

Shire of Boyup Brook

Bicycle Network Plan

CEP02344

Prepared for
Shire of Boyup Brook

16 March 2015



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Executive Summary

Cardno was commissioned by the Shire of Boyup Brook to prepare a bicycle network plan for the townsite of Boyup Brook. Boyup Brook is located in Western Australia's South West Region, north east of Bridgetown. This plan is jointly funded by the State Government's Department of Transport and the Shire of Boyup Brook and is prepared in accordance with the *Department of Transport's Guidelines for Developing a Bicycle Plan 2014*.

The main purpose of the plan is to develop a coordinated and strategic approach to delivering cycling infrastructure in order to maximise funding opportunities.

1. To provide connections to key attractors within the Townsite;
2. Ensure safe connections and routes to schools; and
3. Maximise the potential of cycle tourism.

The town generally has footpaths provided along both sides of the majority of streets, with some wider footpaths along Abel Street and Bridge Street in the commercial area. There are three schools in the southern part of the Townsite, with access provided via a comprehensive footpath network. However, these footpaths tend to be narrow (1.2m on average) and of varying condition.

Cardno conducted a saddle survey in October 2014 with Officers from the Shire of Boyup Brook and interested community members. The purpose of the saddle survey was to review the condition of the existing paths and identify any missing links.

The tourism potential of the Bicentennial Walk was discussed and this requires further study should the Shire wish to develop it in the future. The plan recommends links to be constructed on Railway Parade and Bridge Street.

In order to complete the network it is recommended that a series of upgrades be implemented to provide access to all the key destinations. Off-street paths are recommended for Knapp Street, Inglis Street, Bridge Street (from Barron to Beatty Street).

The plan also proposes on-street bicycle lanes on Forrest Street and Barron Street. These links are essential as they provide east-west connections through the town, and are considered appropriate given the wide pavement widths and low traffic volumes.

The plan recommends EoT facilities be upgraded at the school sites and installed at the IGA, swimming pool and sports oval.

A total of 23 projects have been recommended for implementation by the Shire of Boyup Brook. Funding is expected to be met on a matched basis through the Department of Transport's Regional Bicycle Network Grants and the Connecting Schools Grants.

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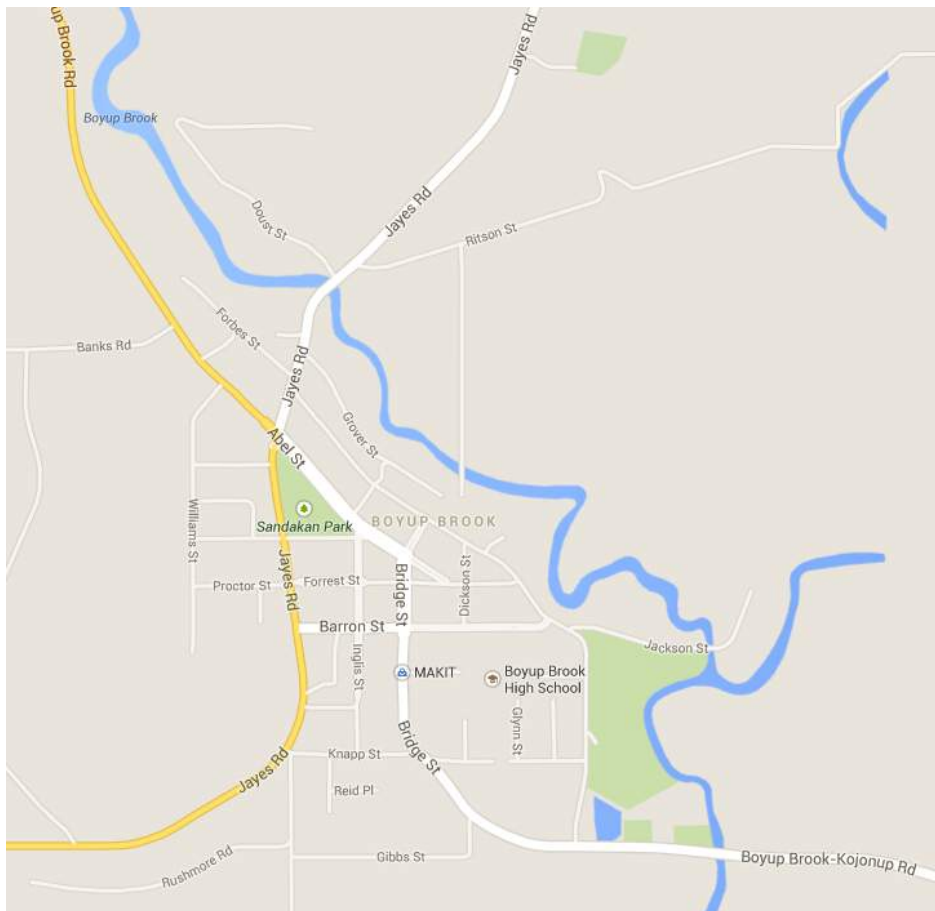
1 Introduction

