given that the facility is likely to be removed, but it is appropriate in the short-term to provide a facility for an existing demand or general encouragement of bicycle use in the area.

Climate and Terrain Constraints

While the life-cycle costs presented in Table 5.7 are informative, they are based on a number of assumptions. One of these that significantly affects the crushed aggregate surface treatment costing is that there is regular periods of significant rain and flooding, resulting in 30% of the surface material

needing to be replaced annually. If however, the specific location of a given path is in a relatively dry area that is not prone to flooding and (probably most importantly) flat, then the on-going maintenance and overall life-cycle costs of a crushed aggregate surface treatment is significantly reduced, even to the point that it proves to be a cheaper alternative to the other surface types. Alternatively, if the area does experience frequent heavy rainfall, flooding and is undulating, then the maintenance cost for a crushed aggregate surface treatment can be even higher.

User Types and Volumes

With any facility, consideration needs to be given to the likely or desired user types and volumes. While it would not be appropriate to provide a smooth flat concrete surface within a mountain bike park, it might be appropriate to provide such facilities on the way to it due to the volume of cyclists.

Furthermore, the introduction of any facility is likely to lead to more users, and as the volumes increase a facility can be taken from an informal crushed aggregate one to a formal concrete facility. So the use of the crushed aggregate facility could be an appropriate initial choice to suitably stimulate bicycle use.

5.6.2 Road Shoulders

Another common maintenance issue that arises with cycling facilities are gravel road shoulders that are sealed to provide a bicycle lane. The issue here is that the shoulders are not able to withstand typical vehicle loads, including street sweepers, and result in the seal breaking up or forming large ruts which become more of an issue for cyclists than mixing with traffic.

The practice to seal gravel road shoulders is usually born out of a response to safety issues arising between cyclists and vehicles mixing in the traffic lane. Given the resulting safety issue, it is considered safer to maintain the existing conditions and use alternate treatments, such as reducing the speed limit, installing bicycle warnings signs and mixed traffic pavement symbols, with the preferred treatments being the installation of full strength pavement to accommodate bicycle lanes or separated facilities that are consistent with Figure 5.2.

5.6.3 Signage

Signage associated with on and off-road facilities is considered to be vital to ensure clear priority of movement and awareness of approaching conditions to cyclists as well as motorists. However, identifying the appropriate level is critical and has a direct implication with on-going maintenance. When there is an insufficient amount of signage, this can lead to potential conflicts, with too many signs potentially leading to signage overload (too many signs in the same location) or awareness complacency (advised of a potential conflict but it rarely happens). As such, the rationalisation of the use of signage should be undertaken.

It is recommended that signage should only be used where movement priority is in question and/or there is a localised potential safety hazard within the associated corridor. Furthermore, consideration of user volumes should play a role, as well as the acknowledgement that 80% of a pedestrian's vision is below the horizontal, which is no better for a cyclist. As such, signage is likely to be less effective than pavement markings for informing pedestrians and cyclists and thus, is recommended to be used sparingly.

5.6.4 Markings

As indicated above, pavement markings are considered to be even more vital than signage to indicate to pedestrians and cyclists movement priority and awareness of approaching localised safety concerns. However, given that pavement markings are generally required to be remarked annually, this can have a significant on-going maintenance implication.

With this in mind, it is recommended that pavement markings be used at all on and off-road intersections. There use at mid-block locations should be based on the user volumes, unless they are a critical element of the facility, such as on-road bicycle lanes.

Specific to off-road facilities, it is always desirable to have the shared path logos marked in both directions on either side of a crossing facility and repeated every 100m, but it is considered acceptable to only be located on the departure sides of crossing facilities and at entry points from other corridors.

Centrelines are not considered essential if the user volumes are very low and/or very tidal throughout the day. However, as volumes increase, and where directional splits tend more towards 50:50 and accommodate various users types (walking, running, cycling etc.), the need for centreline markings becomes necessary to minimise any potential conflicts and maximise the users' level of service.

5.6.5 Hand Rails

The installation of hand rails is commonly debated, partly due to their inconsistent use and understanding of their purpose, but also due to the cost, especially if they were to be installed at ever intersection of a shared path with a road and adjacent to kerbside bicycle lanes or turn boxes.

In order to develop a consistent approach on when it is considered appropriate for a hand rail to be installed, consideration must first be given to their purpose.

Hand rails are designed to be used by cyclists waiting for a suitable gap in a traffic stream. They enable a waiting cyclist to stay mounted on their bike and thus take off in a faster manner than if they had to place a foot on the ground to balance themselves while waiting. On this basis, hand rails are considered appropriate where there are limited opportunities for cyclists to safely cross an intersecting roadway, due to traffic volumes, number of lanes, speed and/or intersecting facilities user volumes.

Another benefit of using hand rails is that they provide some additional protection for shared path users and the potential to locate the activation button for a signalised crossing facility or bicycle phase at an intersection.

5.6.6 Other Elements

Consideration should also be given to the following elements that can have a significant safety, as well as on-going maintenance implication as part of any bicycle facilities, especially at crossing locations and where user volumes are high:

- potential to provide lighting that will highlight the crossing location at night
- pram ramps that are DDA compliant, making the traverse between the path and road smooth and safe.

6. Commuter and Recreational Cycling

6.1 Preamble

The purpose of this section of the strategy is to review the existing commuter and recreational cycling network and identify the facilities that are required to have a continuous cycling network throughout Greater Shepparton.

This builds on what has been installed and proposed within the previous Cycling Strategy, VicRoads Municipal Bicycle Network (MBN) for Shepparton and the latest development plans for the growth corridors, with the identification of commonalities and high priority facilities to help guide development of the network over the next five years, including the preparation of an updated MBN for Shepparton.

In this regard, investigations and identification of facilities have been undertaken in the following order:

- catchments of major trip generators
- within and connecting growth corridors
- within the major townships
- between the major townships
- rail trails and other regional facilities.

Consideration has also been given to bicycle parking and route signage facilities, with discussion and recommendations also presented in this section.

6.2 Catchments of Major Trip Generators

Bicycle catchments are areas around trip generators (be they the source or destination of a trip) that are likely to be accessed by cyclists. The size of the area is dependent on the following:

- trip generator (land use)
- types of users accessing the trip generator
- facilities connecting the users to the trip generator
- level of traffic congestion in the area
- ability to conveniently access the trip generator by alternative modes of transport.

While the above indicates that the bicycle catchment area can vary significantly between trip generators, it is common practice to base staff and student (and other trip types that consist of a destination activity lasting longer than four hours at a given trip generator) catchments on a travel time of 30 minutes. For shorter-term trips, such as for customers or visitors, a catchment of 10 minutes is typical.

Based on these travel times, the catchments for long-term trips are up to 10km (5km for primary schools) and 3km for short-term trips in an urban environment. Given that Shepparton is approximately 12km north-to-south and 6km east-to-west, a significant number of cycling trips would fall within catchments as long as there are suitable facilities accessing them.

For shopping centres and other commercial developments, customers can be difficult to encourage to cycle, as they come in groups, need to transport their purchased goods and there is an abundant supply

of convenient parking. As such, the user group that is typically easier to get to cycle are those relating to staff (long-term) trips.

With retail developments, staff parking demands typically consist of between 15% and 25% of peak demands (generally the larger the development, the lower the percentage of staff). These users could be targeted through green travel plans, behavioural change programmes and improved facilities servicing associated sites (including connecting paths and lanes, as well as end-of-trip facilities).

The following sections provide discussion and recommendations of facilities for a sample of major trip generators within Shepparton.

6.2.1 Shepparton Marketplace

Shepparton Marketplace is a shopping centre located on the south side of Benalla Road, opposite Florence Street. Current bicycle facilities accessing the site consist of on-road kerbside bicycle lanes on Benalla Road between Florence Street and Archer Street to the west. There are also on-road bicycle lanes on Archer Street extending south from Benalla Road.

Beyond these on-road facilities, there are no dedicated bicycle facilities. The existing short-term (customer) catchment for the Shepparton Marketplace exists to the west along Benalla Road to Archer Street (approx. 1.2km), south down Archer Street to its intersection with Wilmot Road and Popular Avenue (approx. 1.8km) and into any of the intersecting local roads where the traffic volumes and speed are suitable for mixed traffic conditions.

More confident cyclists may be able to utilise some of the other roads to access the site, but as outlined in Section 5.2 of the strategy, these cyclists make up a small proportion of the community and do not service the majority that could potentially access the site by bicycle. Even the on-road bicycle facilities along Benalla Road are likely to only be viable for the confident and capable cyclists.

The following facilities are proposed to improve the accessibility to the site and increase its catchment:

- continuation of the on-road kerbside lanes along Benalla Road to the west between Archer Street and the railway line
- bicycle only paths between the service roads on the south side of Benalla Road to the east of Archer Street. Along the service roads, mixed traffic conditions in the westbound direction and a contra-flow lane in the eastbound direction
- on-road bicycle lanes along Florence Street between Benalla Road and Old Dookie Road
- on-road kerbside lanes on Old Dookie Road, between Florence Street and the existing cycle lane to the west.
- on-road kerbside lanes on Andrew Fairley Avenue, between Old Dookie Road and Railway Parade
- shared path within the railway corridor, on the southeast side of the line for the majority of its length, especially in close proximity to the adjacent roundabouts on the northwest side of the line. The facility can also double as a service vehicle path for railway maintenance.

6.2.2 Riverside Plaza

Riverside Plaza is a shopping centre located on the west side of Goulburn Valley Highway, to the north of Riverview Drive. Current bicycle facilities accessing the site consist of on-road kerbside bicycle lanes on Goulburn Valley Highway between Gash Court in the south to Hayes Street in the north, with intersecting on-road bicycle lanes on Kialla Lakes Drive and Wilmot Road. There is also a shared path along the west side of Goulburn Valley Highway between Balmoral Street and the Broken River, which accommodates a shared path along its northern banks. These current on and off-road facilities broadly cover the short-term (customer) catchment for the site, and the mix of on and off-road facilities accessing the site provides facilities for a wide range of current and potential users.

Again, however, it can be difficult to encourage customers to cycle to shopping centres; therefore a focus should be given to the staff (long-term) trips, especially from the surrounding residential areas.

In this regard, the following facilities are proposed to improve the accessibility to the site and increase its catchment:

- continuation of the on -road kerbside bicycle lanes along Archer Road to the south between Adams Road and drain easement
- continuation of the on -road kerbside bicycle lanes along Goulburn Valley Highway to the south between Gash Court and the Shepparton Airport access
- continuation of the off-road shared path along the west side of Goulburn Valley Highway to the south between Raftery Road and Broken River
- continuation of the off-road shared path along the west side of Goulburn Valley Highway to the north between Lincoln Drive and Hayes Street
- on-road bicycle lanes on Riverview Drive between Goulburn Valley Highway and Forest Drive
- off-road shared path on the south side of Raftery Road between Goulburn Valley Highway and Sevens Creek
- kerbside bicycle lanes on Raftery Road between Goulburn Valley Highway and Sevens Creek
- on-road bicycle lanes along the entire length of Gordon Drive
- off-road recreational path on the south side of Waranga Drive between Goulburn Valley Highway and the rail line
- off-road shared path on the south side of the Goulburn River between Rocklands Crescent and the shared path crossing point to the north of Brewster Crescent
- continuation of the shared path to the north from Forest Drive to the Goulburn River
- off-road recreational path on the south side of Waranga Drive between Goulburn Valley Highway and the rail line
- on-road bicycle lanes along Guthrie Street between Goulburn Valley Highway and Hassett Street
- on-road bicycle lanes along Hassett Street between Lincoln Drive and Longstaff Street
- on-road bicycle lanes along Longstaff Street between Abernethy Street and Goulburn Valley Highway
- shared path within the railway corridor, on the southeast side of the line to the northeast of Longstaff Street.

6.2.3 Fairley's IGA

Fairley's IGA is a supermarket located on the north side of Hawkins Street, to the east of Numurkah Road. Current bicycle facilities accessing the site consist of on-road kerbside bicycle lanes on Numurkah Road between Balaclava Road and Ford Street, with intersecting on-road bicycle lanes on Brauman Street and Balaclava Road. There are also shared paths within the public reserves on the east side of Numurkah Road and north of Brauman Street.

These current on and off-road facilities broadly cover the short-term (customer) catchment for the site, but have a number of discontinuities, that if overcome, would provide a more continuous network in all directions of the site, especially to the east and the existing facilities along Verney Road.

In this regard, the following facilities are proposed to improve the accessibility to the site and increase its catchment:

- shared path on the south side of Hawkins Street between Numurkah Road and Verney Road
- exclusive bicycle lanes along Wyndham Street between Balaclava Road and Knight Street once the Shepparton Bypass is built and through volumes reduce
- bicycle only paths between the service roads on the east side of Numurkah Road between Balaclava Road and Ford Street. Along the service roads, mixed traffic conditions in the southbound direction and a contra-flow lane in the northbound direction
- shared path on the north side of Ford Road between Numurkah Road and Verney Road
- continuation of the shared path on the north side of Balaclava Road between Packham Street and Numurkah Road
- shared path on the west side of Packham Street between Balaclava Road and where the carriageway becomes divided
- on-road bicycle lanes along east of Packham Street over the length to the south of Brauman Street where the carriageway is divided
- connect the recreational path sections through the public reserves west of Numurkah Road and north of Brauman Street
- recreational path along the south side of Pine Road between Numurkah Road and the existing section within the flood easement to the east.

6.2.4 Primary Schools

In terms of primary schools, these provide a significant opportunity to encourage bicycle use to access them as trip destinations, given that there was a large latent demand of potential users identified within the Greater Shepparton BikeScope survey 2011 (refer to Section 2.1.4), and that students generally live within the identified catchment of 5km of them.

However, as mentioned in Section 5.2 of the strategy, primary school students are likely to be averse to traffic and require almost completely segregated facilities for their entire trip to be able to cycle to school by themselves. As such, formalised off-road cycling facilities are generally perceived as being safe and should be provided.

They do not have to extend to each student's doorstep or road, but if they are able to extend within a short distance of their homes, or the main commuter road their parents take to work, they can be taken part of way to school by their parents and use dedicated facilities the rest of the way. Combining such facilities and access approach with targeted behaviour change programs, such as cycling school buses and catchment and facility maps, more primary school students could be encouraged to cycle to school on a regular basis.

While the above is an overview of the overall approach that should be applied to all schools within Greater Shepparton, it is noted that in some instances it is difficult to provide segregated facilities, typically due to primary schools being located within existing built-up urban environments with limited road reserves widths, to retro-fit them with shared path facilities, and roads that do not have sufficient spare capacity to redistribute capacity towards cyclists without a significant loss of car parking.

Also affecting the level of children cycling to school is the perceived low level of passive surveillance, which commonly raises concerns from parents in relation to 'stranger danger' and bullying, even though statistically these treats are low when travelling to and from school.

However, it should be noted that children under the age of 12 are permitted to cycle on footpaths. They can also be accompanied by an adult on a bicycle as well. This law does not seem to be well known, or well utilised. It is thus recommended that catchments around primary schools be identified, mapped and signposted as potential bicycle access routes. The facilities, be they segregated cycle lanes or footpaths, should connect the school to major residential areas and commuter roads used to access major employment areas. The signage should at least direct users to the associated schools, and if it is along a footpath, it should also indicate that children under 12 years of age can cycle along this facility with or without a parent. ACTION 9

Cycling to primary schools has significant benefits in terms of reducing childhood obesity, reducing the number of vehicles dropping off and picking up children at the schools, as well as getting children into a regular habit of exercise from an early age.

6.3 New Residential Developments

Within Greater Shepparton there are a number of new residential developments. The following latest growth corridor development plans have been provided for review in terms of the proposed bicycle facilities:

- Shepparton North – boarded by Goulburn valley Highway, Verney Road and Ford Street.
- Shepparton North-East – boarded by Verney Road, Ford Road, railway corridor and existing drain to the north of New Dookie Road.
- Shepparton South East – boarded by Benalla Road, Doyles Road, Broken River and existing residential development to the west.
- Shepparton South – boarded by Goulburn Valley Highway, Seven Creeks and existing residential development south of Raftery Road.
- Mooroopna West – boarded by Excelsior Road (Shepparton Bypass), Cornish Road, Echuca Road and existing residential development to the east, and Midland Highway.

Each development plan consists mainly of low-density residential developments, with some retail, schools and parklands. Historically, development of this nature has been very car originated, with little consideration given to the current or future provision of facilities for alternative modes of transport. This is beginning to change, especially with the identification of future bus routes, but the initial identification of bicycle facilities is still limited.

However, through the bicycle design framework presented in Section 5.2.3, and namely the associated bicycle facilities recommended to be provided in conjunction with the road network in Table 5.3, a comprehensive and connected bicycle network should be able to be provided from the outset.

In terms of applying such a design framework as part of new residential developments, there are limitations associated with the accuracy of the estimated traffic generation and its distribution throughout large developments, as it is not a precise science. Also, there are roads that may continue for long distances with traffic volumes that can vary significantly, so to swap and change facility types is not user friendly or feasible. Generally, this is an issue with connector roads, and it is recommended that where practical, both on-road bicycle lanes and off-road shared paths (on at least one-side of the road) be provided. Moreover, property access to the side of a connector street on which the shared path is proposed should occur via a lower order road where possible to minimise the potential for conflicts.

Given the above, the following is recommended for each of the latest growth corridor development plans.

6.3.1 Shepparton North

- Proposed shared paths are appropriate.
- Provide shared paths along the Verney Road, Goulburn Valley Highway and Ford Street frontages.
- Provide a shared path along one side of the northern collector road and minimise the number of properties accessed to that side.
- Provide on-road bicycle lanes along the two east-west collector roads.

6.3.2 Shepparton North-East

- Provide a shared path along the Ford Road frontage.

- Provide a shared path along the Grahamvale Road frontage.
- Provide a shared path along the north-south public space / wetland drainage area.
- Provide on-road bicycle lanes and shared paths on at least one side of north-south and east-west collector roads.

6.3.3 Shepparton South-East

- Proposed regional bike trails between Broken River and Channel Road are appropriate.
- Proposed bicycle network north of Channel Road is not intuitive, convenient or clear as to what facilities are being provided. Where sufficient carriage way width is provided for on-road bicycle lanes, these can be provided on the local roads. However, for the collector and arterials roads the following recommendations should be incorporated.
- Provide a shared path along the Benalla Road / Midland Highway frontage.
- Provide a shared path on west side of Doyles Road frontage.
- Provide a shared path on the north side of Channel Road.
- Provide a shared path on the south side of Popular Avenue.
- Provide a shared path on at least one side of Zurcas Lane (north-south main boulevard) and on-road bicycle lanes with a speed limit of 50km/h or less. Consideration could be given to segregated bicycle lanes if the abutting land uses are likely to generate high pedestrian volumes and make the required shared path width unable to be accommodated (refer to VicRoads Cycle Note 21 – Widths of Off-Road Shared Use Paths, October 2010[11] for shared path width and user volume guidance).
- Provide on-road bicycle lanes on Channel Road and Popular Avenue.
- Provide shared path facilities between the proposed school and shared path facilities on Doyles Road and Popular Avenue, and resulting bicycle facilities on Zurcas Lane.

6.3.4 Shepparton South

- Proposed shared paths are appropriate.
- Provide a shared path along the Goulburn Valley Highway frontage.
- Provide a shared path along one side of the northern collector road.
- Provide on-road bicycle lanes on the east-west collector roads.

6.3.5 Mooroopna West

- It is assumed that a shared path is being provided along one side of Excelsior Road (Shepparton Bypass).
- Provide a shared path along the Echuca Road frontage.
- Provide a shared path along the Cornish Road frontage.
- Provide on-road bicycle lanes on the north-south road.
- Provide a recreational path between Cornish Road and Midland Highway through floodway's.
- Provide east-west connecting recreational paths between the floodway's path and the existing parks between MacIsaac Road and Knight Street.
- Provide a shared path on at least one side and on-road bicycle lanes along Mac Isaac Road.

[11] It is noted that this is a draft document and, whilst it is considered to be a useful reference and may not change, it is yet to be finalised.

Commuter and Recreational Cycling

6.4 Within Townships

The development of complete and continuous commuter and recreational bicycle networks within each of the townships that are within Greater Shepparton should be the long term goal. Consideration of such facilities has been undertaken for Shepparton and ten other townships.

It should be noted that due to funding limitations and the retrospective nature that these facilities are being provided within the existing built environment, these will not be able to all be implemented as part of the strategy, but form an on-going blue print for Greater Shepparton and enable potential synergies with other developments and on-going maintenance (such as the inclusion of on-road bicycle lanes when annually marking or re-surfacing occurs), as well as ensuring that developments do not inhibit the opportunity to provide the proposed facilities in the future.

The identification of the most feasible facilities has been undertaken based on a review of the following:

- existing bicycle network facility maps for Shepparton, Mooroopna, Murchison and Tatura
- VicRoads MBN
- relevant structure and development plans, including those for the growth areas
- previously identified facility recommendations within the strategy
- findings from the consultation and feedback from Council
- aerial photography
- site visits.

6.4.1 Shepparton

Shepparton is the largest township within Greater Shepparton and as such, the bicycle network facility maps have been divided into two (north and south), and specific discussion given to the Shepparton CBD. Each of the two facility maps covering Shepparton and discussion about the Shepparton CBD are considered separately as follows.

Shepparton North

The proposed Shepparton North bicycle network facility map is presented in Figure 6.1. Identified facility recommendations have been indicated with dashed lines within Figure 6.1 and summarised in Table 6.1

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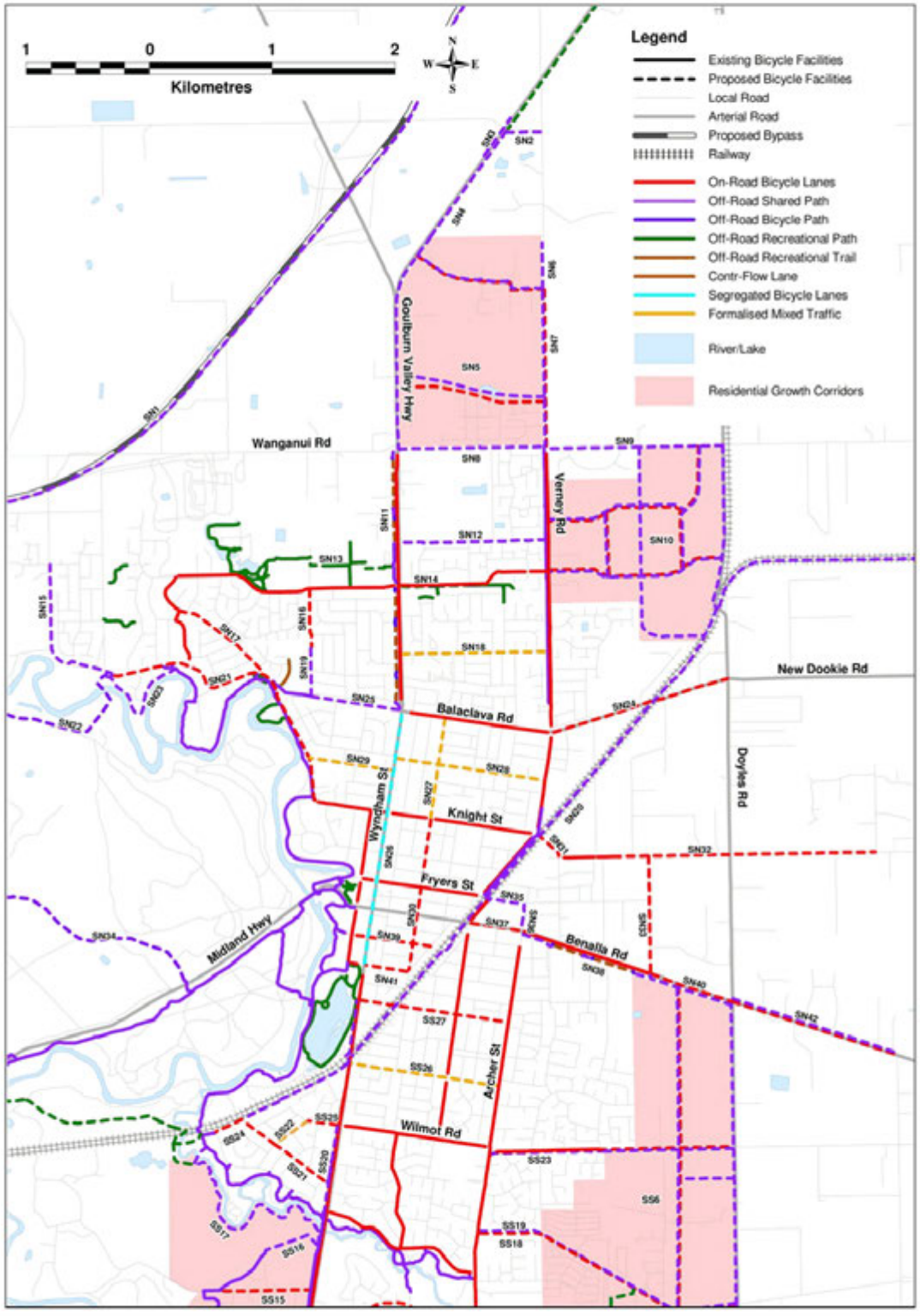
Commuter and Recreational Cycling

Table 6.1: Shepparton North Proposed Facility

ID	Location	Facility type	Length (m)
SN1	Shepparton Bypass	Shared path	-
SN2	Grace Rd - south side btw Goulburn Valley Hwy & Verney Rd	Shared path	1,200
SN3	Goulburn Valley Hwy - northwest side btw Grace Rd & School Entrance	Shared path	370
SN4	Goulburn Valley Hwy - east side btw Grace Rd & Ford Rd	Shared path	2,950
SN5	Shepparton North Growth Corridor	Various	-
SN6	Verney Rd - west side btw Ford Rd & GM Water Drain	Shared path	1,670
SN7	Verney Rd - btw Ford Rd & Tinnity Dr	On-road bicycle lane	1,280
SN8	Ford St - North side btw Numurkah Rd & Verney Rd	Shared path	1,190
SN9	Ford St - south side btw Verney Rd & Railway Line	Shared path	1,430
SN10	Shepparton North-East Growth Corridor	Various	-
SN11	Numurkah Rd - east side btw Balaclava Rd & Ford St	Bicycle path, mixed traffic, contraflow lane	2,130
SN12	Hawkins St - south side btw Numurkah Rd & Verney Rd	Shared path	1,190
SN13	John McEwen Reserve - btw Packham St & Numurkah Rd	Recreational path	720
SN14	Pine St - south side btw Numurkah Rd & Verney Rd	Recreational path	1,240
SN15	The Boulevard - north / east side btw Northcote Ave & Golf Dr	Shared path	1,400
SN16	Packham St - btw Tilton St & Brauman St	On-road bicycle lanes	460
SN17	Batman Ave - btw Dampier Ave & The Boulevard	On-road bicycle lanes	770
SN18	Graham St - btw Numurkah Rd & Verney Rd	Formalised mixed traffic	1,190
SN19	Packham St - west side btw Balaclava Rd & Tilton St	Shared path	410
SN20	Railway Corridor - btw Dookie & Longstaff St (Length represents urban section only)	Shared path	5,360
SN21	The Boulevard - btw Northcote Ave & Knight St	On-road bicycle lanes	2,320
SN22	Native Flora & Fauna Res – btw The Boulevard & Macfarlane Rd	Shared path	2,690
SN23	Goulburn River - north side btw Howitt Rd & Kittles Rd	Shared path	1,000
SN24	New Dookie Rd - btw Verney Rd & Doyles Rd	On-road bicycle lanes	1,460
SN25	Balaclava Rd - north side btw Packham St & Numurkah Rd	Shared path	710
SN26	Wyndham St - btw Balaclava Rd & Sobraon St	Exclusive bicycle lanes	2,150
SN27	Corio St - btw Balaclava Rd and Knight St	Formalised mixed traffic	820
SN28	Rea St btw Wyndham St & Hawdon St	Formalised mixed traffic	1,230
SN29	Mason St - btw Wyndham St & The Boulevard	Formalised mixed traffic	670
SN30	Corio St - btw Knight St & Sobraon St	On-road bicycle lanes	1,250
SN31	Andrew Fairley Ave - btw Old Dookie Rd & railway line	On-road bicycle lanes	250
SN32	Old Dookie Rd - btw Mitchell St & Dobson Rd	On-road bicycle lanes	2,220
SN33	Florence St - btw Benalla Rd & Old Dookie Rd	On-road bicycle lanes	940
SN34	Native Flora & Fauna Res – btw Midland Hwy & Macfarlane Rd	Shared path	2,050
SN35	Thompson St - south side btw Archer St & Fryers St	Shared path	290
SN36	Archer St - west side btw Benalla Rd & Thompson St	Shared path	190
SN37	Benalla Rd - btw Archer St & Railway Line	On-road bicycle lanes	470
SN38	Benalla Rd - south side btw Doyles Rd & Archer St	Bicycle path, mixed traffic, contraflow lane	1,800
SN39	Vaughan St – btw Wyndham St & Hoskin St	On-road bicycle lanes	630
SN40	Benalla Rd - btw Florence St & Orrvale Rd	On-road bicycle lanes	710
SN41	Sobraon St - btw Welstford St & Corio St	On-road bicycle lanes	480
SN42	Benalla Rd - north side btw Doyles Rd & Orrvale Rd	Shared path	1,410

Commuter and Recreational Cycling

Figure 6.1: Shepparton North Existing and Proposed Facilities



GREATER SHEPPARTON

Shepparton South

The proposed South Shepparton bicycle network facility map is presented in Figure 6.2. Identified facility recommendations have been indicated with dashed lines within Figure 6.2 and summarised in Table 6.2.

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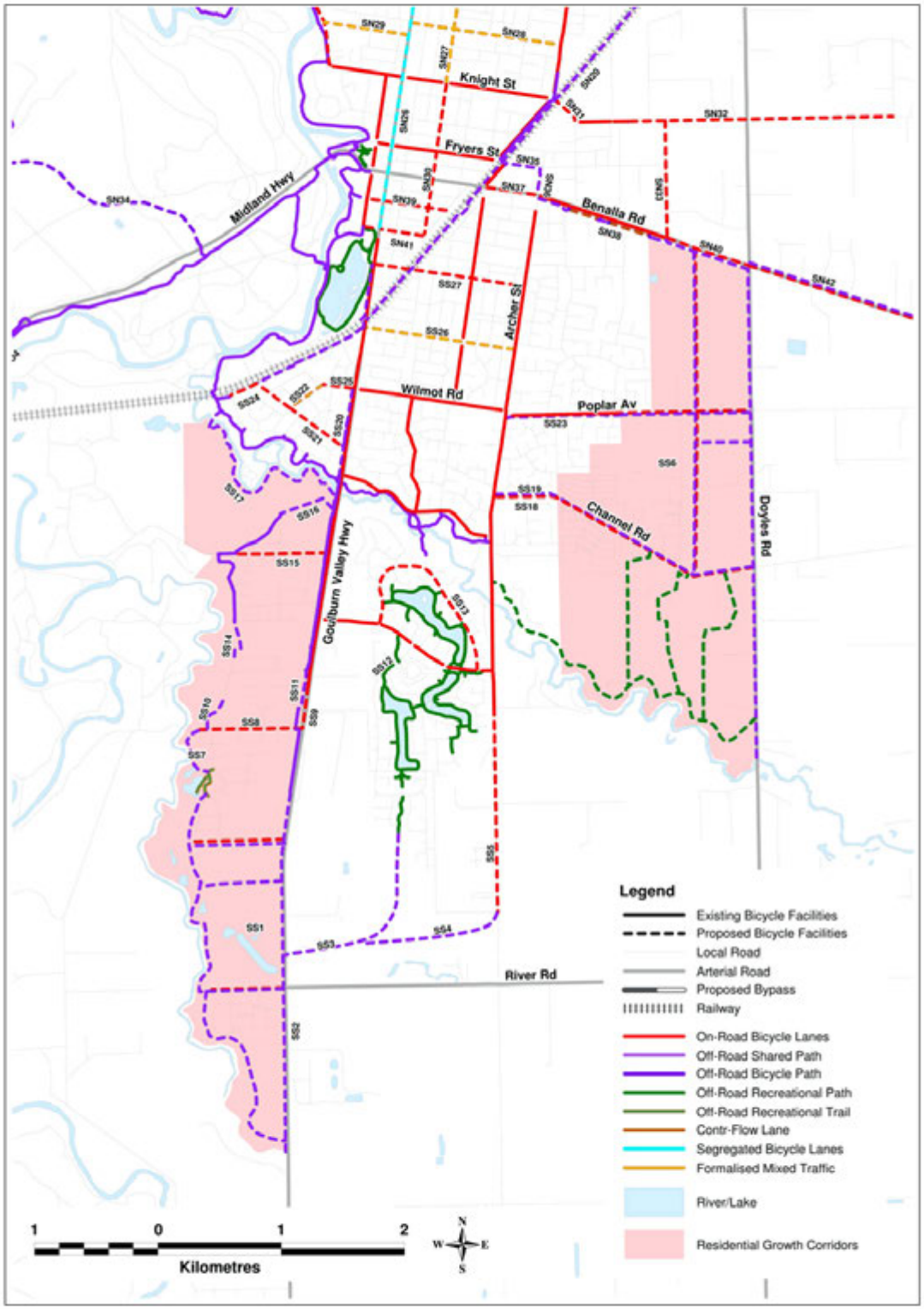
Table 6.2: Shepparton South Proposed Facility

ID	Location	Facility type	Length (m)
SS1	Shepparton South Growth Corridor	Various	-
SS2	Goulburn Valley Hwy – west side btw Raftery Rd & Sevens Creek	Shared path	3,500
SS3	Lane reserve - btw Wendouree Dr & Goulburn Valley Hwy	Shared path	1,680
SS4	Lane reserve - btw Archer Rd & Goulburn Valley Hwy	Shared path	1,710
SS5	Archer Rd - btw drain easement & Adams Rd	On-road bicycle lanes	1,675
SS6	Shepparton South East Growth Corridor	Various	-
SS7	Btw Raftery Rd & Seven Creek Dr	Shared path	450
SS8	Raftery Rd - btw Goulburn Valley Hwy & Seven Creeks	On-road bicycle lanes	900
SS9	Goulburn Valley Hwy - btw Gash Ct & Raftery Rd	On-road bicycle lanes	1,044
SS10	Lane reserve - btw Furphy Ave & Raftery Rd	Shared path	300
SS11	Goulburn Valley Hwy - west side btw Balmoral St & Kialla Park	Shared path	460
SS12	Waranga Dr - south side btw Rocklands Cres & crossing to the north of Brewster Cres	Recreational path	110
SS13	Gordon Dr - entire length	On-road bicycle lanes	1,720
SS14	Lane reserve - btw Settlers Dr & Furphy Ave	Shared path	300
SS15	Riverview Dr - btw Goulburn Valley Hwy & Forest Dr	On-road bicycle lanes	710
SS16	Lane reserve - btw Forest Dr & Goulburn Valley Hwy	Shared path	480
SS17	Broken River - south side btw Rail Line and Goulburn Valley Hwy	Shared path	1,870
SS18	Channel Rd - btw Archer St & McPhees Rd	On-road bicycle lanes	1,140
SS19	Channel Rd - north side btw Archer St & McPhees Rd	Shared path	1,140
SS20	Goulburn Valley Hwy - west side btw Lincoln Dr & Wilmot St	Shared path	720
SS21	Guthrie St - btw Goulburn Valley Hwy & Hassett St	On-road bicycle lanes	860
SS22	Abernethy St - btw Guthrie St & Longstaff St	Formalised mixed traffic	330
SS23	Poplar Ave - south side btw Archer St & Growth Corridor	Shared path	860
SS24	Hassett St - btw Lincoln Dr & Longstaff St	On-road bicycle lanes	630
SS25	Longstaff St - btw Abernethy St & Goulburn Valley Hwy	On-road bicycle lanes	230
SS26	Macintosh St - btw Goulburn Valley Hwy & Archer St	Formalised mixed traffic	1,210
SS27	Hayes St - btw Goulburn Valley Hwy & Archer St	On-road bicycle lanes	1,210

Commuter and Recreational Cycling

Figure 6.2: Shepparton South Existing and Proposed Facilities



Shepparton CBD

While bicycle facilities recommended within the Shepparton CBD have been presented within Figure 6.1 and Figure 6.2, it is noted that traffic volumes are expected to be significantly higher within the CBD than the surrounding predominately residential areas. As such, on-road bicycle lanes or mixed traffic conditions may not be suitable to encourage the majority of potential users, and given that there are no segregated facilities (i.e. shared paths or reserves) that can be utilised to access the centre of the CBD by bicycle, consideration must be given to segregated bicycle lanes within the existing road corridors. At this time, this is proposed along Wyndham Street, once the Shepparton Bypass has been constructed and traffic volumes travelling through the CBD reduce, as this would require one traffic lane in each direction to be removed along the length of Wyndham Street.

If, however, the demand for a facility along Wyndham Street is warranted before the Shepparton Bypass is completed, then the removal of kerbside car parking and the maintaining of two traffic lanes in each direction are recommended. The traffic lanes would need to be reduced in width by as much as 0.3m to accommodate 2.0m wide bicycle lanes in each direction with a 0.6m wide physical separation from motorised vehicles, but this is considered suitable given the low current operating speed in this area. ACTION 12

6.4.2 Mooroopna

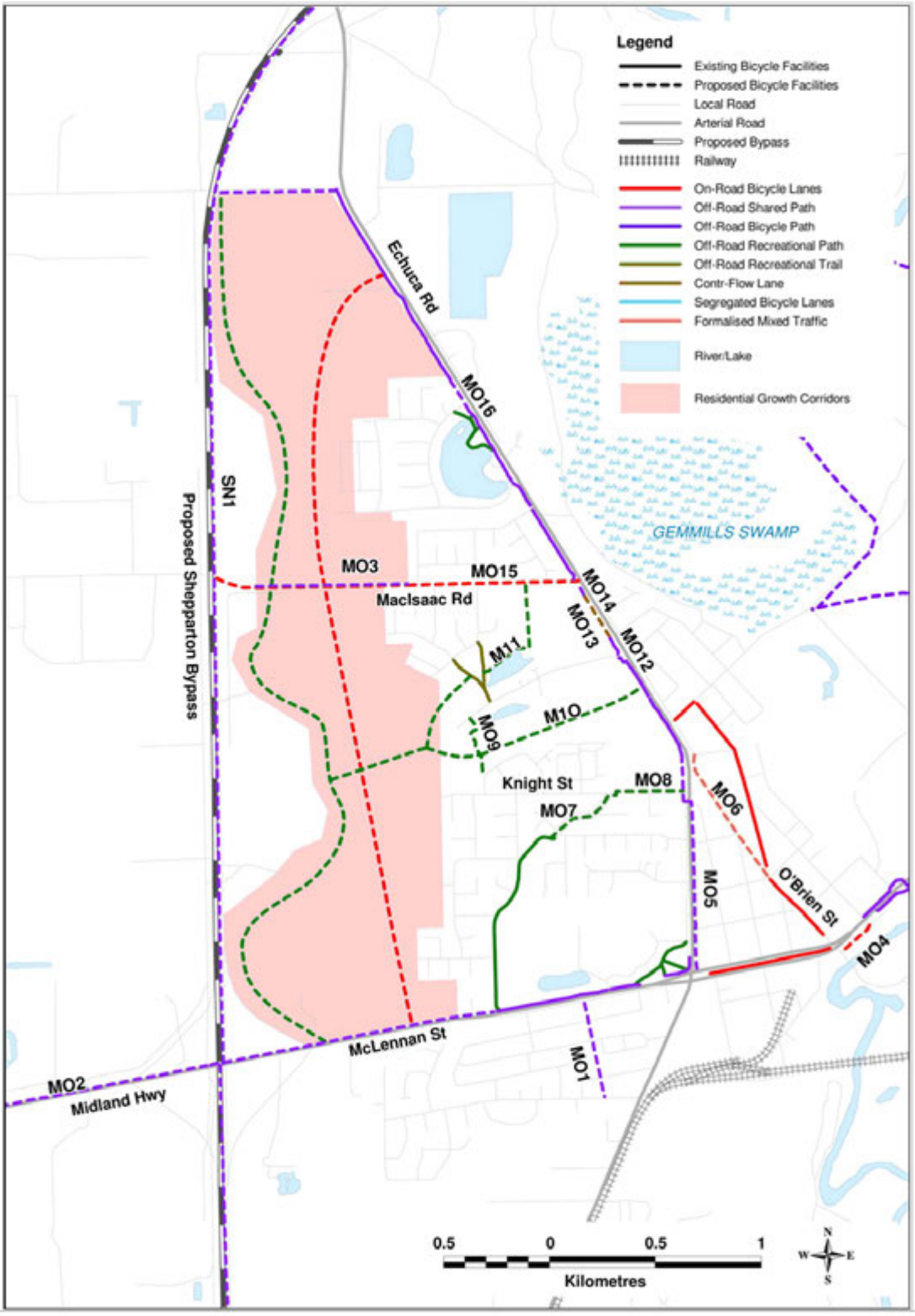
The proposed Mooroopna bicycle network facility map is presented in Figure 6.3. Identified facility recommendations have been indicated with dashed lines within Figure 6.3 and summarised in Table 6.3. ACTION 13

Table 6.3: Mooroopna Proposed Facility

ID	Location	Facility type	Length (m)
MO1	Land reserve - btw Mc Lennan St & Lenne St	Shared path	430
MO2	Midland Hwy – north side btw Elsie James Dr & caravan park access	Shared Path	2,250
MO3	Within Mooroopna West Growth Corridor	Various	-
MO4	Mc Lennan St – btw Watts Rd & Elizabeth St	On-road bicycle lanes	170
MO5	Echuca Rd - east side btw Midland Hwy & Northgate St	Shared path	730
MO6	Obrien St - btw Treacy St & Midland Hwy	On-road bicycle lanes	1,060
MO7	Rodney Park Ave - central median btw Goulburn Cross & Knight St	Recreational path	290
MO8	Knight St - north side btw Rodney Park Ave & Echuca Rd	Recreational path	300
MO9	Land reserve - btw Westview Dr & Homewood Dr	Recreational path	280
MO10	Land reserve - btw growth corridor & Echuca Rd	Recreational path	1,030
MO11	Land reserve - btw growth corridor & MacIsaac Rd	Recreational path	860
MO12	Echuca Rd - southwest side btw Homewood Dr & Carr Cres	Shared path	80
MO13	Echuca Rd – entire length of service road	Contraflow lane	240
MO14	Echuca Rd - southwest side btw service road & MacIsaac Rd	Shared path	50
MO15	MacIsaac Rd - btw Echuca Rd & Excelsior Ave	On-road bicycle lanes	1,700
MO16	Echuca Rd - southwest side btw Craigmuir Dr & existing path	Shared path	120

Commuter and Recreational Cycling

Figure 6.3: Mooroopna Existing and Proposed Facilities



6.4.3 Murchison

The proposed Murchison bicycle network facility map is presented in Figure 6.4. Identified facility recommendations have been indicated with dashed lines within Figure 6.4 and summarised in Table 6.4.

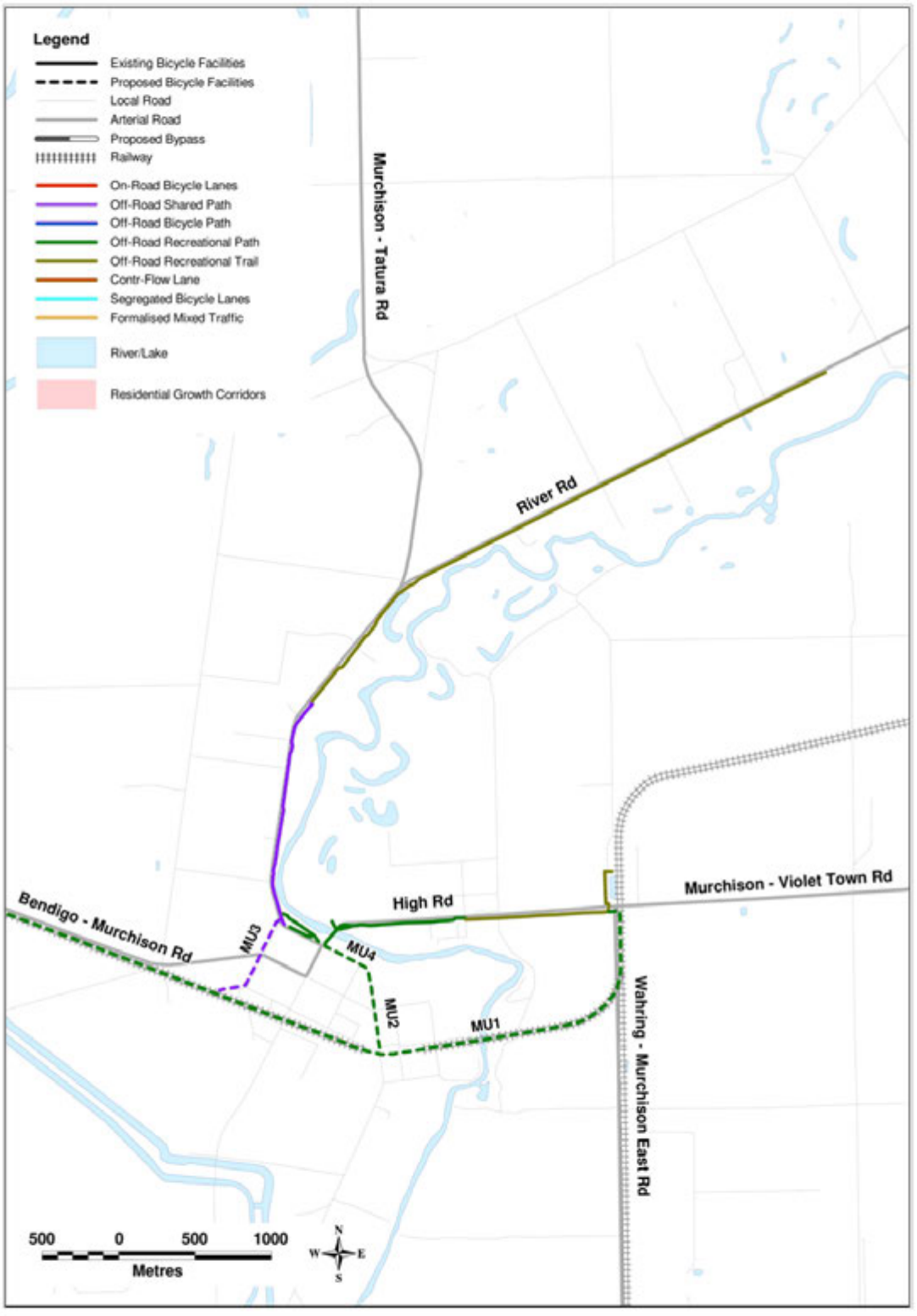
ACTION 14

Table 6.4: Murchison Proposed Facility

ID	Location	Facility type	Length (m)
MU1	Train corridor - btw Bendigo-Murchison Rd & Channel Inlet Rd	Recreational path	10,880
MU3	Willoughby St - east side btw train corridor & Mckenzie St	Recreational path	620
MU2	Impey St - west side btw train corridor & Stevenson St	Shared path	600
MU4	Stevenson St - north side btw High Rd & Mckenzie St	Recreational path	260

Commuter and Recreational Cycling

Figure 6.4: Murchison Existing and Proposed Facilities



6.4.4 Tatura

The proposed Tatura bicycle network facility map is presented in Figure 6.5. Identified facility recommendations have been indicated with dashed lines within Figure 6.5 and summarised in Table 6.5.