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1.1 Study Area

The study area is shown in **Figure 1-1**.

Figure 1-1 Site Locality



1.2 Structure of the Plan

The Plan is set out as follows:

- > A review of relevant policy and the context of the Plan
- > An outline of considerations when planning for pedestrians and cyclists
- > An analysis of the existing and future path network
- > A summary of the community consultation process and responses
- > A series of recommendations, including ultimate network plans and a schedule of capital works.

1.3 Purpose of the Plan

The main purpose of the plan is to develop a coordinated and strategic approach to delivering cycling infrastructure in order to maximise funding opportunities.

1. To provide connections to key attractors within the Townsite;
2. Ensure safe connections and routes to schools; and
3. Maximise the potential of cycle tourism.

Recreational pursuits including mountain biking, road cycling and trail riding should also be enhanced to assist Boyup Brook in becoming a cycle tourism destination in the South West Region.

2 Policy Context

2.1 National Policies

2.1.1 Moving Australia 2030 (2013)

Moving Australia 2030 – A Transport Plan for a Productive and Active Australia was produced in 2013 by the Moving People 2030 Taskforce. The report outlines a whole-of-system approach to how we fund transport infrastructure, how we move people, how we move goods, and how we better integrate our spatial planning systems with effective transport networks.

Cycling is addressed within the report mainly in the context of a healthy and active Australia. The key relevant recommendation for this Bike Plan is to “Provide sustainable infrastructure funding that supports active travel”. This Bike Plan supports this recommendation by identifying the highest priorities for allocating funding to cycling and a clear message that cycling opportunities should be provided within the Shire.

2.1.2 National Cycling Strategy (2010)

The Australian National Cycling Strategy 2011-2016 (NCS) was prepared by Austroads and the Australian Bicycle Council in September 2010. The purpose of this strategy is to double the existing rates of cycling in a holistic manner by supporting its myriad of benefits through promotion, infrastructure provision, integrated planning and safety improvements.

Benefits identified in the NCS (pp. 8-11) include:

- > Societal Benefits - reduced traffic congestion as a result of commuters shifting to cycling modes, as well as increasing the land area available for urban activity
- > Environmental Benefits - reduced carbon footprint as a result of a transition to active, zero-carbon transport
- > Health Benefits - increased fitness has both a social and economic benefit to the community by encouraging interaction, improving quality of life and reducing health care costs arising from a sedentary lifestyle
- > Equity Benefits - a comprehensive cycling network reduces the proportion of household income necessary to provide mobility. This is particularly beneficial for low income families and households located near the urban fringe, where public transport may be lacking
- > Convenience - where cycling infrastructure provides a safe, comprehensive network for access to education, employment and entertainment precincts, cycling presents an efficient travel mode. Short trips are most affected by good cycling facilities.

A series of actions have been identified (pp. 27-29) to achieve the goal of doubling cycling mode share. This implementation framework focuses on the following priorities and objectives:

- > Cycling Promotion - Promote cycling as both a viable and safe mode of transport and an enjoyable recreational activity
- > Infrastructure and Facilities - Create a comprehensive network of safe and attractive routes to cycle and end-of-trip facilities
- > Integrated Planning - Consider and address cycling needs in all relevant transport and land use planning activities
- > Safety - Enable people to cycle safely
- > Monitoring and Evaluation - Improve monitoring and evaluation of cycling programs and develop a national decision-making process for investment in cycling
- > Guidance and Best Practice - Develop nationally consistent technical guidance for stakeholders to use and share best practice across jurisdictions.

This Bike Plan incorporates all the key actions listed above. In addition, the Bike Plan aligns with the NCS objective of “creat[ing] a comprehensive network of safe and attractive routes to cycle and end of trip facilities” (p. 22).