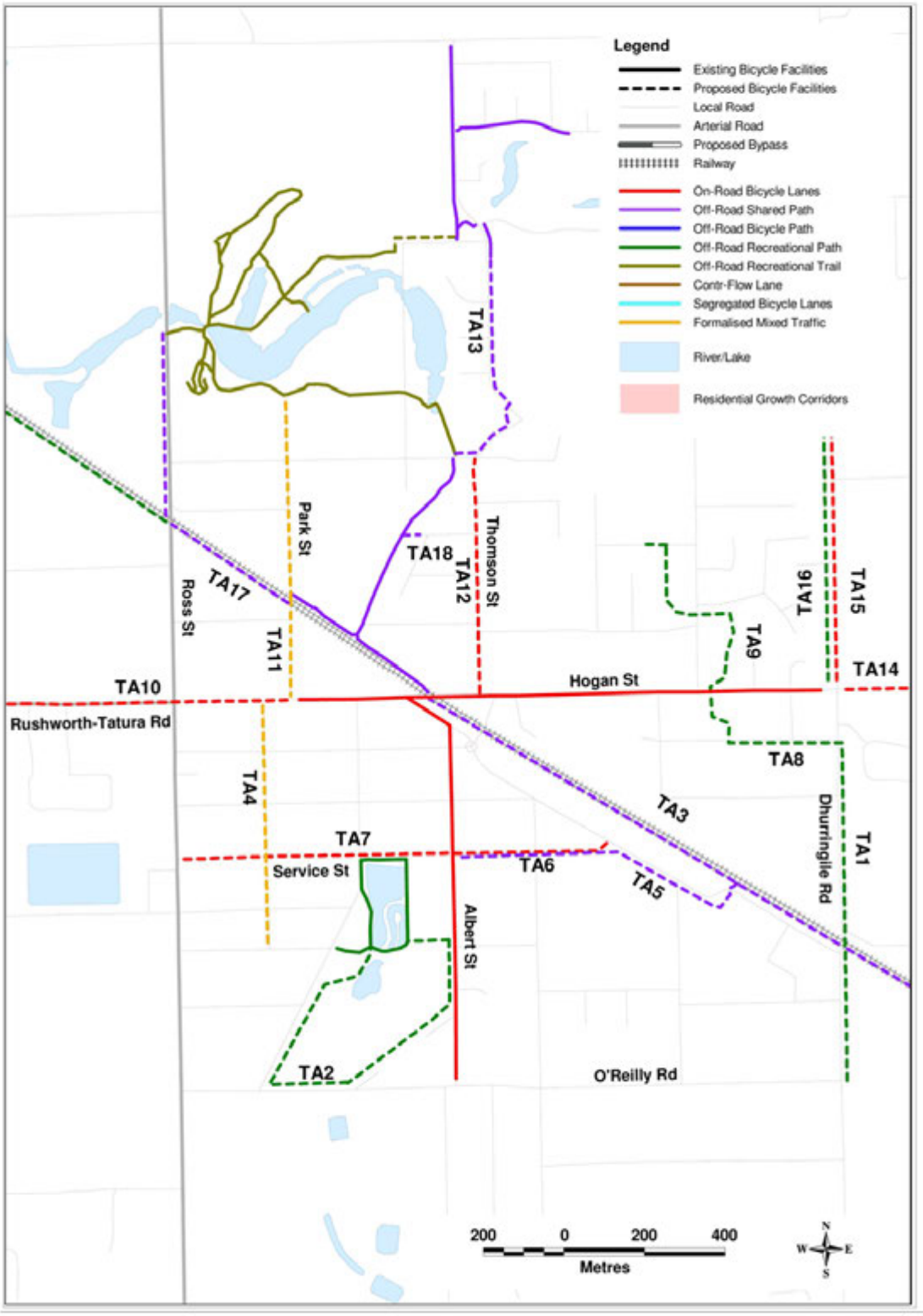
ACTION 15

Table 6.5: Tatura Proposed Facility

ID	Location	Facility type	Length (m)
TA1	Dhurringile Rd - east side btw Oreilly Rd & Moyola Dr	Recreational path	880
TA2	Around Charlie Taylor Park	Recreational path	1,720
TA3	Railway line - southwest side btw Dhurringile Rd & Hogan St	Shared path	1,190
TA4	Fraser St - btw O'Toole St & Hogan St	Formalised mixed traffic	600
TA5	Brown St - southwest side btw Service St until railway line	Shared path	330
TA6	Service St - south side btw Albert St & Brown St	Shared path	400
TA7	Service Rd – btw Brown St & Ross St	On-road bicycle lanes	1,100
TA8	Barron St - south side btw Dhurringile Rd & recreational reserve	Recreational path	270
TA9	Through parks - btw Barron St & Slims Ct / Brooks Ct	Recreational path	700
TA10	Hogan St - btw Park St & Joe Ford Dr	On-road bicycle lanes	650
TA11	Park St - btw Hogan St & railway line	Formalised mixed traffic	240
TA12	Thompson St - btw Hogan St & William St	On-road bicycle lanes	580
TA13	Thompson St - east side btw William St & Brookwater Cres	Recreational path	750
TA14	Ferguson Rd –btw Dhurringile Rd and Dollar Crt	On-road bicycle lanes	700
TA15	Dhurringile Rd – btw Hogan St and end and residential development	On-road bicycle lanes	800
TA16	Dhurringile Rd - btw Hogan St and end and residential development	Recreational path	800
TA17	Ross St / rail reserve – btw Park St and Cussen Park	Shared path	800

Commuter and Recreational Cycling

Figure 6.5: Tatura Existing and Proposed Facilities

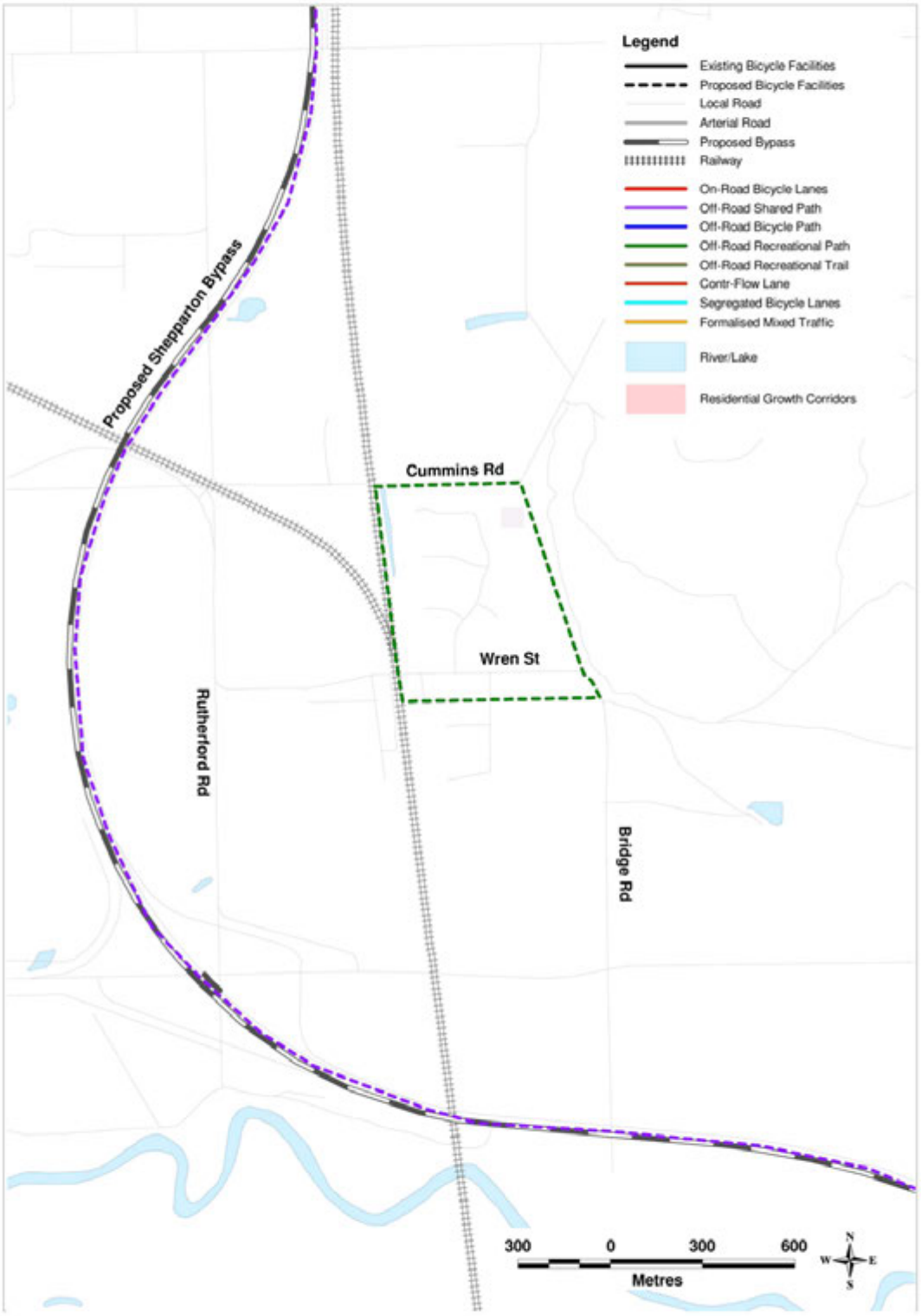


6.4.5 Toolamba

There are currently no dedicated bicycle facilities provided in the township of Toolamba. This is in part to its size and limited number of trip generators. However, there is opportunity to provide a 2.6km recreational loop that also accesses the local school and sports grounds. The recommended recreational loop is shown in Figure 6.6. ACTION 16

Commuter and Recreational Cycling

Figure 6.6: Tatura Proposed Facilities

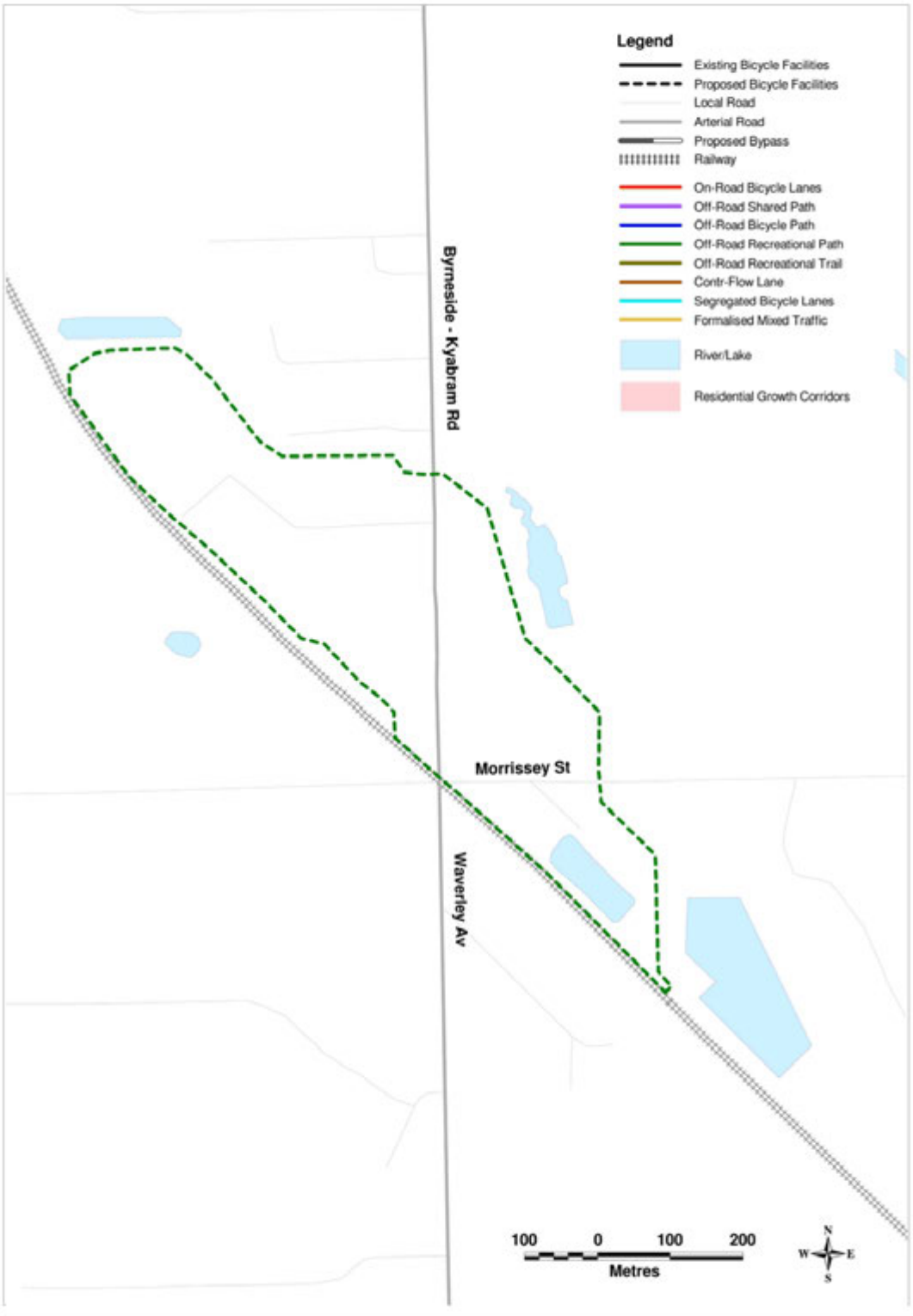


6.4.6 Merrigum

There are currently no dedicated bicycle facilities provided in the township of Merrigum. A 2.7km recreational loop that accesses the local school, sports grounds and swimming pool has been identified. The recommended recreational loop is shown in Figure 6.7. ACTION 17

Commuter and Recreational Cycling

Figure 6.7: Merrigum Proposed Facilities



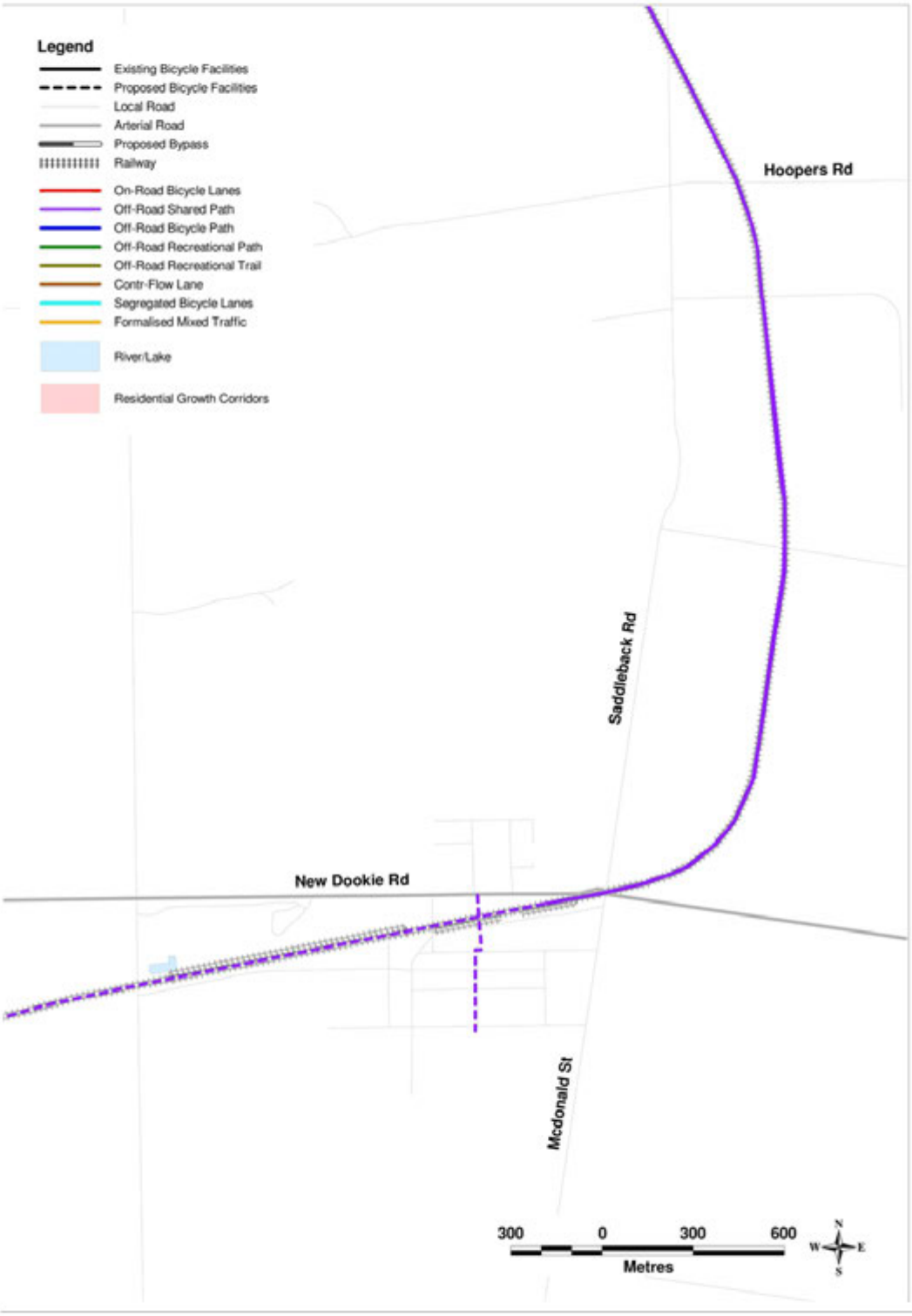
6.4.7 Dookie

There currently is a recreational path along the railway corridor to the northeast of the local station and pub. It is recommended that a shared path facility between Mary Street and the sports grounds along the west side of Marie Street to be provided, as well as an extension of the recreational path to the southwest. It is noted that the recreational path to the southwest is proposed to link with the Cosgrove Golf course as part of Stage 2 of the Dookie Rail Trail, with further investigation to be undertaken in eventually connecting to Shepparton. The recommended shared path facility is shown Figure 6.8.

ACTION 18

Commuter and Recreational Cycling

Figure 6.8: Dookie Proposed Facilities



6.4.8 Undera, Katandra West, Tallygaroopna & Shepparton East

There are currently no dedicated bicycle facilities provided in the townships of Undera, Katandra West, Tallygaroopna and Shepparton East and, given their sizes, there are limited benefits in providing such facilities. Currently, most residents live within walking distance of all major trip generators within these townships. As such, extension of the footpath networks would be considered to be more appropriate at this time, until sufficient growth occurs.

6.5 Between Townships

It is recommended that bicycle facilities between townships be segregated from the traffic as the roads connecting the townships in Greater Shepparton have high speeds. It is noted that road cyclists currently use these roads, but in terms of providing a suitable facility for the majority of potential users, mixing with vehicles travelling 80km/h and above is not desired and is likely to deter them.

Currently there are off-road shared paths connecting Shepparton and Mooroopna along Midland Highway. Given the distances and population differences between the townships, it is recommended, in the first instance, to provide facilities between Shepparton and each of the surrounding townships. The percentage of potential cycling trips from the surrounding townships that wouldn't be serviced by facilities connecting them to Shepparton would be small.

The exception to this would be along nature-based focused facilities that either follow the river system or rail network in Greater Shepparton. Such facilities are gaining a lot of traction with individuals looking to undertake active holidays or weekends away from metropolitan areas, which has the potential to generate significant tourism related income for the area.

Specifically, facilities within rail corridors typically provide users with a high level of service, as they are relatively flat with limited intersections with other transport corridors. As such, investigations into the use of railway corridors should not only be to connect townships for nature-based tourism, but for commuter purposes, especially within Shepparton, where the railway corridor extends along the west side of the CBD and could provide an entry point to it. As such, it is recommended that a shared path along the trail line within the urban boundary of Shepparton be provided.

Facilities of this nature are already being implemented within Greater Shepparton, such as the Murchison-Rushworth Rail Trail, which is part of the Waranga Trail, which is expected to connect Shepparton, Murchison, Rushworth, Heathcote and Bendigo (approx. 110km). There is also the shared path facilities between Shepparton and Mooroopna proposed within Shepparton Regional Park, beyond those already existing along Midland Highway, by the River Connect committee.

On the above basis, Figure 6.9 has been prepared to outline that the existing river system, railway network and road network, generally has Shepparton as its centre and that the majority of potential inter-township trips can be provided for by following these features. Moreover, Figure 6.9 identifies an opportunity to extend the proposed Waranga Recreation Trail to Dookie, which is proposed. In addition, at Toolamba, a branch of the railway network extends off to Tatura and Merrigum, which could also connect to Kyabram and even Echuca.

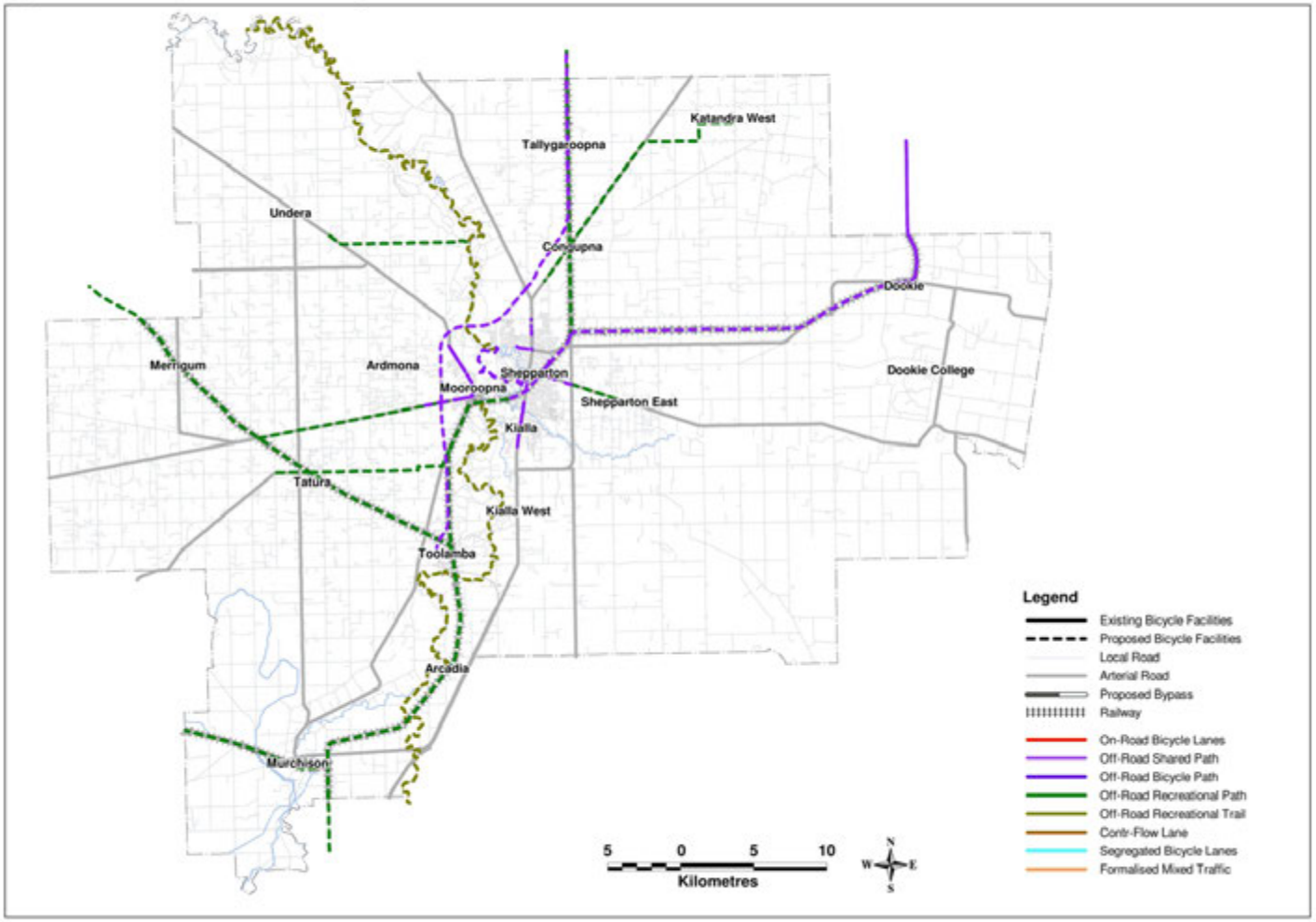
ACTION 19

While specific scoping of these potential facilities has not been undertaken as part of the strategy, it is recommended that these be considered in conjunction with facilities being proposed by the neighbouring municipalities and Hume Region as a whole. They will generally be targeting the recreational cyclists and be able to generate significant levels of tourism if suitable facilities and

advertising is undertaken, as discussed further in Section 8 of the strategy, and being considered by Goulburn River Valley Tourism, who are currently developing their Cycling Strategy.

Commuter and Recreational Cycling

Figure 6.9: Connections between Townships



6.6 End of Trip Facilities

Publicly available bicycle parking is currently provided at a number of locations throughout Greater Shepparton. A summary of the provision of these facilities is provided in Table 6.6, noting that specific locations of publicly available bicycle parking are indicated on the existing Bicycle Network facility maps.

Table 6.6: Summary of Existing Bicycle Parking Facilities

Location			Bicycle Parking Capacity
Shepparton neighbourhood shops	Shepparton CBD		258 spaces
		Colliver Rd	15 spaces
		Dunkirk Ave	8 spaces
		King St	12 spaces
		McIntosh St	8 spaces
		St Georges Rd	18 spaces
		Guthrie St	9 spaces
Activity Centres		Municipal offices	12 spaces + 8 employee bike boxes
		Aquamoves gym & swimming pools	24 spaces
		Library	6 spaces
Mooroopna	Shepparton Other		37 spaces
		Swimming Pool	20 spaces
		Other	38 spaces
Tatura		Swimming Pool	20 spaces
		Other	50 spaces
	Dookie		8 spaces
	Merrigum		2 spaces
	Toolamba		2 spaces
	Murchison		6 spaces
	Total		**541 spaces**

These generally consist of one or two rails next to parks, reserves and on some street corners within the Shepparton CBD. Bicycle parking facilities of this nature service short-term users, as long-term users prefer more secure facilities. Long-term secure facilities should be provided as part of developments, much as car parking is provided.