2.1.3 Walking, Riding and Access to Public Transport (2013)

This document is a Ministerial Statement from the Australian Government, setting out how the Government will increase the proportion of people walking and riding for short trips, and accessing public transport, in our communities. The document provides a summary of the benefits of greater use of active transport and guidelines for the coordination of land use and transport planning and development to achieve high quality outcomes.

There are no direct actions involving Local Government, however this Bike Plan is generally consistent with the aims and objectives of the document.

2.2 State Policies

2.2.1 Western Australian Bicycle Network (WABN) Plan 2014-31

The Draft Western Australian Bicycle Network Plan (WABN) has recently been released by the Department of Transport. This plan replaces the Perth Bicycle Network (PBN) and provides a framework for infrastructure improvements across Western Australia, including both Metropolitan and regional areas.

The WABN focuses on network improvements as a way of creating attractive and safe cycling corridors. The key aspects of this plan are as follows:

- > Implementation - Coordination between Government and non-Government Groups to ensure that the proposed infrastructure is delivered in an effective manner and to identify opportunities to integrate delivery across jurisdictions
- > Perth and Regional Bicycle Network Grants - Additional funding to Local Government Agencies to plan and provide cycling infrastructure within their jurisdictions. This includes funding of Local Bike Plans, path infrastructure, signage and linemarking
- > Network Focus - Improvements to the network will be prioritised to promote strategic connections to schools, major rail/bus stations and activity centres. To assist this process, Department of Transport is undertaking studies in consultation with Local Government to identify gaps and potential route alignments which would tend to attract funding
- > Review of Traffic Management - Local Government has a role in undertaking road works to reduce vehicle volumes and speeds through built-up areas. Some of the measures implemented through these programs have resulted in a reduction of on-road cyclist safety and an increase in conflict. The review will include a mix of what is seen as best practice and situations of reduced cycling safety, and consider safety aspects for all roads users, in keeping with the state road safety strategy 'Towards Zero'.

Significant increases in Local Government Regional Bicycle Network Grants funding for bicycle facilities were recommended in the WABN and committed to by the State Government. Many of the projects recommended as part of this Bike Plan will be eligible for grant funding and the Shire should apply for grants each year.

2.2.2 Western Australia Planning Commission Development Control Policy 1.5 – Bicycle Planning (1998)

This policy describes the planning considerations which should be taken into account in order to improve the safety and convenience of cycling. Both State and Local Government agencies have been encouraged to promote cycling as a mode of transport because of:

- > recognition of the adverse environmental effects of motor vehicles, particularly the private car
- > moves towards the development of low-energy lifestyles, initially as a response to the “energy crisis” of the mid-1970s
- > the need to make more efficient use of transport infrastructure

- > increasing awareness that cycling reduces congestion and the need for car parks.

The policy sets out a requirement to ensure cycling is considered in all aspects of land use and transport planning. In particular, the policy recommends (pp. 5-6) that a cycling network should be developed for urban areas by:

- > improving the existing road network and new subdivisional roads to meet the needs of cyclists more effectively
- > providing off-road facilities of adequate standard where there is a strong demand (such as near schools) and where the opportunity exists
- > providing information to enable cyclists to make the most effective use of the network
- > ensuring that the needs of cyclists are adequately catered for in the planning, design and construction of extensions to the existing road network.

This Bike Plan has been prepared in accordance with these principles. The Path Plan contains proposals to improve the existing road network, provide off-road facilities, provide information (by way of pavement markings and signs) to enable cyclists to use the network and ensure that cyclists are adequately catered for in future infrastructure projects.

The policy also supports the provision of appropriate end of trip facilities and recommendations for the location of future end-of-trip facilities have been included in this Path Plan.

2.2.3 Liveable Neighbourhoods (2009)

Liveable Neighbourhoods was produced to implement the objectives of the previous State Planning Strategy which guides the sustainable development of Western Australia to 2029. Its primary function is as a guide to more sustainable structure planning and subdivision, applicable to new urban areas and large urban infill sites.

The key element of Liveable Neighbourhoods relevant to, and consistent with, this Bike Plan is Element 2, Objective 9:

- > To provide a safe, convenient and legible bicycle movement network to meet the needs of both experience and less experienced cyclists, including on-street and off-street routes.