In addition to these existing bicycle parking facilities, it is understood that there are some additional more informal, and sometimes temporary, bicycle parking facilities provided at cafes and bike stores, especially on weekends when increased levels of recreational cycling occurs.

Figure 6.10 shows an example of such a facility outside one of the bike stores in Shepparton. The hanging rail bicycle parking facility looks to maximise the number of bicycles able to be parked through sacrificing the ability to securely lock the bike up. However, as these facilities are directed at short-term users and are typically located in an area of high passive surveillance, if not being able to be seen by the owner throughout their stay at the associated destination, this trade-off is considered acceptable, and should be promoted at other similar locations.

Figure 6.10: Bicycle Parking Hanging Rail

While there is a reasonable level of bicycle parking facilities already provided in Greater Shepparton, there is considered to be more required. The lack of bicycle parking and other end-of-trip facilities, such as showers and change rooms, has long been a major barrier to individuals cycling to work or for recreational purposes. Reducing this barrier through the provision of suitable facilities can go a long way to making cycling a viable option for individuals.

Clause 52.34 of the Greater Shepparton Planning Scheme seeks to encourage cycling as a mode of transport with the provision of secure, accessible and convenient bicycle parking spaces and associated shower and change facilities.

It makes providing such facilities a statutory requirement with any town planning application. Table 1 to Clause 52.34-3 sets out the standard requirement for the provision of bicycle spaces for a range of land uses. A selection of the most common land uses is provided in Table 6.7.

Table 6.7: Statutory Requirements for Bicycle Facilities

Use	Statutory Rate	
	Employee/ Resident	Visitor/Shopper/ Student
Convenience restaurant	1 space / 25sqm	2 spaces
Residential building of 4+ storeys	1 space / 10 rooms	1 space / 10 rooms
Industrial	1space / 1,000sqm	None
Office	1 space / 300sqm	1 space / 1,000sqm
Restaurant	1 space / 100sqm	2 + 1 space / 200sqm
Retail	1 space / 300sqm	1 space / 500sqm
Schools	1 space / 20 employees	1 space / 5 pupils over year 4
Shop	1 space / 600sqm	1 space / 500sqm

In addition to the requirements for bicycle parking facilities, Clause 52.34-3 of the Greater Shepparton Planning Scheme requires one shower for the first five employee bicycle parking spaces and one shower for each subsequent ten employee bicycle parking spaces if five or more employee bicycle parking spaces are required. Further, each shower must have access to a change room. Clause 52.34-5 also requires signage to direct cyclists to the required facilities.

Given the above it could be expected that as new development occurs that end-of-trip facilities will be provided and is recommended that these facilities be enforced by Council, expect where there is clearly

no ability to access the site by bicycle or for some retail uses, such as bulky goods retailers, where customers are not likely to be able to cycle with the goods they have purchased.

Additionally, higher bicycle parking requirements should be enforced on new developments that have excellent access to cycling facilities. This is especially the case for developments that are the source of trips (i.e. residential), as approximately 60% of all Australians own or have access to a bike. So ensuring there is sufficient bicycle parking and not having people leaving their bike in a closet or storage cage, where it is difficult to access, helps reduce individual's barriers to cycling. Furthermore, should additional end-of-trip facilities be provided, along with other initiatives that are likely to result in a significant increase in the use of alternate modes of transport, then reductions in the minimum number of car parking spaces required to be provided should be offered. It is recommended that this ability, along with suitable decision guidelines, be included within any Parking Overlay for the Shepparton CBD. ACTION 20

Broadly speaking, the statutory rates for the end-of-trip facilities are based on an approximately bicycle mode share of 10%. As such, to reduce minimum car parking rates the required increase in bicycle parking should be at least proportional.

Also, Council should review what bicycle parking is provided at existing public transport nodes and off-street car parks and provide a quantum of bicycle parking spaces that equates to at least 10% of the car parking spaces within commercial areas and 10% of demand in others. These should be a mix of short-term highly accessible spaces, as well as long-term secure bicycle spaces. ACTION 21

For example, Table 6.6 indicates that there are a total of 258 bicycle parking spaces within the Shepparton CBD. From the Parking in Shepparton's Central Business District Discussion Paper (2011), there are an estimated 4,580 publically available on and off-street car parking spaces. As such, the current publicly available bicycle parking supply equates to 5.6% of the current publicly available car parking supply in the Shepparton CBD, and thus there should be approximately 200 additional publicly available bicycle parking spaces provided.

It is also noted that, from the limited number of responses from schools consulted with in Greater Shepparton, the provision of bicycle parking at schools is generally below the statutory rate. As a minimum, schools should provide the statutory requirements, and where the schools are willing to engage in behavioural change programs to get more children cycling, higher levels of bicycle parking should be provided. ACTION 22

6.7 Bicycle Route Signing

This section looks broadly at the processes and recommends a methodology for signing bicycle routes.

Why Sign Networks?

People must find their way through our complex urban environments and along recreational trails. Visitors, tourists, residents and workers have different wayfinding needs. People are all different and they need different levels of information to navigate to and from their destinations, tourist attractions, day or night life, retail choices, errands, amenities and homes.

When people understand where they are they feel safer and more comfortable cycling, and more likely to cycle to accessible destinations. A successful system instils confidence in a wide variety of users, and encourages cycling for transport and recreation.

How to Sign

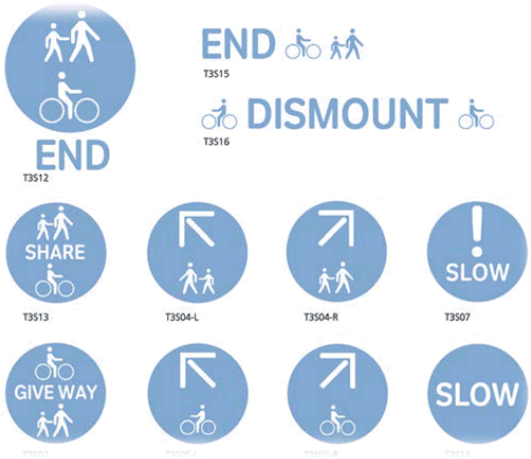
An effective signage system creates clear paths. This can be done through the use of visual, verbal and/or auditory clues such as materials, patterns, signs, maps, landmarks and other signals – it is not limited to street signs but the overall facility design, with a clear crossing point or surface treatment of a bicycle path distinguishing its use as a bicycle facility that enables individuals to easily and conveniently transport themselves between locations.

As such, the signage system should work with the bicycle facilities and not only be coherent but easily recognisable, consistent and timely (i.e. at each entry and decision point, as well as repeatedly throughout). The development of a Greater Shepparton or route based cycling branded signage scheme is recommended, so users can identify the facility before they read the information.

In this regard, reference is made to the City of Sydney's shared path pavement guidance markers. A sample of these is presented in Figure 6.11.

They provide a 'soft' guidance option and the ability to convey key path information in a highly visible, recurrent fashion. It should also be noted that these signs, symbols and markings are promotional of good behaviour rather than regulatory towards bad behaviour.

Figure 6.11: Route Signage – Pavement Marking Examples



In additional to this guidance signage, directional and information street blades are recommended. These should provide the direction to and name of key trip generators, as well as providing the trip distance along the given bicycle route or connecting facilities. Examples of these are provided in Figure 6.12.

Figure 6.12: Destination and Distance Examples

With the key trip generators, these should be divided up into primary, secondary and tertiary destinations, where the level of detail and destination naming becoming more generic as you move down the list (i.e. specific name of a train station or main sports ground for primary destinations and generic names such as primary school, medical clinic or park for tertiary destinations).

In terms of providing the distance to major trip generators, it is recommended that these be to the nearest 100m. Motorised vehicle signage typically goes to the nearest kilometre, but given the travel speeds and distances cyclists travel it is appropriate to provide this higher level of detail.

Consideration can be given to indicating travel time to trip destinations, but this is considered more appropriate for pedestrians, as they have a smaller travel speed spread and there is a lack of perception in what people's walking speeds are, so distance can be less relevant.

Other considerations that need to be undertaken regarding the development of a signage system include:

- Sign placement
- Sign frequency
- Coordination with other signing systems
- Detours.

For further guidance on how to sign bicycle routes and networks the following documents are recommended to help develop a suitable level of bicycle route signing:

VicRoads Cycle Note No. 11 - Directional signing for off-road paths, July 2002.

- Department of Transport and Main Roads, A guide to signing cycle networks, July 2009
- City of Sydney, Cycle network directional signage design guidelines, 2010
- City of Oakland, Design guidelines for bicycle wayfinding signage, July 2009.

It is noted that a wayfinding signage plan is about to be developed for the Shepparton CBD. As part of this, it is expected that the design and development of bicycle route and network signage will be integrated and that the above information used as a basis for such facilities. ACTION 23

6.8 Updating VicRoads Municipal Bicycle Network (MBN)

Given the work undertaken of identifying existing and proposed bicycle facilities within the North and South Shepparton and Mooroopna areas, as summarised within Table 6.1, Table 6.2 and Table 6.3 respectively, it is considered that this provides a good opportunity to review and update the current VicRoads MBN for Shepparton, which was prepared in June 2005.

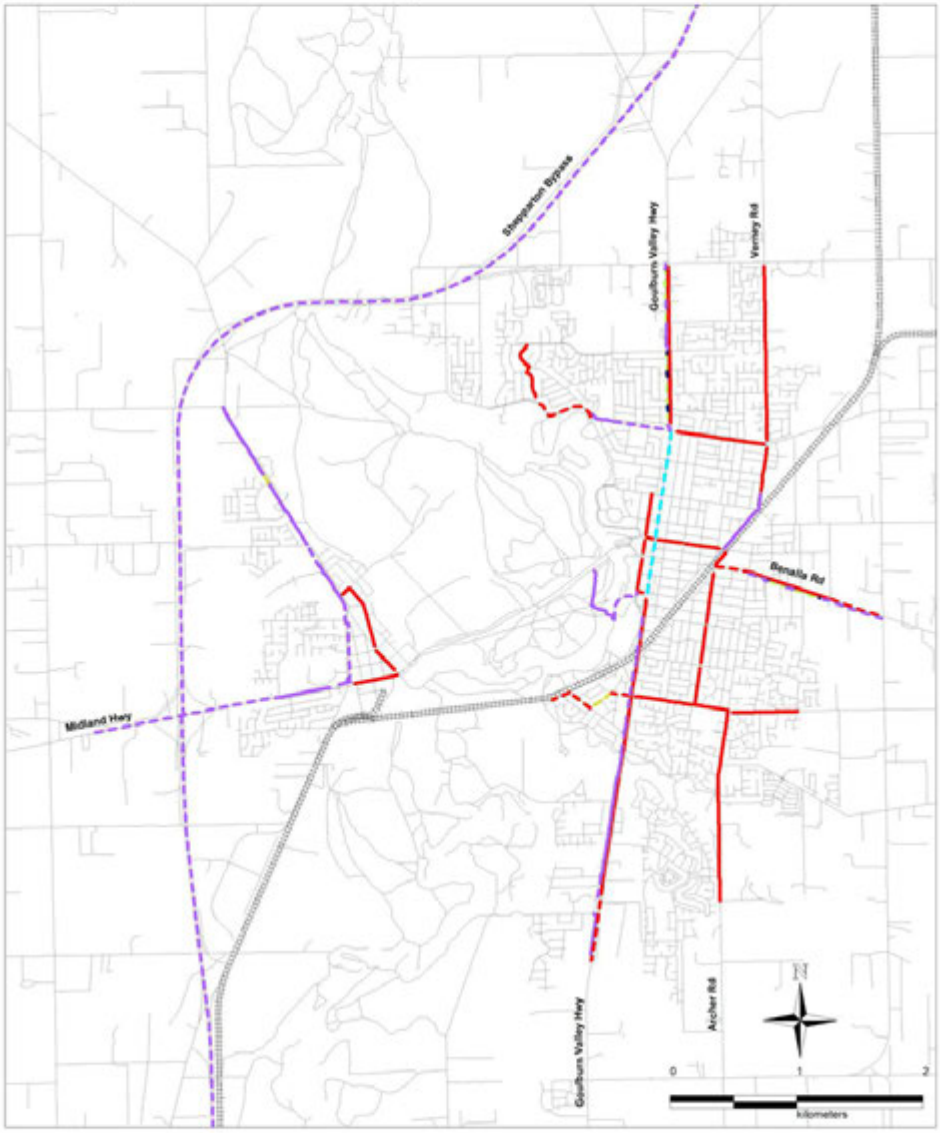
In this regard, the proposed facilities within the MBN that have now been implemented and those proposed as part of the strategy are presented within Figure 6.13. The majority of the proposed facilities are local routes, with the only priority ones listed as follows:

- segregated bicycle lanes on Wyndham Street
- extension of the shared path on the east side of Goulburn Valley Highway
- extension of the on-road bicycle lanes on Goulburn Valley Highway
- shared path on the east side of Numurkah Road
- extension of the on-road bicycle lanes on Benalla Road
- exclusive bicycle facility along the south side of Benalla Road that utilises the service road
- shared path on the east side of Echuca Road
- shared path provided as part of the Shepparton Bypass.

This update to the VicRoads MBN for Shepparton should be provided to and discussed with VicRoads to gain their buy-in for the long-term development of the MBN in Shepparton. ACTION 24

Commuter and Recreational Cycling

Figure 6.13: Update to VicRoads MBN for Shepparton



7. Sports Cycling

7.1 Preamble

Cycling as a sport has many forms and requires specific facilities for each. In this regard, investigation and discussion is provided in this section of the strategy regarding those cycling sports that are currently provided for in Greater Shepparton and those that are suited to Greater Shepparton, with a review of facilities, identification of improvements and initiatives to get more people taking up cycling as a sport.

7.2 Types of Cycling Sports

As mentioned, there are many cycling sports. A list of the main types, with a brief description, is provided as follows:

- Road cycling – sport that travels on paved roads, generally traveling at speeds of at least 25km/h and over distances of 30km or more.
- Track cycling – sport that travels on specially banked tracks, at high speeds and typically over short distances.
- BMX cycling - sport that travels on specially contoured tracks, at moderate speeds and typically over short distances.
- Mountain biking – sport that travels off-road over rough terrain, generally at speeds of at least 10km/h and over distances of 10km or more.

Within each of the above main types of sports cycling, there are many sub-types, but essentially, they occur on roads, tracks or off-road.

For each of the main types of sports cycling, the existing facilities in Greater Shepparton are discussed with potential improvements identified in the following sections of the strategy.

7.3 Road Cycling

Road cycling generally occurs on public roads, which requires cyclists to mix with traffic. As such, there are no purpose built facilities, rather, circuits or routes are identified for training or closed off to traffic to accommodate races. Within Greater Shepparton there are four 'training routes' that are advertised through the Council website[12], with organised groups that typically cycle from 6.00am or 6.00pm Monday to Friday, with some also occurring in the weekends. They cater for beginners, causal and those wanting more structured sessions for specific cycle training. These groups are advertised to travel distances of between 20km and 55km at average speeds of between 30 and 40km/h.

These training routes are proximate to Shepparton and generally consist of a loop ranging in distance between 11km and 55km. The roads that make up the training route loops consist of a mix of urban and rural roads. Along the rural sections of the routes, cyclists training route signs (W6-V11) are provided to help raise awareness to motorists of road cyclists using these roads for training purposes, which is

[12] Refer to http://www.greatershepparton.com.au/residents/recreation/cycling/#training_route_loops

consistent with VicRoads Cycle Notes No. 6 (April 2000). Also, these rural roads are generally not major roads or highways with low traffic volumes but high traffic speeds.

However, road cycling is not restricted to these training routes. Rather, these have been identified and organised to provide individuals with the opportunity to meet other road cyclists of similar abilities, hence the indicated length and average speeds. As such, road cycling occurs beyond these training routes, both in terms of road cycling events and training, which can occur over much longer distances, with some events and training road cyclists travelling 200km or more in a day. The 'Cycle in Greater Shepparton – A Cycling Guide to Greater Shepparton', which can be requested or read online[13], indicates further recommended road training and touring route options between townships, such as Shepparton, Tatura, Murchison and Dookie.

In general, road cyclists:

- Want smooth safe roads that are well maintained and signed.
- Do not require or desire the separation from traffic if it restricts their ability to ride as a pack and/or pass slower riders.
- Are more concerned with maintaining speeds and travelling long uninterrupted distances.
- Will ride in the traffic lane if the alternate facilities within the road corridor slow them down.
- Will cycle in a certain direction round a training loop or use an alternate route to minimise the likelihood of having to stop at intersections, or undertake difficult turns (i.e. right turns).
- Generally try and minimise the amount of riding within urban environments and during peak traffic periods.
- Generally utilise rural roads with a limited number of opposing intersections and low volumes of traffic, especially heavy vehicle volumes.

In addition, with regard to routes used by road cyclists:

- The most popular routes typically have some scenic value along the route and/or destination.
- Sections with varying terrain commonly become focal points, with colloquial naming given to them by riders, as well as comparison of times on such web sites as 'map my ride'[14].
- Start, mid and/or end points of group rides are commonly linked with bicycle friendly cafés, parking, toilets and other supporting facilities.

With consideration of the above discussion, the current advertised training routes provide convenient short to medium length trips for introductory cyclists and those wanting to supplement training during the weekdays. Introductory cyclists are likely to desire the routes that have very low traffic volumes and carriageway widths that enable passing motorists to pass well clear of them. This combination is not frequently provided, but can be somewhat overcome through the perceived safety of riding in a pack and at times when traffic volumes are at their lowest. As such, the existing training routes are considered to provide an important function, especially in conjunction with organised rides and events, and should be further supported through the following actions: ACTION 25

- Provide a cycling group specific to beginners – no more than 30km in length or speeds above 25km/h and on the weekends starting at 7.00am or 8.00am, with informational brochures

[13] Refer to http://www.greatershepparton.com.au/visitors/conferences/events_rgscg/
[14] Refer to http://www.mapmyride.com/

and tips on buying the right bikes, maintenance and on-the-road repairs (punctures, gear slipping, putting a chain back on, etc.).

- Regularly review any anecdotal responses and recorded cycling related accident history to develop road cycling safety advertisements and targeted signage to improve both motorist and cyclist behaviour along the current and future training routes.
- Work with the road safety committee and the cycling advisory committee to continue to pursue other safe cycling initiatives that educate and improve the behaviour of drivers and cyclists to achieve better road harmony.
- Increase the level of awareness of motorists that the associated roads are used as training routes, with a review of cyclists training route signs (W6-V11), ensuring they are at the beginning of the rural road sections, as well as at all intersections with other rural roads, where other vehicles can enter the training routes. Consideration should also be given to targeted behavioural change signage, such as 'share the road', 'one metre matters' and images that link to current road cycling safety advertisements that are being used.
- Undertake regular street sweeping at intersections and bends to remove loose gravel that has been propelled onto the sealed carriageway by errant vehicle wheels that have run into unsealed shoulders.
- Review sightlines and intersection controls along routes, and where appropriate trim vegetation to maximise sightlines and change priorities to the given training route.
- During resurfacing of roads, utilise the smallest appropriate aggregate size to maximise pavement smoothness.
- Give consideration to lowering the speed limit and widening the sealed carriageway to provide 2.0m to 2.5m wide shoulders beyond 3.5m wide traffic lanes (no need to mark shoulders as a cycle lane and definitely do not mark if traffic and bicycle lanes are substandard – better to force motorists to cross the centreline when passing cyclists, rather than motorists staying in their lane and passing at a very close distance).
- Develop a training route specific road maintenance schedule as part of undertaking regular maintenance along the road training routes.

In terms of additional facilities, there is considered to be significant opportunity to identify road cycling routes that take in some of the nature based scenery in the area, such as in Murchison, Tatura, Toolamba and Mount Major, as well as coordinating with bordering municipalities to develop routes to such nature based destinations as Waranga Basin, Rushworth Forest and the many other lakes and forests that can be accessed along the river system. Also, Council should work with cafés, accommodation providers and other potential commercial ventures in Shepparton and the surrounding townships of Dookie and Mooroopna to provide cycle friendly facilities, such as bike racks, water taps and toilets, as well as information boards to advertise rides, groups and events, to help further develop cycle tourism, rider camaraderie and making cycling use more of a social norm in Greater Shepparton.

Additional routes have not been able to be identified at this time, but such a task would be a good initial project for a cycling advisory committee with further targeted consultation on the matter with clubs and organisations, as well as existing and potential road cyclists. As a first point of call, these additional routes could be, or consist of, the road sections that are used in the current road racing events. The improvement of these road sections would not only provide cyclists training for the races with an opportunity to train on the same roads as they race on, but would potentially help in reducing traffic management cost and implementation time associated with road cycling events. ACTION 26

7.4 Track Cycling

In Shepparton there is the velodrome complex located on Packham Street, to the west of John McEwen Reserve, which has a 333m outdoor concrete surfaced velodrome. Supporting the use of the velodrome is a double storey club house with club rooms and amenities up stairs, with a canteen, office, toilets and store rooms downstairs. There is also grandstand seating for over 200 people and national event standard lighting.

The velodrome complex has been the home of the Shepparton Cycling Club since it was constructed in 1983, and holds a number of events each year, with the most well-known being the Shepparton Cycling Club's Christmas Carnival, which has been held there since its opening in 1983.

The facility is a great asset to the local community and the Shepparton Cycling Club has indicated that they would like to see it used to promote cycling as much as possible. The Shepparton Cycling Club itself has produced an Olympic gold medallist and numerous Australian representatives whose careers began on the Shepparton velodrome.

The track is able to be used by track and road bikes and provides a great opportunity to support and grow the existing cycle club, and more generally the road cycling community, especially in terms of providing an initial way to introduce people to cycling in what is a very safe environment.

The quality of this facility is reflected in its ability to develop and attract professional cyclists. However, the development and continued improvement of the track and supporting facilities is required to maintain this level of appeal. In this regard and in conjunction with the Shepparton Cycling Club, the following actions have been identified to maintain is attractiveness and support the growth in the cycling clubs membership and cycling in general:

- Resurface the velodrome, as it is almost 30 years old.
- Upgrade the public grandstand seating, especially on the northern side, as it is currently in a poor state.
- Support the Shepparton Cycling Club in developing and running criterium races within the overall Shepparton Sports Precinct.

It is recommended that the above actions be prioritised and appropriately planed as part of an overall Shepparton Sports Precinct Plan to ensure it continues to be a leading regional and potentially national facility. ACTION 27

7.5 BMX Cycling

Adjacent to the Shepparton Velodrome is the UCI accredited Shepparton BMX Track (one of only two in Australia) that was designed by the same person that designed the 2008 and 2012 Olympic facilities. The Australian titles in 2010 and Victorian titles in 2011 were held there (refer to Figure 7.1) and, as part of Cycling Victoria's BMX Strategic Plan that has recently been finalised (road, track and mountain bike Strategic Plans are also currently being prepared), it is expected that the facility will continue to be used for a range of championships. It has also been noted by Cycling Victoria that they are looking to develop regional academies that will travel to a number of facilities to experience different tracks. As such, this provides a good opportunity for the local Shepparton club to be the home of one of these regional academies, or at least be one of the tracks they routinely visit.

Figure 7.1: BMX Track and Surrounds – Nationals 2010

In this regard, it is recommended that continued consultation be undertaken with Cycling Victoria, as well as with other BMX clubs in the region to help develop relationships and pull resources in making the Shepparton BMX track a major attraction for events and training. ACTION 28

At the local level, the Shepparton BMX club is looking to continue to recruit new members and provide services that can accommodate all abilities, including gear for people to have an initial try at the sport. In addition, they have a number of desired improvements that are listed below:

- Install lighting at the track to enable activities to occur in the evenings during the winter.
- Install an 8.0m standing start (currently 6.0m), which would make the facility comparable to the best facilities in Australia.
- Aim to secure an annual two-day national BMX event and potentially the National titles on a two or four year basis, given that there is already a two year arrangement for it to be held at the Sleeman Sport Complex in Brisbane.

In addition, consideration should be given to informal facilities that the general public can use at their own convenience. Much like a skateboard park, such a facility should help encourage the introduction of the sport to potential users, especially given that informal use of the BMX Track by non-club members can only occur under the supervision of an appropriately qualified person, of which there is only one person in Shepparton at the moment.

It is recommended that the above actions be prioritised and appropriately planned as part of an overall Shepparton Sports Precinct Plan to ensure it retains its current international UCI accreditation and continues to be one of the premier facilities of its type in the country. ACTION 30

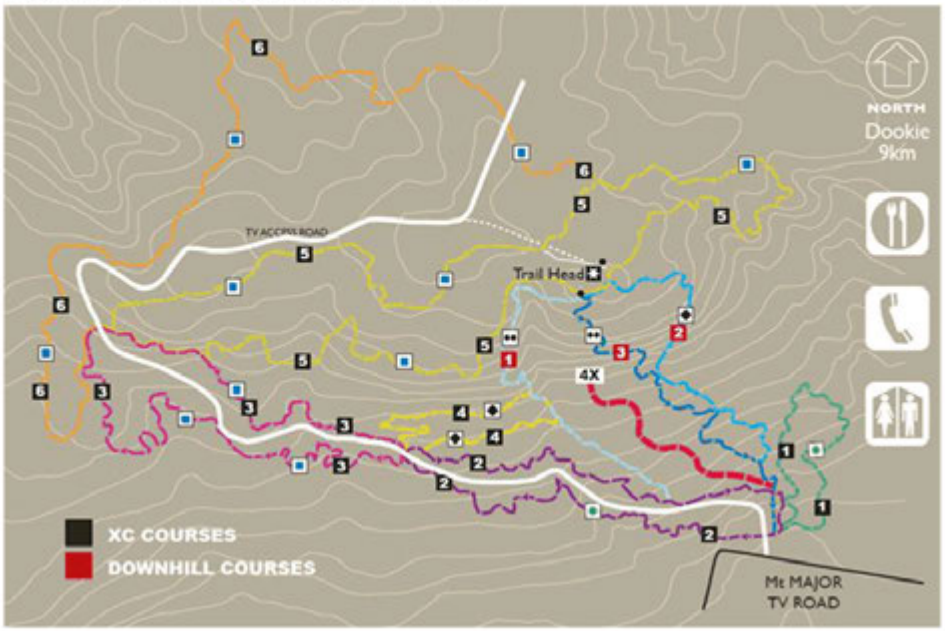
7.6 Mountain Biking

Mountain biking can generally be described as any off-road cycling not involving specialised uniform tracks. However, there are still quite specific mountain biking facilities required for its many forms, with the majority requiring undulating terrain. In this regard, Mount Major to the south of Dookie accommodates a mountain bike park accommodating a number of these facilities. Currently the facilities consist of the following:

- Cross-county trails with varying difficulty and terrain, including rock gardens.
- Three downhill trails from the top of Mount Major.

All of these facilities are presented within the Mount Major Bike Park site plan, which is reproduced in Figure 7.2.

Figure 7.2: Mount Major Mountain Bike Park Site Plan



The mountain bike park was used for the 2011 Australian titles and is expected to host a number of additional championships in the future. There is an active club that helps manage the mountain bike park, with support from Council, the University of Melbourne and the local Dookie community. The level of support is critical to the on-going management and development of such facilities, which are prone to fatigue due to use and weather.

The use of club and community trail days, along with mountain bike hire and sale stores, is becoming more common to help maintain and fund additional facilities. These arrangements should not be restricted or isolated to Mount Major in Greater Shepparton. It is recommended that mountain bike facilities be developed along the river network throughout Greater Shepparton, especially in close proximity to Shepparton, where there are supporting facilities, such as toilets, car parking, accommodation, equipment, food and drink, and potentially bike hire and sales stores.

A specific requirement to enable the development of such facilities and ability for club and community trail days to occur is recommended to be implemented through the preparation of management plans that involve, amongst other things, consultation and gaining of permission from the current land managers along the river network (Council, Parks Victoria, etc.) to use, develop and maintain mountain bike facilities in a sustainable manner. ACTION 31

A similar process has already been successfully undertaken for the existing mountain bike facilities at Mount Major, which through the current masterplan, has identified additional supporting facilities, such as car parking, storage, shelter, toilets, walking trails, a shared path to Dookie and a skills park, to be implemented.

Given the above, it is recommended that, in conjunction with the Goulburn Valley Mountain Bike Club and Melbourne University, the identified additional supporting facilities within the Mount Major Mountain Bike Park facility master plan be prioritised and appropriately planned, including the encouragement of junior and beginner mountain bikers. ACTION 32

8. Tourism Cycling

8.1 Preamble

Tourism cycling is any recreational cycling undertaken in a person's 'spare' time (i.e. holidays, weekends and or day trips) and beyond their home, be it as part of a sporting event or training, or a way to experience and interact with a given environment, scenic or otherwise. As such, tourism cycling covers a wide range of cycling trips, and while commuter cycling generally has a cost saving to the individual and the community, recreational cycling can generate income and employment opportunities, as noted in Section 5.4 of the strategy, where average daily spending of visitors to the Murray to the Mountains Trail is approximately $250.

With bicycle use on the rise in Australia, its use as part of an individual's recreational activities is also increasing. This growing market provides opportunity to attract locals and visitors to engage in such activities and generate additional income and employment for the region. Greater Shepparton is well placed to attract recreational cyclists given its numerous tourism cycling activities and events that are already in place.

This section of the strategy outlines the types of tourism cycling, existing activities, events and constraints, and potential initiatives that can be used to further develop Greater Shepparton as a tourism cycling destination.

8.2 Types of Tourism Cycling

Tourism cycling involves the use, or part thereof, of a bicycle for recreational purposes beyond one's home. In this regard, there are considered to be the following two main types:

- cycling events or festivals
- touring or cycle trekking.

Further discussion is provided below regarding each of the above.

8.2.1 Cycling Events or Festivals

Cycling events typically consist of specific races, such as those relating to the forms of sports cycling outlined in Section 7 of the strategy, or as part of other multi-discipline sporting activities, such as triathlons, but they can also be events such as wine tours, scavenger hunts and sightseeing tours. They simply relate to organised events in which the bicycles are a form of transport, or a critical part of undertaking the associated activity. When a number of these events are grouped together they can be considered to be a festival.

An example of a cycling festival is the Evandale Village Fair and National Penny Farthing Championships, which occur each year in the Tasmanian town of Evandale, which has a population of approximately 1,000[15]. Typically, the festival only attracts 40 to 50 cyclists, but approximately 8,000 spectators during the many events over the weekend in which it occurs.

[15] Data sourced from Cycle Tourism in Australia, an investigation into its size and scope, CRC for Sustainable Tourism, 2007.

Another bicycle festival undertaken in Australia is the Harvest Cycle, which combines a number of cycling events and community rides with food and wine activities.

For locations that require participants and spectators to travel, consideration needs to be given to how to make the event or festival significant enough. This can be through the associated challenge, reward, uniqueness and/or combination of attractions linked to the event(s).

8.2.2 Touring or Cycling Trekking

Touring or cycle trekking can be undertaken over part, one or multiple days, where one or groups of cyclists travel along roads (touring) or off-road facilities (trekking), such as rail trails or shared paths around a park or reserve. This type of cycling tourism is usually seasonal and along scenic routes, but can be developed as a more informal family / group activity or an easy and convenient way to experience towns, parks and other tourist attractions.

The majority of touring and cycle trekking trip lengths are up to a day, with data from the Victoria Trails Strategy (2005-2010) indicating that approximately 90% of all trail tips occur over a time period of four hours or less. Also of note is that in Germany, which is estimated to generate an annual cycle tourism turnover of nine billion euros (more than the total of all tourism activities generated in Denmark – i.e. not just for cycling), seven out of eight cycle tourists are one-day cyclists[16]. In the United States, the most popular outdoor activities are hiking (60%), cycling (36%) and camping (20%), with more Americans participating in outdoor activities than have dogs, garden or participate in sports[17].

Given Shepparton's distance from Melbourne and distance to other surrounding rural centres, it has the potential to be a major starting, end or stop-over point. However, there is a requirement to provide scenic routes that connect Shepparton to other destinations, and within parks and reserves, over suitable distances (i.e. within 30 to 80km along crushed aggregate facilities and 50 to 150km along sealed facilities) and bicycle friendly parking, cafés and accommodation, including car parking and bike rentals at the start and end points of half and day long rides.

8.3 Existing Tourism Cycling

The majority of the existing cycling tourism activities and events in Greater Shepparton are associated with cycling events.

Currently there are the following annual cycling events:

- Toaster Recreational Ride - January
- Goulburn Valley Veterans Cycle Club Open - February
- Australasian Schools Cycling Cup (BMX, Track, Road and Mountain Bike) - March
- Scott Peoples Cycling Festival (Race and Recreational ride) - April
- GV BMX Classic - May
- Valley to the Vines recreation charity ride - May
- Shepparton Junior Cycling tour (Road Race and Time Trial) - June
- Lake Criterion Series

[16] Sourced from page 150 of the Danish Collection of Cycle Concepts 2012

[17] Cycling Tourism by Peter Saabye Simonsen, Birgitte Jorgensen & Derek Robbins, Unit of Tourism Research at Research Centre of Bernholm, December 1998.

- Shepparton Fruit Loop recreation charity ride - September
- Shepparton 70.3 ironman triathlon (part of the Campbell's Ironman 70.3 Shepparton Triathlon Festival) - November
- Kids Go Tri Triathlon - November
- Tatura 200 recreation charity ride - November
- Xmas track Carnival – December
- Victorian Downhill Series (hosted by the Goulbourn Valley Mountain Bike Club) - varies each year
- Victorian Cross Country Series (hosted by the Goulbourn Valley Mountain Bike Club) - varies each year

In addition, there are a number of state and national events that host rights are vied for, with the following being successfully hosted in Greater Shepparton between 2010 and 2012:

- 2010 BMX Nationals Championships (1400 competitors)
- 2010 Great Victorian Bike Ride (5000 participants)
- 2010 Australian Mountain Bike Series National Round (750 competitors)
- 2011 Oceania Road and Mountain Bike Championships (800 competitors)
- 2011 Australian Mountain Bike Series National Round (450 competitors)
- 2011 Under 15 National Road Championships (200 competitors)
- 2011 Under 17 National Road Championships (200 competitors)
- 2011 BMX Victorian State Championships (800 competitors)
- 2012 Under 19 National Road Championships (150 competitors)

Based on the event participant industry standard data released by Tourism Victorian, it has been identified that during 2010 /11/12 Greater Shepparton hosted a total of 59 significant cycling events. These events attracted over 27,000 participants and officials along with additional family, friends and spectators and equated to over 90 days of activities. The events provided an estimated economic impact of $26 million for the region.

On the above basis, is can be seen that there is already a wide range of events and festivals generating a significant level of cycle tourism in Greater Shepparton. At this time, there is at least one major annual event held each month (except July), and up to four events occurring in November, without even giving consideration to the state and national events that have been regularly hosted over the last few years. Moreover, it should be the end goal to enter into host rights contracts for these state and national events to enable long-term planning and investment to occur.

In addition to helping develop the regular cycling events, in 2010 Greater Shepparton City Council produced the 'Cycle in Greater Shepparton Cycle Guide', which is a 64 page pocket size booklet that promotes the area as a friendly cycling destination. The booklet is considered to be the ultimate guide to cycling in the region, with tips and information on safety, extensive details on the shared path network, parks and gardens, mountain bike trials, annual events, cycling club details and more. The guide offers riders of all fitness levels the opportunity to discover the region and contains details on 21 cycling routes, with detailed maps and important key tips and information on routes ranging from 20km to 100km +. There were 10,000 booklets printed and these have been distributed to various cycling enthusiasts from all around Australia by different means.

Given the good feedback on the booklet it is considered paramount that an undated 'Cycle in Greater Shepparton Cycle Guide' (in both print and online) be produced for it to continue to be a key marketing tool in promoting Greater Shepparton as a cycle friendly destination for all levels and abilities of cyclists. ACTION 33

Other cycling initiatives undertaken by Greater Shepparton City Council have included various trade show exhibitions promoting cycling in Greater Shepparton, including the Go Bike Expo as part of the Around the Bay, which has some 15,000 participate, and the Melbourne Cycling Festival, Ausbike Expo, Great Victorian Bike Ride and World BMX Championships. There has also been a sponsorship in place with the 2009 and 2011 Jayco Herald Sun Cycling Tour - Most Aggressive rider jersey competition that has helped promote cycling in Greater Shepparton on a national and world scale.

8.4 Existing Constraints

The main issues currently facing tourism cycling in Greater Shepparton are considered to be related to the on-going management and development of the existing sport cycling activities and the development of non-sport related cycling events.

Currently there are a significant number of cycling sports events and training activities generating tourism within Greater Shepparton. Maintaining the level of interest and participant numbers should be the first focus, with consideration also given to the development of more activities and ability to accommodate higher numbers.

However, at this time there are only a limited number non-sport related activities generating cycle tourism within Greater Shepparton. As such, there should be a focus to develop events and facilities that are associated with these activities.

Beyond this, there needs to be buy-in from the community that these activities are positive and provide a net improvement to their lives in Greater Shepparton. As such, the identification of the cost and return relating to these activities should be recorded and widely published, along with the more general benefits gained through the encouragement of cycling. Working with the private commercial sector to identify how they can capitalise on the additional recreational cyclists in the area should also be undertaken on a regular basis. ACTION 34

The identification of what does and does not make Greater Shepparton an attractive location for recreational cyclists should be researched further, through specific questionnaires to event participants and ability for general users to provide feedback. ACTION 35

On-going consultation with the State, adjacent Municipalities, cycling bodies and tourism groups is also considered to be key in achieving the full potential of cycling tourism in the area. ACTION 36

8.5 New Facilities and Initiatives

With Greater Shepparton already providing a number of tourism cycling events and festivals, there is a good opportunity to build on these and address the above constraints, as outlined through the following proposed facilities and initiatives.

8.5.1 Branding

An important aspect with any development and selling of a product is the branding. Greater Shepparton should look to identify their point of difference to other potential cycle tourism locations and try and unify each of the existing events and facilities to provide a consistent message. The aim of this is to pool resources and build collective momentum for tourism cycling in Greater Shepparton, rather than being divided due to the type of cycling, location, club, etc.

This collective branding approach is considered to be possible within Greater Shepparton given that facilities and clubs have already been established for each of the main sports cycling disciplines and are supported by Council. An example of where such a collective approach has been successful is in the 'Cycle in Greater Shepparton Cycle Guide', which could be significantly improved through further collective investment to make it a regular publication with supporting route / facility apps that can be downloaded to gain the latest cycling information.

Furthermore, there is an ability to link to existing and well established brands, such as those relating to nature based and sustainable tourism, noting that cycling tourism is already supported by Tourism Victoria, who have acknowledged cycling tourism as part of their focus with the development of the Victorian Cycle Tourism Action Plan (2011-2015). Also, it is noted that the Goulburn River Valley Tourism Cycling Strategy is currently being developed. As such, the inclusion of the tourism related actions from this strategy in to the Goulburn River Valley Tourism Cycling Strategy, or at least the development of a relationship, would help ensure the full potential of cycling tourism in Greater Shepparton is achieved. ACTION 37

8.5.2 Information Hub

The development of a central information hub on all things relating to tourism cycling in Greater Shepparton can provide a great platform for the overall tourism branding and understanding to potential visitors of what is available. Furthermore, it can provide a link to the supporting services and businesses, such as those associated with providing accommodation, equipment, food and drink.

Council has two websites which currently promote cycle tourism – Discover Shepparton and Greater Shepparton City Council. As such, it is recommended that the Discover Shepparton site be the only site used for consistency, and that this also links to supporting facility providers and other relevant websites, such as those of Tourism Victoria and Goulburn River Valley Tourism. ACTION 38

8.5.3 Connecting to Relevant Audiences

Following on from developing an overall branding for tourism cycling in Greater Shepparton, it is important to get the information and advertising material to the right audience. Given the number and type of events already occurring in Greater Shepparton, utilisation of the contact details of past participants and distributing the information and advertising material to them will help to get them to return and potentially bring others.

Also, the following mediums of advertising are recommended for further investigation: ACTION 39

- At high profile cycling events, such as UCI events and other national and international cycling events held in Australia
- In cycling and nature-based tourism magazines and internet sites

- On television at times when cycling events are being televised and during or part of a tourism program.
- Including flyers within race packs of other events in Greater Shepparton, Victoria, Australia and even potentially New Zealand
- On websites that cyclists use to get information, write blogs, etc.

8.5.4 Events and Programs

Greater Shepparton should look to continue to hold national and state championships, and where possible, make them annual events to help with planning and securing investment, as well as public events that are challenging, rewarding, unique and/or in combination with other tourism attractions specific to Greater Shepparton.

The continued development of multi-event cycling festivals that showcase all of the facilities available in Greater Shepparton is recommended, as it can generate critical mass and exposure to a wider community than at a single event.

A detailed review of the current events should be undertaken to understand what type of event it is and what section of the cycling community it is targeting. This not only helps with who and where to position marketing material for the events but identifies the types of cycling events that are not currently being provided, especially those not specifically related to sports cycling that could work in combination with other events and provide opportunities for the whole family to cycle over part of a day or weekend.

This could be achieved through the development of a four year major cycle event plan / schedule. A plan / schedule developed over such a length of time would be expected to ensure there is an even spread of regional, state, national and international cycling events across the many recreational cycling disciplines (Mountain Bike, BMX, Triathlon, Road, Track, Touring and Cycle Trekking). It would also be appropriate to develop a consistent framework to identify what facilities and capabilities are required to host such events, especially for the local clubs and community groups that currently, or want to, organise such activities.

Also, the development and/or hosting of training programs for entry, intermediate and advanced cyclists should be considered, as it can help bring all levels of cyclists to the area, as well as the potential for professional/elite cyclists to visit and raise the profile of the region. ACTION 40

8.5.5 Transport Connections

A common issue with cycling tourism is the ability to gain access to the associated facilities, especially when there are long distances that are required to be travelled just to reach them. Part of the attraction for a cycle tourist is that they don't require their private motor vehicle at all. As such, continued consultation with public transport providers about the ways that bicycles can be accommodated when connecting to and within Greater Shepparton should be undertaken.

It is understood that efforts are currently being made in this regard, however, limited desire and recognition of there being a need for such facilities has been the typical response. This is not uncommon, especially given that the role of public transport providers is to maximise the number of people they can move and that accommodating a bicycle within a train or bus can significantly reduce this ability. While there are some public transport providers that provide bike racks on buses (such as in

Sydney, ACT and Adelaide) or permit folding bikes on trams and trains (such as in metropolitan Melbourne), this is limited and currently not directly beneficial to tourism in Greater Shepparton.

As such, developing suitable ways of transporting bikes on public transport, even if it's restricted to out-of-peak passenger periods, or within bike bags with free assembly provided to event participates, is considered to be required to help promote cycling tourism, especially on regional train services and bus services between townships and accessing Melbourne. In addition, consideration needs to be given to providing specific public transport services to significant facilities, such as Mount Major, as well as between exit points along the proposed rail and river facilities. ACTION 41

8.5.6 Facilities

The core to all this is the provision of facilities. Without leading facilities it is difficult to sell events and other cycling tourism opportunities, especially given the number of other locations providing similar facilities. As such, as a minimum, the existing facilities should be maintained, improved and developed at other locations to keep pace with facility improvements and latest design approaches.

In terms of additional facilities, the strategy has highlighted the need to develop more scenic routes that utilise the road, rail and river networks to support the many recreational cycling disciplines. These should be targeted towards both the sports and non-sports event related recreational cyclists.

In addition, development of the supporting facilities, such as accommodation, transport, car parking, toilets, etc., should also be a focus to ensure visiting cyclists have a positive experience, because if they feel comfortable, stay for a while and / or come again with others, they will spend more money and maximise the return on the investment.

In terms of the sports event related cyclists, the strategy has identified a number of improvements to existing facilities and development of new facilities for both events and training. Specific to providing a positive experience for sports event participants, continuingly providing a higher level of race result information and recording is considered advantageous. The ability today of being able to record splits, have GPS tracking, video recording and take photographs on course can all help in an individual's experience, as well as provide a discussion point between participants and goal setting for future events.

In terms of the non-sports event related cyclists, it has been identified that there are currently limited facilities and that they should be targeted at the one or part day cyclists, as they typically make up the majority. As such, the development of half and full day loops with an ability to hire suitable bikes for the associated terrain should be the priority, with consideration of multiple day facilities, that are coordinated with adjacent municipalities, as the 'jewel in the cycling tourism crown' that can be marketed to grab potential tourists' attention and work up to. ACTION 42

9. Action Plan

9.1 Recommended Actions

The recommended actions identified within the strategy have be summarised and presented in Table 9.1.

Table 9.1: Recommended Actions NC = No cost

Action No.	Relevant Section	Action	Indicative Cost ($)	Priority (H, M, L)	Responsibility (Department)
1	3.2	Develop a regular bicycle count program to determine the change in user volumes, facility capacity and develop business cases for additional facilities.	3,500	H	Projects
2	4.3.4	Form a cycling advisory committee to engage with the community and gain their input and feedback on all things bicycle related in Greater Shepparton.	NC	H	Various
3	4.3.5	Undertake further investigations into the opportunities and constraints specifically related to getting more students and staff cycling to and from school.	NC	H	Children & Youth Services
4	4.5	Present the Cycling Strategy to relevant Government departments and agencies to gain their input and feedback, as well as their support in implementing the recommended actions.	2,000	H	Strategic Planning
5	5.2.3	When determining the type of bicycle facility that is required to suitably encourage the majority of potential users within an urban environment, consideration should be given to Table 5.2 and Figure 5.2, and consistent with Table 5.3.	NC	H	Projects
6	5.2.4	Develop intersection treatment guidelines for bicycle facilities based on Cycling Aspects of Austroads Guides (2011) and additional identified considerations.	NC	H	Projects
7	5.3	Use behaviour based assessments of various initiatives to investigate the level of penetration they are likely to have on changing behaviours (and the eventual goal of increasing the number of people cycling).	NC	H	Strategic Planning/ Recreational Liveability
8	5.4	Apply the two staged process to prioritise the projects developed in the implementation plans (actions 10 to 18).	3,000	H	Strategic Planning
9	6.2.4	Identify, sign and map suitable catchments around primary schools that utilise segregated bicycle facilities and footpaths to connect them to major residential areas and commuter roads.	7,000	M	Strategic Planning/ Children & Youth Services
10	6.4.1	Within Shepparton north the bicycle facilities presented in Table 6.1, and Figure 6.1 should be prioritised and **an implementation plan prepared.**	47,500	H	Projects
11	6.4.1	Within Shepparton south the bicycle facilities presented in Table 6.2 and Figure 6.2 should be prioritised and **an implementation plan prepared.**	9,400	M	Projects
12	6.4.1	**Investigations** be undertaken to construct segregated bicycle lanes along Wyndham Street through the Shepparton CBD.	NC	H	Strategic Planning

Action Plan

Action No.	Relevant Section	Action	Indicative Cost ($)	Priority (H, M, L)	Responsibility (Department)
13	6.4.2	Within Mooroopna the bicycle facilities presented within Table 6.3 and Figure 6.3 should be prioritised and **an implementation plan prepared**.	9,500	H	Projects
14	6.4.3	Within Murchison the bicycle facilities presented within Table 6.4 and Figure 6.4 should be prioritised and **an implementation plan prepared**.	12,500	H	Projects
15	6.4.4	Within Tatura the bicycle facilities presented within Table 6.5 and Figure 6.5 should be prioritised and **an implementation plan prepared**.	9,500	H	Projects
16	6.4.5	Within Toolamba the bicycle facilities presented within Table 6.5 and Figure 6.6 should be prioritised and **an implementation plan prepared**.	2,000	H	Projects
17	6.4.6	Within Merrigum the bicycle facilities presented within Figure 6.7 should be prioritised and **an implementation plan prepared**.	2,000	H	Projects
18	6.4.7	Within Dookie the bicycle facilities presented within Figure 6.8 should be prioritised and **an implementation plan prepared.**	NC	M	Projects
19	6.5	Scoping of recreational bicycle facilities between Shepparton and other townships should be undertaken within the existing and dis-used railway corridors, river network and road network. (Fig 6.9)	To be delivered in conjunction with action 42.	M	Projects
20	6.6	Develop appropriate decision guidelines for the provision of bicycle parking within any new developments.	NC	M	Strategic Planning
21	6.6	Provide **an implementation plan** for both short-term highly accessible and long-term secure bicycle parking facilities within Council controlled carparks that equate to at least 10% of the carparking supply in commercial areas and 10% of the demands in others.	NC	M	Projects
22	6.6	Provide **an implementation plan** for end-of-trip facilities within schools that at least meet the statutory requirements.	NC	M	Strategic Planning
23	6.7	Develop bicycle route and network wayfinding signage scheme that is consistent with the outlined methodology and referenced documents.		M	Neighbourhoods / Projects
24	6.8	Request Vic Roads to update MBN for Shepparton to reflect the facilities that have been implemented and proposed within the strategy.	NC	H	Strategic Planning
25	7.3	Review and improve existing road cycling training routes based on the recommendations listed in section 7.3	30,000	H	Arts, Events & Tourism
26	7.3	Cycling advisory committee should investigate opportunities to development scenic on-road training routes, potentially consisting of sections of road used in annual cycling events.	NC	H	Arts, Events & Tourism
27	7.4	Support the Shepparton Cycling Club to develop a business plan and a long term master plan for the velodrome.	15,000	M	Recreation and Parks