2.2.4 Main Roads WA (MRWA) Policy for Cycling Infrastructure (2000)

This document sets out MRWA's policies for the provision of cycling infrastructure on its network. All new roadworks and upgrades involving road widening will meet the requirements of these guidelines. Existing roads and cycling facilities that do not meet the above requirements will be progressively upgraded. The timing of retrofit work will be determined by the availability of funds and priorities.

Key elements of this policy relevant to the Shire of Boyup Brook include:

On-Street Facilities

- > New urban roads will be constructed with an edge line separated sealed shoulder in accordance with the desirable standards within Austroads' Guide to Traffic Engineering Practice "Bicycles" Part 14 (1999). Where this cannot be achieved, a shared path will be constructed adjacent to the road.
- > On existing highways and main roads, the facility described above for new roads, will only be provided in conjunction with any upgrades involving widening the road where land is available within the existing road reserve or, if land is being resumed for other purposes, the cost of acquiring the additional land is not proportionately higher than that for the other purpose.
- > Sections of rural main roads that are regularly used by more than 25 cyclists per day will comply with urban area guidelines indicated above. Roads not used regularly by cyclists will comply with MRWA Technical Standards for the provision of shoulders.

Off-Street Facilities

- > Main Roads will provide shared paths adjacent to highways and main roads which are not considered appropriate for cyclists or where the lane widths required by these guidelines cannot be achieved.
- > Path widths and layouts will generally be in accordance with Austroads Part 14 (1999), with the use of red oxide coloured asphalt for the path surface.

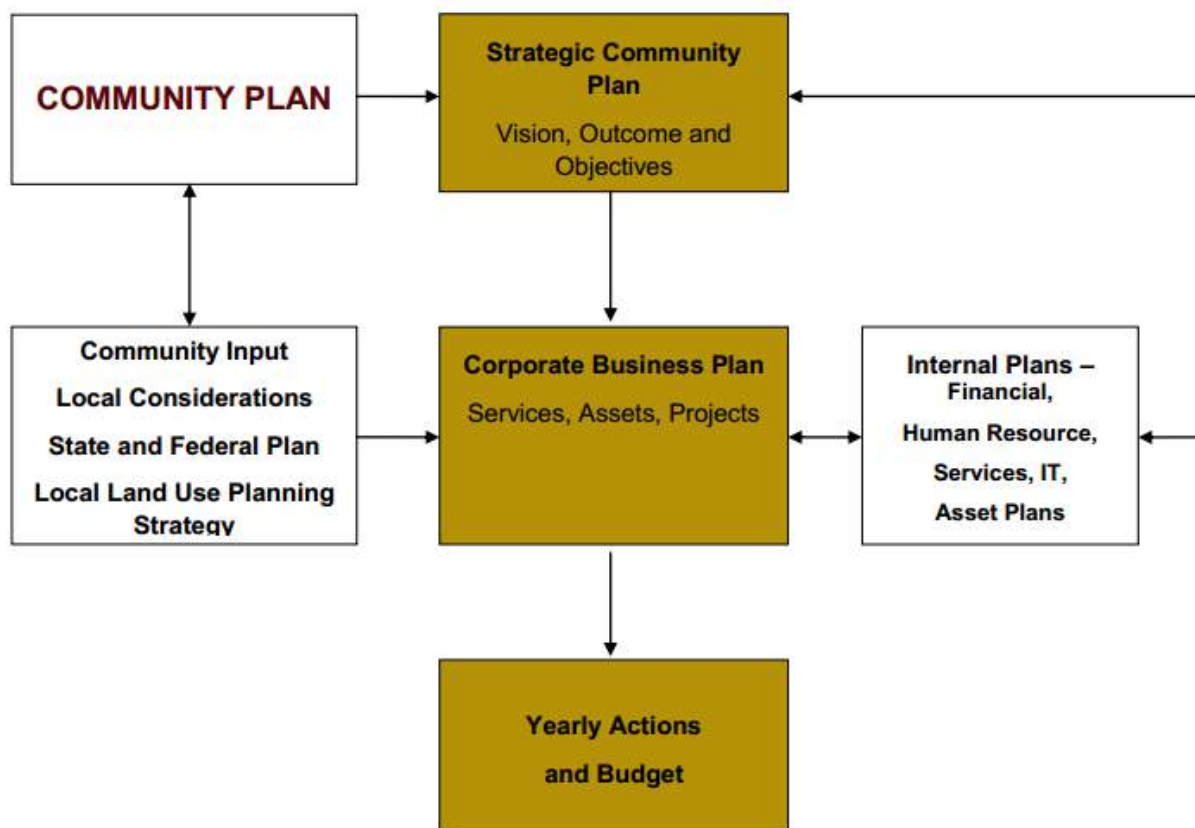
Main Roads is the responsible authority for several key roads within the townsite, including:

- > Abel Street
- > Jayes Road
- > Bridgetown Boyup Brook Road
- > Bridge Street

2.3 Local Policies

The Shire of Boyup Brook has developed several long term plans that guide the development of the Shire. The interrelationships of these key plans are summarised in **Figure 2-1**.