Action Plan

Action No.	Relevant Section	Action	Indicative Cost ($)	Priority (H, M, L)	Responsibility (Department)
28	7.5	Support the Shepparton BMX Club in regards to developing a regional BMX academy based in or at least frequently visiting Greater Shepparton.	15,000	M	Recreation and Parks
30	7.5	Support the Shepparton BMX Club to develop a business plan and a long term master plan for the BMX facility.	5,000	M	Recreation and Parks
31	7.6	Plan for, and seek external funding for mountain bike facilities along the river network	NC	M	Recreation and Parks
32	7.6	Support the Goulburn Valley Mountain Bike to prioritise and implement the improvements to mountain bike facilities at Mount Major in Dookie and assist in the formation of user licence between Melbourne University and The Club.	5,000	M	Recreation and Parks
33	8.3	Prepare an undated version of the 'Cycle in Greater Shepparton Cycle Guide' for distribution	25,000	H	Arts, Events & Tourism
34	8.4	Record and regularly publish cycle tourism related expenditure and generated income within Greater Shepparton.	25,000 incorporating Action 35	M	Arts, Events & Tourism
35	8.4	Undertake further investigations into what does and does not make Greater Shepparton a cycle tourism destination.	To be combined with Action 34	M	Arts, Events & Tourism
36	8.4	Undertake regular consultation with State and local municipality cycle tourism bodies.	NC	H	Arts, Events & Tourism
37	8.5.1	Develop a collective marketing approach for all cycling events and tourism in Greater Shepparton and link it to other well established and relevant brands	NC	H	Arts, Events & Tourism
38	8.5.2	Develop an information hub the contains all relevant information in terms of all cycling events and tourism in Greater Shepparton, as well as associate supporting facilities.	10,000	H	Arts, Events & Tourism
39	8.5.3	Identify advertising mediums with access to relevant audiences to distribute marketing material on.	NC	M	Arts, Events & Tourism
40	8.5.4	Undertake a review of the current cycling events and tourism activities in Greater Shepparton to identify areas of the cycling tourism market not covered, as well as continue to develop confirmed annual events.	NC	M	Arts, Events & Tourism
41	8.5.5	Continue to investigate opportunities to provide bike friendly transport services to cycle tourism attractions.	16,000	H	Arts, Events & Tourism
42	8.5.6	Scoping and feasibility studies including concept plans for recreational bicycle facilities to be continued to be developed along the road, river and train networks to connect with surrounding towns and municipalities for multi-day cycling trips, as well as one-day and shorter loops with associated supporting facilities, such as car parking, toilets and water.	60,000 Total cost to deliver the combined actions 42 &19	H	Arts, Events & Tourism

9.2 Statutory Implementation

This section outlines the various implementation options available to Council to give the strategy and its recommendations the desired level of statutory power to achieve the cycling objectives within the greater transport network of Greater Shepparton. It also considers other factors, including the timing of potential options, current examples and its level of flexibility and the ability of each to incorporate the strategies recommendations.

9.2.1 Implementation Options

It is considered that there are three options available to Council with respect to how the recommendations of this Cycling Strategy can be implemented to the Greater Shepparton Planning Scheme. These are:

i the use of this report by Council to form an out-of-Scheme Cycling Strategy which is provided to developers to assist the provision and connection of bicycle facilities,
ii the referencing of the strategy within the Local Planning Policy Framework of the Greater Shepparton Planning Scheme, or
iii the incorporation of the key findings and strategic framework of the strategy within the Local Planning Policy Framework and / or Overlays for the study area.

These options have a number of associated advantages and disadvantages, with the three options essentially positioned on a continuum such that the key advantage of the incorporation of the key findings (for example) represents the key disadvantage of the out-of-Scheme strategy. These advantages and disadvantages are summarised as follows:

Statutory Power

The incorporation of the key findings of the strategy, such as the recommended route facilities within each township and what should be provided within the growth areas and future subdivisions, provides the greatest statutory power of the three options, followed by referencing the strategy and then the out-of-scheme strategy.

This power is delivered by the fact that incorporating the key findings within the Local Planning Policy Framework and / or Overlays carries the same weight as the other requirements contained within the Planning Scheme, including those set by State Government.

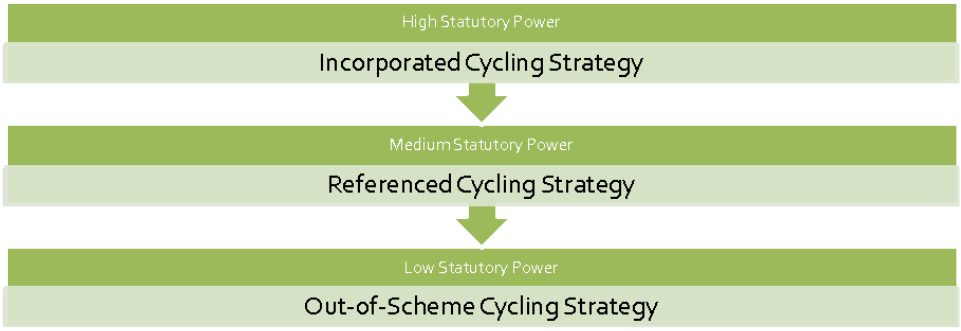
Although, it should be noted that this power is only theoretical, and that the inclusion of the key findings within the Local Planning Policy Framework, such as within the existing Infrastructure Local Planning Policy Framework (Clause 21.07), is rarely, if ever, treated with the same power as those outlined by the State.

The inclusion of the key findings within an Overlay, is likely to have a higher statutory level of power than strictly within the Local Planning Policy Framework, but including the key findings within Overlays is currently restricted to the use of Design and Development Overlays, Public Acquisition Overlays and / or Development Plan Overlays, which depend on what is trying to be achieved with the Overlay, over and above what already exists in the Planning Scheme.

At the other end of the continuum, the retention of the strategy as an out-of-Scheme Cycling Strategy provides the least statutory power.

This relationship is shown diagrammatically in Figure 9.1.

Figure 9.1: Statutory Power of Implementation Options



Timing to Implement

The incorporation of the key findings within the Planning Scheme will require the greatest amount of time to implement, as it requires a formal amendment to the planning scheme (often via a Panel Hearing). It is envisaged that this process could span 3 to 6 months following the completion of the associated documentation.

In a similar vein, the referencing of a Cycling Strategy within the Local Planning Policy Framework of the Scheme also requires a formal amendment to the planning scheme, but it is envisaged that the level of documentation and time would be less than those for its incorporation.

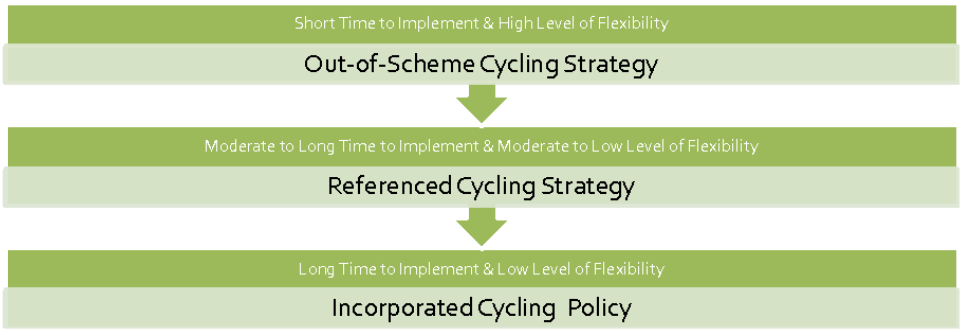
In contrast, as the approval of a Cycling Strategy lies solely with Council, it is envisaged that this approach could be implemented comparatively quickly after the finalisation of the strategy.

Flexibility of Content

Further to the above, it is evident that a key advantage of the out-of-Scheme Cycling Strategy is that it can be more easily updated or amended than a referenced Cycling Strategy or incorporation of the key findings within the Local Planning Policy Framework and / or associated Overlays. This advantage is particularly important where changes to, for example, the function, speed and/or traffic volumes experienced by a road significantly changes and results in a different facility type being more appropriate.

This relationship, including timing to implement, is shown diagrammatically in Figure 9.2.

Figure 9.2: Timing to Implement and Flexibility of Statutory Options



Current Situation and Examples

Upon review of the Greater Shepparton Planning Scheme it is noted that the previous Cycling Strategy is a referenced document within the Local Planning Policy Framework (Clause 21.09). As such, there is a requirement for a formal amendment to the planning scheme to at least update this to the latest Cycling Strategy.

The referencing of cycling strategies within other Local Planning Policy Framework is relatively common throughout Victoria. However, should the key findings be formally incorporated into the Planning Scheme within the Local Planning Policy Framework and / or Overlays, it would be the first.

While there are currently no incorporated cycling strategies in Victoria, it is considered likely that this will occur into the future, assuming that cycling is continued to be considered as a legitimate form of transport and supported through additional facilities and campaigns that see increased levels of users. Furthermore, within the strategy there is considered to be a sufficient framework that can be used in developing a cycling specific Local Planning Policy Framework and / or Overlays with the flexibility to be relevant for the foreseeable future.

What should also be noted is that there are currently a number of overlays that have specific influence on developments and there interface with public land similar to what would be expected with a cycling related Overlay. A sample of these is listed as follows:

- Clause 42.03 (Schedule 3) of the Melbourne Planning Scheme is a traffic conflict frontage design and development overlay.
- Clause 43.05 of the Port Phillip Planning Scheme is a neighbourhood character overlay.

Ability to Include Recommended Facilities

As per the discussion regarding the above statutory power of each option, it is considered that the recommended facilities and strategic framework are unlikely to be provided as part of any new development unless it is formally incorporated into the Greater Shepparton Planning Scheme.

GREATER SHEPPARTON

Appendix A

Appendix A

Additional Literature Reviews

Appendix A

GREATER SHEPPARTON

New South Wales Bike Plan

The New South Wales Bike Plan was published in May 2010 by the New South Wales Government. It aims to "*encourage more and safer cycling to increase the share of short trips in Greater Sydney for all travel purposes to five per cent by 2016 and double the use of cycling to work, across all of NSW, between 2006 and 2016*". To achieve this end the Bike Plan outlines a number of specific actions for various government agencies under the following six areas:

- Create connected cycling networks (infrastructure and facility investment priorities).
- Make bike-riding safe for all (development of safety material, training and campaigns).
- Plan cycling-friendly neighbourhoods (integrate into land use planning and infrastructure development processes).
- Grow jobs in cycling (promote cycle tourism).
- Get organisations working together to support bike-riding.

Queensland Cycling Strategy 2011-21

The Queensland Cycling Strategy was published in 2011 by the Queensland Government. It outlines a target "*to get more people to cycle, more often for school, work, recreation, shopping and social trips*" and double the percentage of commuter bicycle trips between 2006 and 2021 from 1.4% to 2.8%. To achieve this, the strategy outlines a number of specific actions under the following four areas:

- Building safe, direct and connected cycle networks (infrastructure and facility investment priorities).
- Growing a cycling culture (developing travel behaviour and cultural change).
- Creating cycle-friendly communities (integrating cycling into planning and development).
- Developing a cycling economy (promote cycle tourism.

Appendix B

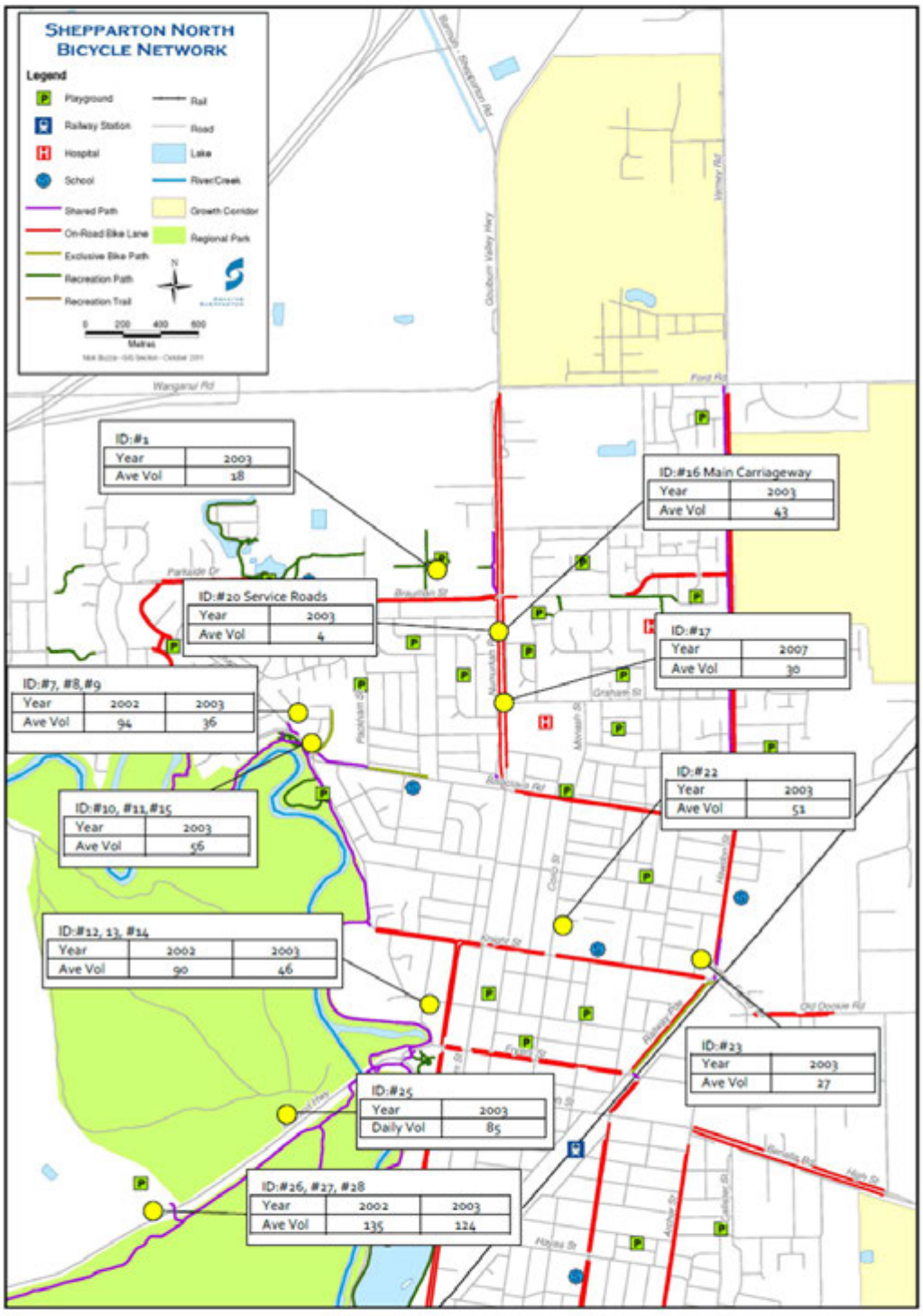
Bicycle Count Data & Maps

Appendix B

Appendix B

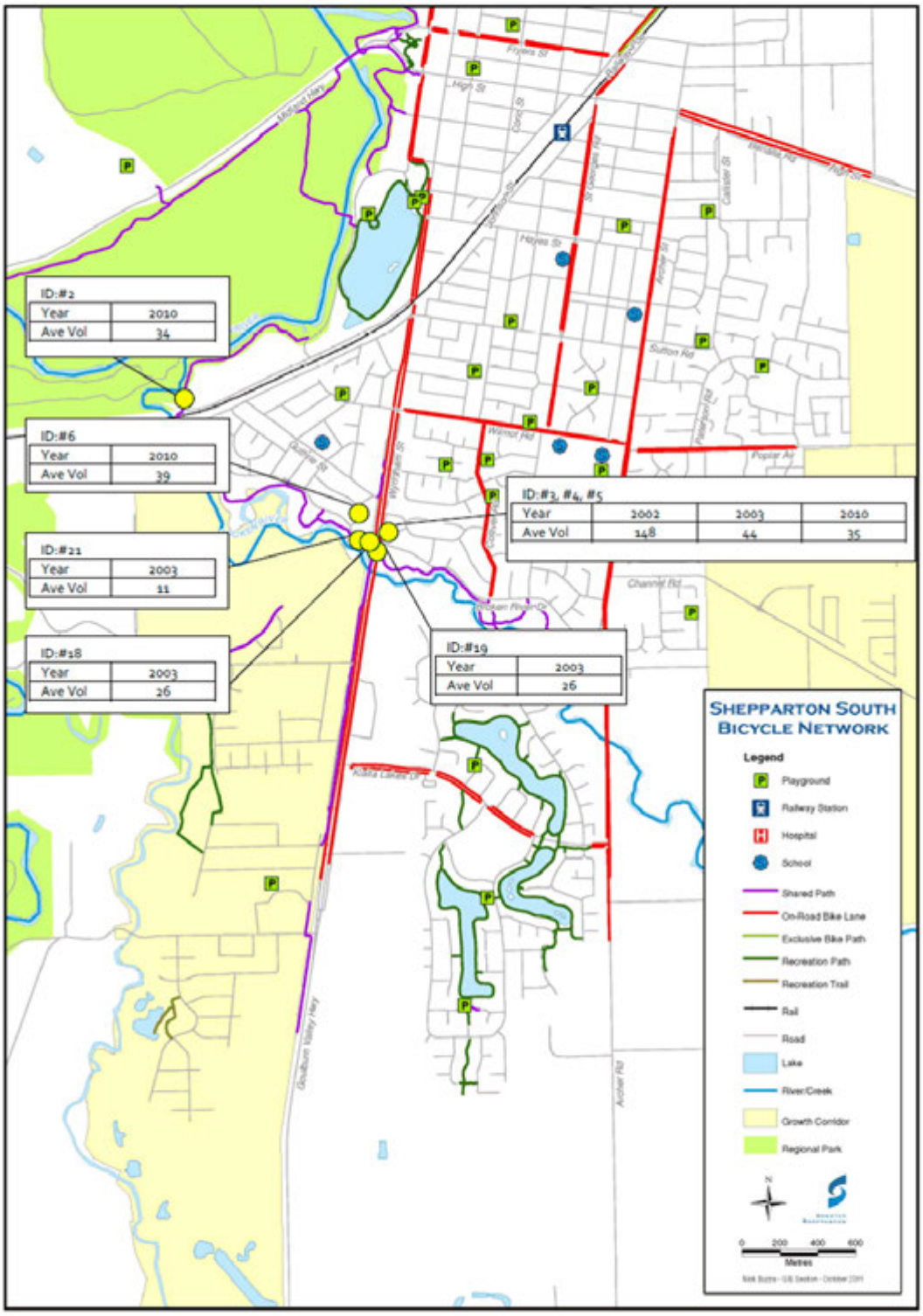
Appendix B

Council Daily Bicycle Volumes – Map



Appendix B

Council Daily Bicycle Volumes – Map 2



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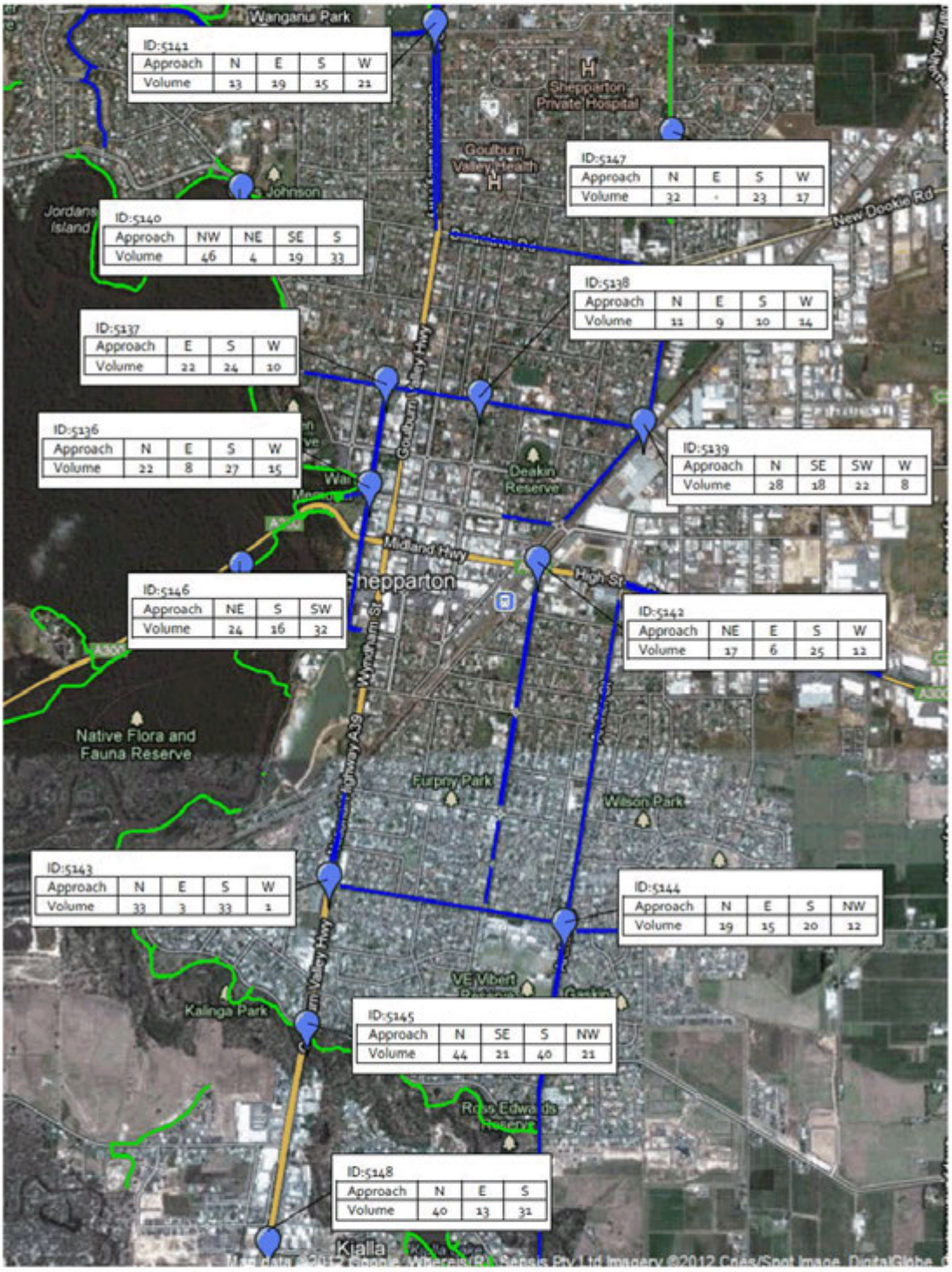
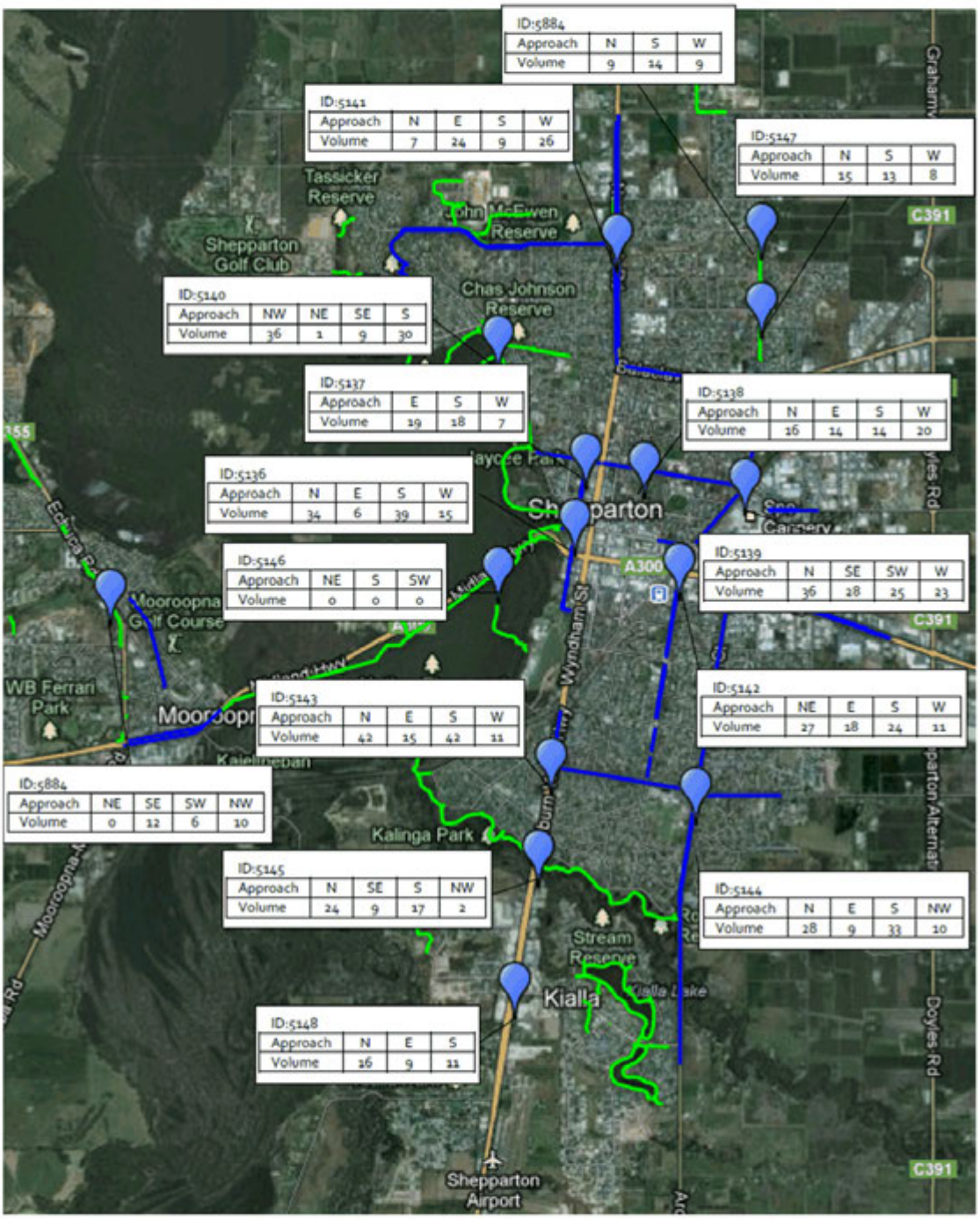
Appendix B

2011 Super Tuesday AM Bicycle Volumes Map



Appendix B

2012 Super Tuesday AM Bicycle Volumes Map



Appendix B

Table B1.2: Council Daily Bicycle Volumes

ID	Street/Road	Location	Daily Bicycle Volumes [1]														
			2002			2003			2005			2007			2010		
			Day	Month	Count	Day	Month	Count	Day	Month	Count	No. of Days	Month	Count	No. of Days	Month	Count
#1	Braumen St bike lanes	Btw Fenn St & Goulburn Valley Hwy				Th	Au	18									
#2	Broken River Shared Path	East of railway bridge													6	Jun	34
#3	Broken River Shared Path [5]	In Jackson Park							Th	Jan	128				6	Jun	41
#4	Broken River Shared Path [5]	East of Wyndham St				Th	Aug	44									
#5	Broken River Shared Path	East of Wyndham St (Jackson Park)	Th	Jan	148	Th	Dec	44									
#6	Broken River Shared Path	West of Goulburn Valley Hwy													6	Jan	39
#7	Goulburn River shared Path	North of Boulevard pedestrian crossing				Th	Dec	63	Tu	Jan	29						
#8	Goulburn River shared Path	North of Boulevard pedestrian crossing				Th	Aug	9									
#9	Goulburn River shared Path	North of Boulevard roundabout	Th	Jan	94												
#10	Goulburn River shared Path	South of Boulevard roundabout				Tu	Aug	35									
#11	Goulburn River shared Path	South of Boulevard roundabout				Th	Dec	87									
#12	Goulburn River shared Path	West of Marungi St				Tu	Aug	16	Th	Jan	87						
#13	Goulburn River shared Path	West of Marungi St				Tu	Dec	75									
#14	Goulburn River shared Path	West of Marungi St	Th	Jan	90												
#15	Goulburn River shared Path	South of Boulevard roundabout				Th	Aug	46									
#16	Goulburn Valley Hwy bike lanes [3]	Btw Branditt Ave & Graham St						43									
#17	Goulburn Valley Hwy	Bike lanes btw Grutzner Ave & Kilpatrick Ave										7	Jan	30			
#18	Goulburn Valley Hwy bike lanes [7]	South of Broken River				Tu	Sep	26									
#19	Goulburn Valley Hwy east shared path [6]	South of Broken River				Th	Sep	26									
#20	Goulburn Valley Hwy service roads [4]	Btw Branditt Ave & Graham St				Th	Sep	4									
#21	Goulburn Valley Hwy west shared path	South of Broken River				Th	Sep	11									
#22	Knight St bike lanes	Btw Corio St & Orom St				Tu	Aug	51									
#23	Railway Pde bike lanes	Btw Knight St & Middleton St				Tu	Aug	27									
#24	Shepparton-Mooroopna bike path	West of Geraaghty's Bridge										7	Jan	124			
#25	Shepparton-Mooroopna bike path	West of Goulburn River Bridge				Tu	Dec	86	Th	Jan	64						
#26	Shepparton-Mooroopna shared path [2]	West of Kidstown entry				Tu	Dec	161									
#27	Shepparton-Mooroopna bike path [2]	West of Kidstown entry				Tu	Aug	86									
#28	Shepparton-Mooroopna shared path [2]	West of Kidstown path	Tu	Jan	135												

[1] The daily bicycle volumes are the total two-way volumes recorded at a given location. If recorded over a number of days then they have been averaged.
[2] Same location
[3] Two-way on main road
[4] Two-way on service roads
[5] Not shown on map, but is the same location as #5
[6] On east side of highway
[7] On highway main carriageway

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Appendix B

Table B1.2: March 2011 Super Tuesday AM Bicycle Volumes

ID	Location	AM Bicycle Volumes [1]	
		2011	2012
#5141	Goulburn Valley Hwy, Pine Rd, Goulburn Valley Hwy and Brauman St- count on and off road as one and same - 673 P4	34	33
#5147	Verney Rd towards King Richard Dr, Verney Rd and Graham St - count on and off road as one and same - 673 R5	36	18
#5140	Maculata Dr, Balaclava Rd, The Boulevard towards reserve and The Boulevard - count on and off road as one and same - 673 N6	51	38
#5137	Knight St towards highway, Welsford St and Knight St - 673 O7	28	22
#5138	Corio St towards Corio Ave, Knight St towards church, Corio St and Knight St - 673 P8	22	32
#5139	Hawdon St, Andrew Fairley Ave, Railway Pde and Knight St - 673 R8	38	56
#5136	Welsford St towards War Memorial, Fryers St towards Goulburn Valley Hwy, Welsford St and Fryers St - 673 O8	36	47
#5142	Thompson St, Midland Hwy (showground), St Georges and Midland Hwy - 673 Q9	30	40
#5146	Shepparton - Mooroopna causeway path (at junction) towards bridge, Causeway - Aquamoves path and Shepparton - Mooroopna causeway path - 673 N9	36	0
#5143	Goulburn Valley Hwy towards Meaklim St, Wilmot Rd, Goulburn Valley Hwy and Longstaff St - 673 O12	35	55
#5144	Archer St, Poplar Ave, Archer St and Wilmot Rd (dog leg) - 675 Q1	33	40
#5145	Goulburn Valley Hwy, 'Yanha Gurtji' Share path adjacent to Broken River Dr, highway bridge and 'Yanha Gurtji' Share path - 675 N2	63	25
#5148	Goulburn Valley Hwy (including shared path in outer separator) towards Riverview Dr, Kialla Lakes Dr and Goulburn Valley Hwy - 675 N5	42	18
#5883	Baker Cres, Echuca Rd (south), pedestrian crossing and Echuca Rd – includes both volumes on and off the road	-	14
#5884	Verney Rd (north), Verney Rd (south) and Pine Rd - includes both volumes on and off the road	-	16

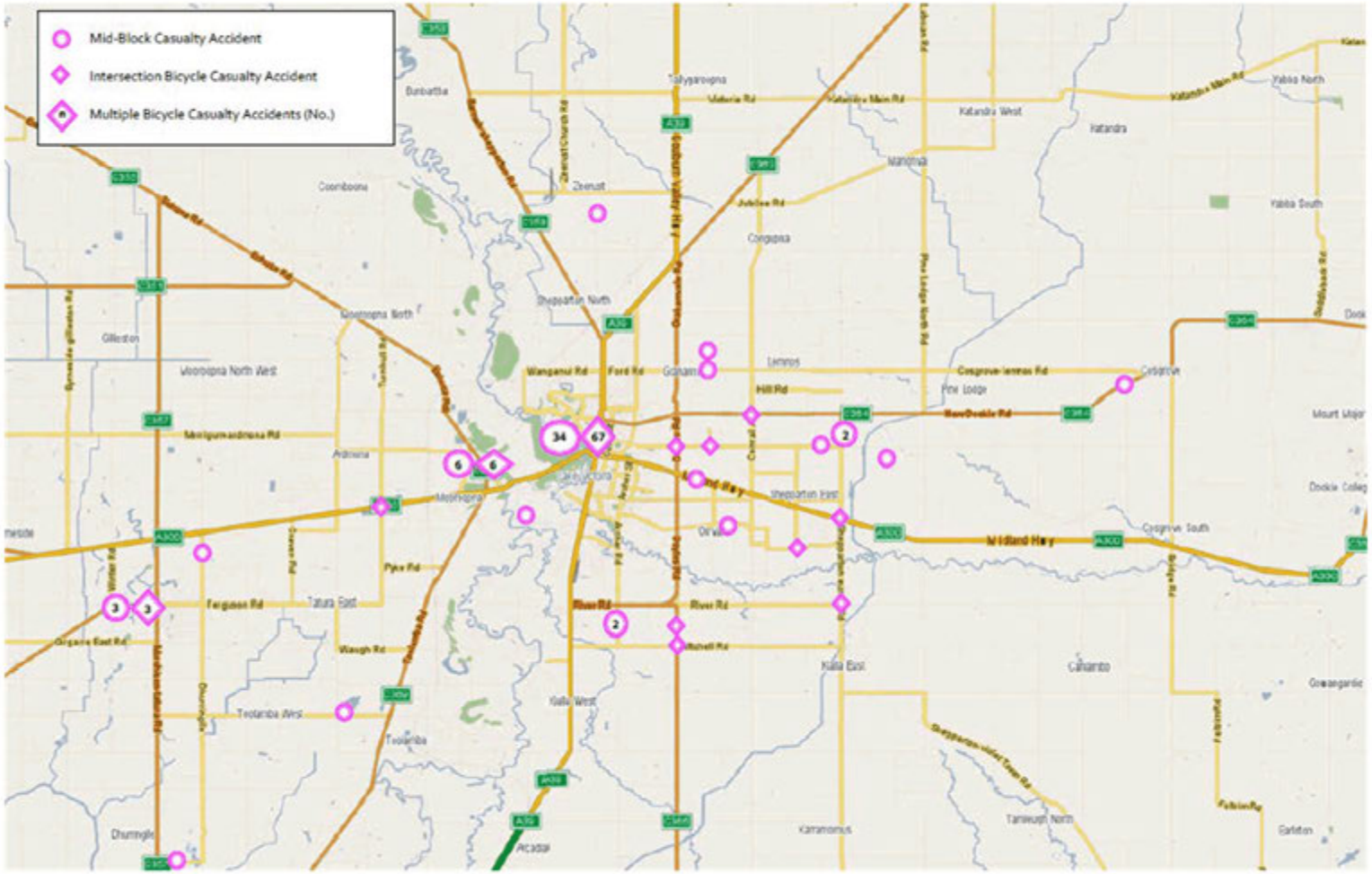
[1] The AM bicycle volumes are totals recorded between 7am-9am on all approaches of the given location.

Appendix C

Bicycle Crash Stats Data

Appendix C

Locality Map 1 - Overall Bicycle Accidents



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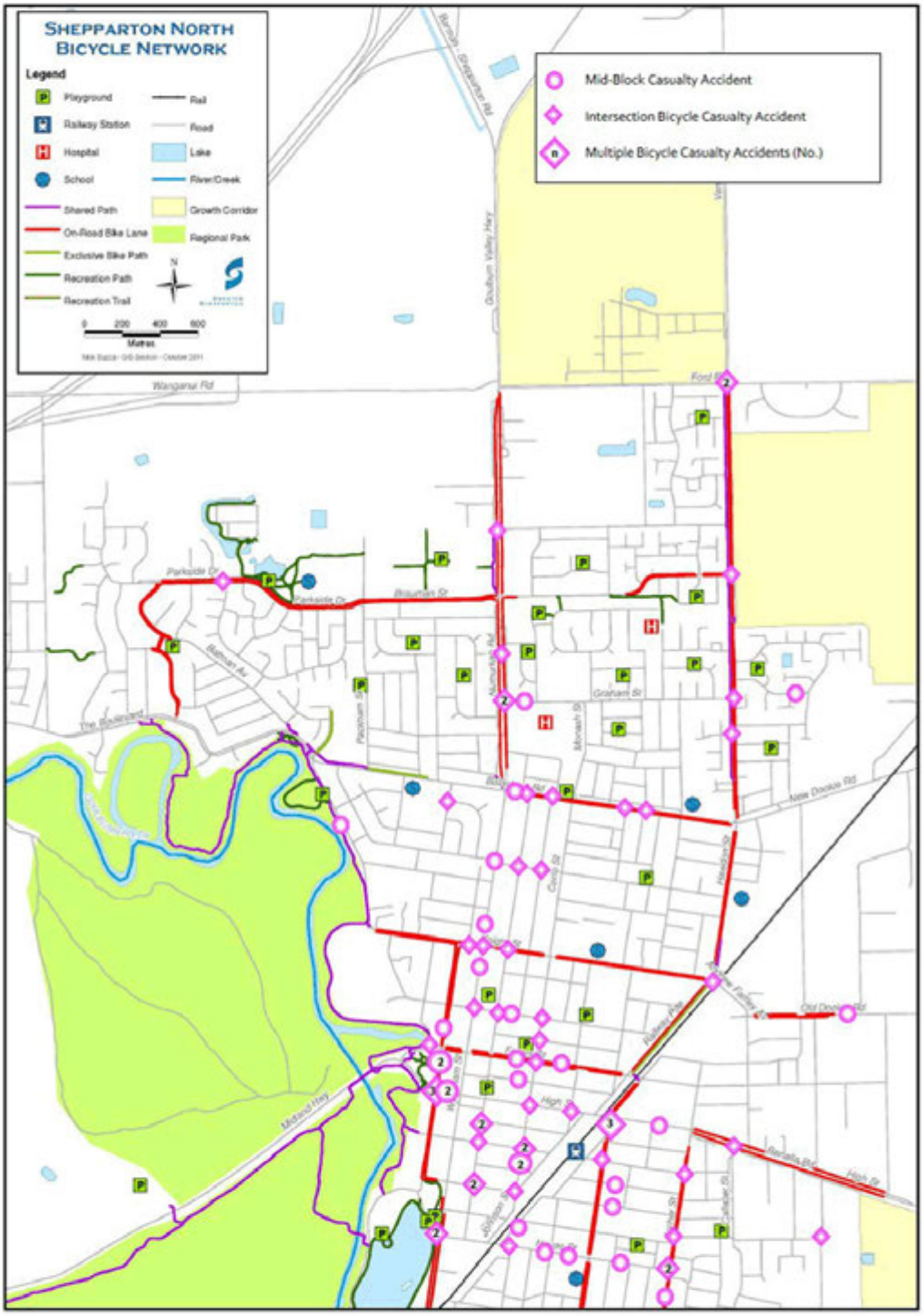
Appendix C

Locality Map 2 - Shepparton North Bicycle Accidents



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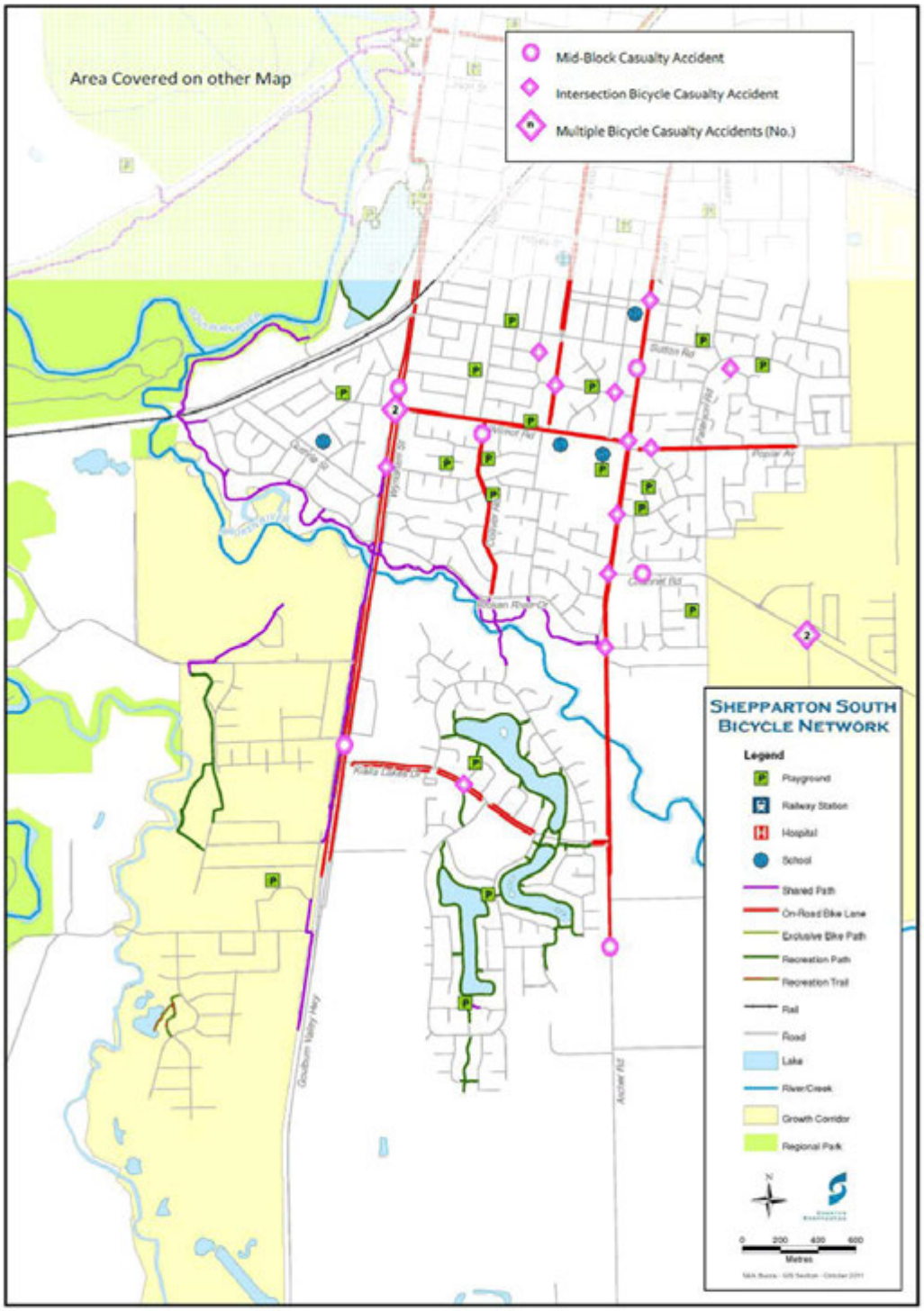
Appendix C

Locality Map 3 - Shepparton South Bicycle Accidents



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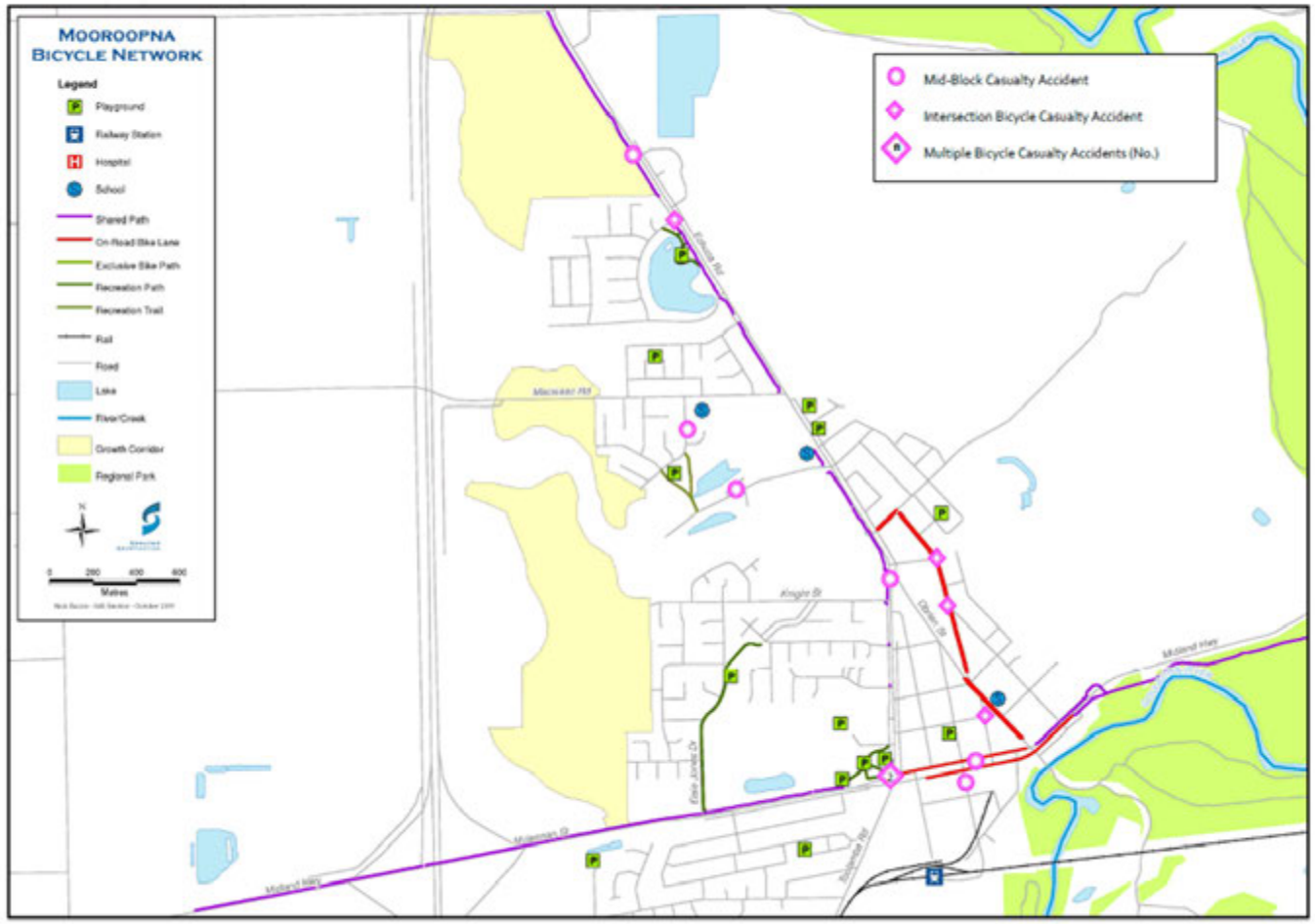
Appendix C

Locality Map 4 - Mooroopna Bicycle Accidents



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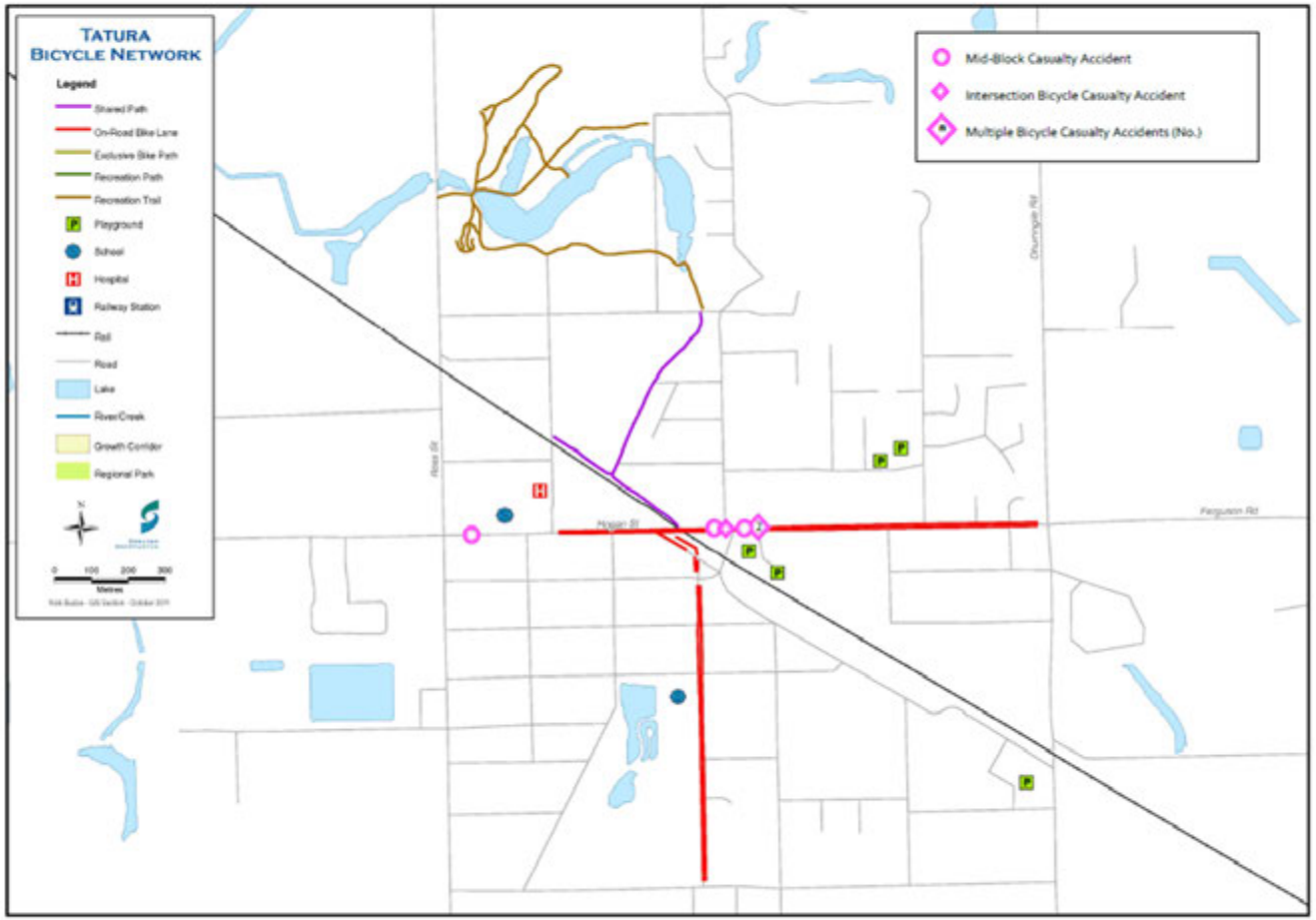
Locality Map 5 - Tatura Bicycle Accidents



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Appendix D

Implemented Bicycle Facilities

Appendix D

High Priority Proposals

Of the 20 high priority proposals identified in the previous strategy, a total of eight were implemented, at least in part, over the five year lifetime of the previous strategy. A summary of these implemented high priority proposals is provided in Table D.1.

Table D.1: Summary of Implemented High Priority Bicycle Proposals

ID[1]	Location	Summary of Proposal	% Completed
11	Old Dookie Road	On-road bicycle lanes between Lockwood Rd and Lemons North Rd	20%
23	Welsford Street	On-road bicycle lanes from Knight St to Sobraon Street	100%
24	Yanha Gurtji Path	Off-road shared path along Tom Collins Drive	100%
27	Yanha Gurtji Path	Off-road shared path between Goulburn Valley Hwy and Riverview Drive, via Broken River	25%
37	Railway Reserve Shared Path	Park St to Alexander Ave	100%
42	William Street to Margaret Street	Off-road shared path through Cussen Park	100%
44	Albert Street	On-road lanes from Brown St to O'Reilly St	100%

[1] Proposal ID number taken from Table 9.1 in the previous Cycling Strategy.

Based on Table D.1 and the associated costs estimated within the previous strategy, approximately 23% of the high priority proposals were implemented over the previous five years.

Medium Priority Proposals

Of the 14 medium priority proposals identified in the previous strategy, a total of five were implemented over the five year lifetime of the previous strategy. A summary of these implemented medium priority proposals is provided in Table D.2.

Table D.2: Summary of Implemented Medium Priority Bicycle Proposals

ID	Location	Summary of Proposal	% Completed
12	Poplar Avenue	On-road bicycle lanes between Archer St and Fig Ave	100%
27	Yanha Gurtji Path	Pedestrian/cycle bridge over Broken River	100%
33	Rodney Park Reserve	Off-road path signed and asphalted between McLennan St and Pell Cres, along Elsie Jones Dr	100%
38	Hogan Street	On-road bicycle lanes between Ross Rd and Dhurringle Rd	100%
39	Walsh Street	On-road bicycle lanes between Hogan St and Brown St	100%

[1] Proposal ID number taken from Table 9.1 in the previous Cycling Strategy.

Based on Table D.2 and the associated costs estimated within the previous strategy, approximately 23% of the medium priority proposals were implemented over the previous five years.

Low Priority Proposals

Of the 10 low priority proposals identified in the previous strategy, three were implemented over the five year lifetime of the previous strategy. The detail of the low priority proposal that was implemented is summarised in Table D.3.

Table D.3: Summary of Implemented Low Priority Bicycle Proposals

ID	Location	Summary of Proposal	% Completed
7	John McEwen Reserve	Off-road shared path between Parkside Drive and Goulburn Valley Hwy, to the north of Brauman St	50%
13	Channel Rd	Off-road shared path between Archer St and Feiglin Rd	10% [2]
34	Echuca Mooroopna Road	On-road bicycle lanes between McLennan St and O'Brien St	100% [2]

[1] Proposal ID number taken from Table 9.1 in the previous Cycling Strategy.
[2] Not shown on the maps in Appendix D

Appendix D

Based on Table D.3 and the associated cost estimate within the previous strategy, approximately 6% of the low priority proposals were implemented over the previous five years.

Development Based Proposals

Of the 32 development based proposals identified in the previous strategy, a total of five were implemented, at least in part, over the five year lifetime of the previous strategy. A summary of these implemented development based proposals is provided in Table D.4.

Table D.4: Summary of Implemented Development Based Proposals

ID	Location	Summary of Proposal	% Completed
1	Yanha Gurtji Path	Off-road shared path along the north side of Goulburn River	100%
1	Yanha Gurtji Path	Two off-road paths through Tassicker Reserve	70%
8	Pine Road	Off-road shared path between Goulburn Valley Hwy and Verney Rd	50%
20	Verney Road	Off-road shared path between King Richard Dr and Ford Rd	100%
35	Sunnigdal Boulevard	Off-road shared path between Charters St and Dhurringle Rd	25% [2]
35	Charters Street	Off-road shared path between Sunnigdal Bvl and McNamara St	100% [2]

[1] Proposal ID number taken from Table 9.1 in the previous Cycling Strategy.
[2] Not shown on the maps in Appendix D

Based on Table D.4 and the associated costs estimated within the previous strategy, approximately 12% of the development based proposals were implemented over the previous five years.

Additional Facilities

In addition to the proposals identified in the previous strategy, there have been a number of additional facilities provided within Greater Shepparton in the past five years. These are summarised in Table D.5.

Table D.5: Summary of Additional Facilities Implemented

ID	Location	Summary of Proposal
A	Cussen Park	Off-road shared paths throughout Cussen Park
B	Park Street	Off-road shared path between Alexandra Ave and Park St
C	Craigmuir Lake	Off-road shared path around the northeast edge of Craigmuir Lake
D	Norton Reserve	Off-road shared paths connecting Norton Dr and Homewood Dr
E	Evergreen Way	Off-road shared path along the north and east sides of Gum Rd and Purra Way, and connecting to Evergreen Way
F	Seven Creeks Drive	Off-road shared paths connecting Seven Creeks Dr and the adjacent lake
G	Pine Road	On-road bicycle lanes between Goulburn Valley Hwy and Verney Rd

Other Facilities

In addition to the on and off bicycle facilities, the previous strategy proposed the following facilities to help support cyclists:

- behavioural, directional and warning signage
- bicycle parking.

In terms of these other facilities, it is understood that improved signage does exist, especially on the sports cycling training routes, and based on the latest bicycle network maps, publicly available bicycle parking facilities have been provided within Shepparton.

Appendix E

Dates and Groups Consulted

Appendix E

Community Plan Steering Groups

The seven Community Plan Steering Groups that were consulted with through face-to-face meetings by a Council representative occurred on the dates listed as follows:

- Murchison – Wednesday 7 March
- Toolamba – Tuesday 13 March
- Merrigum – Wednesday 14 March
- Tatura – Tuesday 20 March
- Mooroopna – Wednesday 21 March
- Dookie – Monday 26 March
- Undera – Wednesday 11 April.

Council Advisory Committees

The six council advisory committees that were consulted through face-to-face meetings by a Council representative occurred on the dates listed as follows:

- Older Persons Advisory Committee – Friday 13 April 2012
- Disability Advisory Committee - Friday 13 April 2012
- Health Advisory Panel – Wednesday 18 April 2012
- River Connect Steering Group - Wednesday 18 April 2012
- Goulburn Valley RoadSafe– Wednesday 11 April 2012.

Cycling Groups

The cyclists' forum run by GTA Consultants on Monday 2 April occurred with the following local bicycle groups:

- Shepparton Cycling Club
- Scott Peoples Foundation
- Greater Shepparton Bicycle Users Group
- Goulburn Valley Mountain Bike Club
- Shepparton Triathlon Club
- Fruit Loop Ride
- Greater Shepparton Safe Riding Campaign
- Benalla Bike Hike Event
- Commuter cyclists.

Council Departments

GTA Consultants consulted with the following Council departments on Thursday 22 March 2012 through face-to-ace meetings:

- Planning and Development, Sustainability and Environment
- Aged and Children's Services
- Culture and Community Strengthening
- Leisure Facilities
- Economic Development
- Events and Promotions
- Engineering Projects

Appendix E

- Operations
- Recreation and Parks.

State Government Departments

GTA Consultants consulted with the following State Government departments through written and verbal correspondence:

- Department of Transport
- Department of Planning and Community Development
- Tourism Victoria (Department of Business and Innovation)
- VicRoads.

Schools

A questionnaire prepared for school children and teachers / principals on Ride to School Day was distributed by Council to each school in Greater Shepparton.

Chamber of Commerce and Other Businesses

The discussion paper was distributed by Council to the Shepparton Chamber of Commerce and other business groups.

General Public

There was ability for the general public to provide input to the strategy through the Council website, which made the discussion paper and questionnaire available.

Appendix F

Tabulated Summary of Consultation and Responses

Appendix F

Stakeholder Issues Raised		Refer to Section
Community Plan Meetings		
Murchison	• Development of Recreation tracks and Trails, including the Rushworth Rail Trail and a recreation loop • Murchison/Toolamba/Shepparton Shared Path Development (Along River) • Main Roads with high volumes of heavy traffic divide the town making it difficult for young people to ride to school, (Murchison – Mooroopna Road and Murchison – Rushworth Road) • Crossing railway intersection at Murchison East	Section 6.4.3 Action 19 6.4.3 6.4.3
Tatura Community	• Off Road Connectivity to other Towns especially Shepparton/Mooroopna • Up grading of Roads to include a median strip for cyclists	Action 19
Toolamba	• Murchison/Mooroopna/Shepparton off Road Connection • Provision of end of trip facilities including public toilet facilities for those using Toolamba as a midway point on their training ride	Action 19
Dookie	• The important of cycling events was noted for the economic development for the community, but needs to be balanced with community needs for access • Road Surfaces needs to be addressed to improve safety around the town • Additional Training loop created in the region • Sealing of Mount Major TV road • Increased warnings to Cyclist who are using roads for training during the grain harvest as an increase in large Trucks using roads	Action 40 Section 5.6 Action 32 Action 23 Sec.7.3
Merrigum	• Connectivity to Kyabram more appropriate than Shepparton • Bike Rental/Share program to provide alternative transport to backpacker community • Improvement of Safety for families • Recreational Cycling Loop around the town	Action 19 Action 17
Mooroopna	• Interested in seeing the draft strategy for comment	
Undera	• Extension of the shoulder of the roads, especially on the Mooroopna Road and the Tatura Road. • Shared Paths need to be swept more often to increase safety and general usability of paths	Section 5.6.2
Council Advisory Committee		
River Connect	• Continued development of Shared Path Network in line with Strategic Plan	Action 19
GV Road Safe	• Safety issues relating to packs of riders taking up a large proportion of the road, for example riders 3 or 4 abreast • Clothing that people wear at night, education programs about "being seen to be safe" • A working group between local police and council officers could be formed to help support groups ensuring that Cycling events are safe. • The TV advertisements that increase awareness of cyclists on the road where a positive move • Work with existing initiatives such as safe cycle run by Vic Police	Action 2

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Stakeholder Issues Raised		Refer to Section
Disability Advisory Committee	• Maintenance of the paths is important as it allows access for all	
	• Consideration of whole life cycle costs should be taken into account especially when considering surfaces that are applied.	Action 8
	• Green bike lanes on roads are seen as a valuable tool in keep cyclists safe however education of road users is need to ensure that they have their full potential. At times road users don't fully understand their purpose.	Action 6
	• Safety Considerations at roundabouts particularly at corner of Knight Street and Railway Parade.	Action 6
	• To increase access to paths increase information is need about the gradient of paths and how accessible they are. This is will allow people to make informed decisions if they are to use the path. This could simple be increased signage and colour coded maps. The width of the paths and the bends are important considerations to when assessing if paths are accessible and although it is impossible to make all paths accessible some need to be to ensure that there is equitable access	Action 24
	• To increase cycling awareness children need to be considered as an important place to start, however the education of the parents also needs to be considered.	Action 3
Older Persons Advisory Committee	• Increased awareness about who is allowed to ride on footpaths	
	• Inclusive shared path network	Action 24
Health Advisory Panel	• A major barrier is the lack of education for both motorists and for cyclists. Doorings of cyclist was raised as a concern for cyclists with practical solutions need to be sort.	Action 3
	• Increasing awareness about the laws around riding on footpaths and the children under the age of 12 are legally able too with accompany adult	Action 24
	• A strong focus on children to start the culture shift from a young age and have the greatest benefit in the long term	Action 3
	• As part of the healthy communities program there is subsidised Train the trainer programs through AustCycle to provide bike ED courses.	
	• GV Road Safe have a resource that is provided to schools to allow them to run bike ED programs this includes several bikes and associated equipment.	Action 3
	• End of trip facilities and who responsibility is it to provide these, it was suggested that it was business owners but council could play a proactive roll encouraging them in new building / office developments	Action 21
	• A children's bike path at KidsTown was suggested to provide an interactive environment for children to learn how to ride a bike in a safe environment away from traffic.	

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Stakeholder Issues Raised		Refer to Section
Wider Community		
Cycling Forum	• Sealed road to Mt Major – TV Road • Single river trail in town for Mountain bikes • Sustainable Short Course for Mountain Bike • In terms of building trails, get the community involved. If they build it they tend to look after it • Poorly maintained on Road bike lanes Man hole covers More Lane sweeping Blue reflectors Road surface Street sweeping only cleans up to 30cm from gutter • Shared Paths Poor surface-pot holes High grass along sides Divided line down the middle would increase safety Some walkers/runners think the path is theirs only • Cycling Advisory Committee to guide cycling related development • Education programs are needed to raise awareness of road cycling with schools • Encouragement of investment by business in on site End of trip facilities. What can council do? Look at the cost of providing parking etc for works • Collective facilities in industrial areas, providing multiple contributors to a shared facility. • Common standard for bike paths and road cycle lanes • Regular maintenance program • Encourage commuter cycling with user friendly facilities • Educating junior riders on safety and maintenance requirements • Issues on Wanganui / Ford / Lemnos Cosgrove / Boundary / Mitchell / Raftery Roads • Rumble strips at Railway crossings are an issue • Calendar of bike events – prevent clashing of events • Engineering in bike lanes when roads are built • Education of both bikes and cars • Railway line cross is a major issues for cyclists • Continuity of bike lanes needs to be address to provide connected network • Bike lanes at roundabouts are an issue • Angles railway crossings • Bike maps of city with suggest routes for communing and alternative modes of transport • Consideration for tricycles especially at end of trip facilities	Action 32 Section 5.6 Section 5.6 Action 2 Action 3 Action 21 Action 21 Section 5.6 Section 5.3 Action 28 Section 5.3 Action 38 & 40 Section 5 Section 5.6 Action 6 Action 9 Action 21

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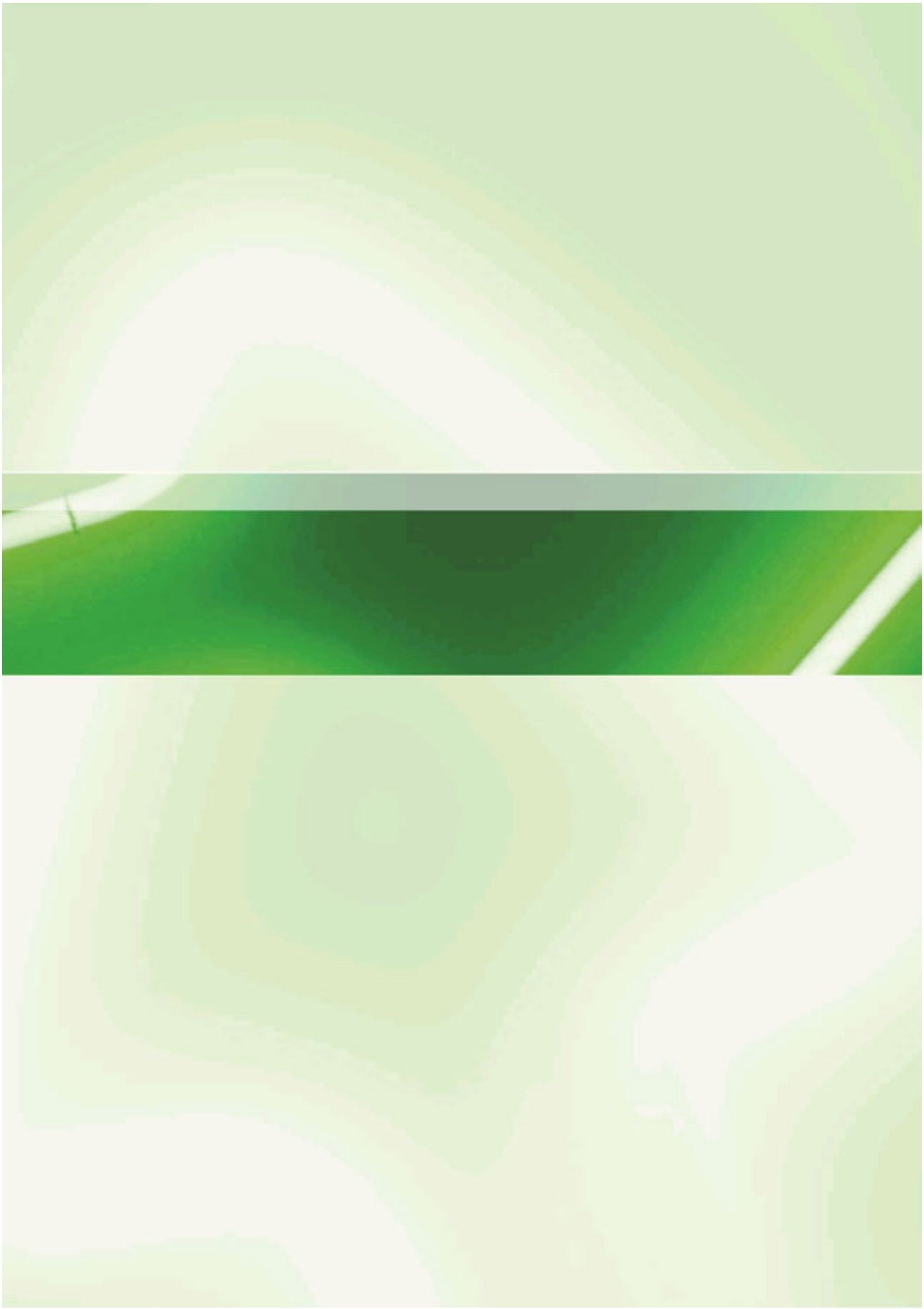
Stakeholder Issues Raised		Refer to Section
Cycling Forum (contd)	• Roundabout planting obscure vision of cars, indicators etc. • Bike routes to out for town schools and factories • Planning new subdivisions should allow for provision of bike paths to local shopping school precincts • Bike paths on rail easements should be considered • More end of trip parking facilities for short shopping trips	Section 5.6 Section 6.3 Section 6 Action 22
Tatura Walking Cycling Group	• Proposed a network of paths which will provide for a mixture of pedestrians and cyclists.	Section 6.4.4
Shepparton East Resident	• The provision of a shared path to Shepparton East School from Shepparton	Section 6.5
VIC volunteer	• A bike share/rental program should be provide for visitors to the region	
Shepparton Cycling Club	• Short-term and long-term facility improvements and events • Apart from those outlined in the attached letter, resurfacing of the velodrome would be beneficial in improving the facility • Activities to retain and attract new members to the club • Assistance in promoting come and try events. • Links to other sports cycling clubs, events and facilities. • Facilitate communication between local cycling orientated groups. • The roads that I believe need attention in terms of improving Safety for Cyclist are; -Boundary Road -Mitchell Road -Rafferty Road	Action 28 Action 2
Shepparton BMX Club	• Short-term goal is to get lights installed at the park to enable activities to occur in the evenings during the winter, which is likely to have a positive economic impact with sales at the canteen and attendance levels. • Long-term goal is to install an 8.0m standing start (currently 6.0m), which would make the facility comparable to the best facilities in Australia. • With the provision of such facilities it is considered possible to secure an annual two-day BMX event and potentially the National titles on a 2 or 4 year basis, given that there is already a 2 year arrangement for it to be held at the Sleeman Sport Complex in Brisbane. • Would also like to see the ability for the general public to either use this facility or a suitable second facility at their own leisure. At the moment, Bryan can supervise non-members as he is a qualified coach but if he is not there, then only club members are permitted. Bryan indicated that he tries and be at the track during school holidays to enable such use by beginners.	Action 29 Action 30
Schools	• Limited ability to provide additional end of trip facilities resources for students who ride to school, because of financial constraints	Action 23



Attachment 2

Capital Budget Implications

The 2013 – 2017 Cycling Strategy provides a framework for prioritising future capital expenditure to deliver cycling facilities.

The assessment framework methodology offers a consistent project assessment framework across all transport projects such that the relative merits of (for example) a small cycling project can be compared to a complex arterial road cycle project.

There may be some capital works established in existing Development Contribution Plans (DCP) that need to be undertaken outside of the priority assessment framework because of the timing of each subdivision. However, these DCP projects still form part of the integrated network proposals presented in section 6 of the Cycling Strategy.

The responsible departments will investigate external funding opportunities to deliver the projects and initiatives proposed in this Strategy.

2013 – 2014 Budget	**Expenditure Budget**	**Income Received**	**Net Cost to Council**
Shared Path - off road path Construction	50,0000	0	50,000
2013 – 2014 Development Contributions	**Expenditure Budget**	**Income Received**	**Net Cost to Council**
Seven Creeks Estate	10,500	9,300	1,200
Connolly Estate	0	2,200	(2,200)
Archer Field Estate – stages 3 & 4	173,703	31,152	142,551
Westwood Run Estate – stage 1	214,650	7,551	207,099
TOTAL	**398,853**	**50,203**	**348,650**

Future Shared Paths Development Contributions Plans	**Total Future Expenditure**	**Future Developer Contribution**	**Net Cost to Council**	**Projected Development Timeframe (Yrs)**
Kialla Green Estate (In progress)	200,000	42,000	158,000	5
Seven Creeks Estate (In progress)	68,000	73,000	(5,000)	9
Riviera Estate (In progress)	240,000	8,000	232,000	5
North Growth Corridor (In progress)	255,000	47,000	208,000	9
Kialla South Estate	Not determined	100%	Nil	12
Mooroopna West Growth Corridor	235,800	189,000	46,800	25
TOTAL	**998,800**	**359,000**	**639,800**	