Figure 2-1 Key plans in the Shire of Boyup Brook



Source: Shire of Boyup Brook

2.3.2 Strategic Community Plan 2013-2023

The plan sets out the vision and direction for the Shire and is used as a key strategic planning tool. It contains the primary aims, strategies and priorities to advance the Shire's vision of "Growing Our Community Together". A goal of the plan for the build environment is that it enhances the lifestyle of the community. The plan also aims to ensure that local roads, parks, reserves and facilities will meet the future needs of the growing community.

The most applicable community priorities to the Bike Plan are summarised **Table 2-1**.

Table 2-1 Community Priorities against Key Areas

Outcomes	Objectives	Priorities
Sustainable Infrastructure	Strengthen road safety and local infrastructure.	Develop and implement asset management plans for roads, footpaths, and buildings & structures.
		Implement improved disabled access in town (gopher access and disabled parking).
		Investigate the expansion of street lighting
Increased visitors and residents	Develop tourism industry	Support tourism capability through events, fairs, arts, produce, history and cultural experiences.
	Attract permanent residents	Promote the family friendly lifestyle of Boyup Brook

The development of a bike plan will help achieve these outcomes, Boyup Brook has great potential to become a cycling tourism town which will not only attract tourists but will also work to promote the family-friendly lifestyle of the town.

2.3.3 Disability Access and Inclusion Plan (DAIP) 2013-2016

The aim of the DAIP is to embrace the principles that work to assist in creating a more accessible and inclusive community. The management of roads and paths is vital to the social and economic well-being of the community.

The formulation of a bike plan will assist achieve the vision of the plan. An example given in the plan is the upgrade to the Visitors Centre public toilet facility whereby a universal access pathway was constructed. Between 2007 and 2012 enhancements and upgrades to footpaths in the town also improved access, examples of which are shown in **Figure 2-2**.

Figure 2-2 Improvements to access at the Visitors Centre


In order to facilitate improvements to paths, the DAIP recommends that DAIP audit outcomes are incorporated into future financial year works programs for roads and pathways.

3 Planning for Pedestrians and Cyclists

3.1 User Groups

The path network within the Shire caters for a diverse range of user groups. Some of these include:

- > **Utility pedestrians** – e.g. children walking to school, children or adults walking to the shops or other community facilities. This user group generally desires direct routes to their destination.
- > **Recreational/fitness walkers** – walkers of all ages walking for fitness or recreational purposes. This user group generally prefers loop walks, generally on quieter paths or streets. Due to the limited road network outside of the townsites, popular walking routes include spurs along quieter sealed roads.
- > **Mobility impaired pedestrians** – e.g. wheelchairs, mobility aids, gophers. This user group generally desires direct routes to their destination, however may be forced to deviate if the infrastructure is not suitable – e.g. missing kerb ramps.
- > **Utility cyclists** – e.g. children cycling to school, children or adults cycling to the shops or other community facilities. This user group generally desires direct routes to their destination.
- > **Recreational/fitness cyclists** – cyclists of all ages cycling for fitness or recreational purposes. User group preferences will depend on age, fitness and cycling ability, however generally loop routes are preferred. Due to the limited road network outside of the townsites, popular cycling routes include spurs along quieter sealed roads.

The network review and planning process has been undertaken with these user types in mind.

3.2 Infrastructure Types

At this stage of development of the pedestrian and cycling network, it is considered that shared paths are the most appropriate form of facility for pedestrians and cyclists.

Shared paths should generally be constructed in either concrete or other sealed surface. Brick paving should be avoided where possible, although it is recognised that pavers will often be desirable parts of streetscape enhancements in town centre locations. Careful attention needs to be paid to the maintenance of brick pavers to ensure that any trip hazards or holes which may catch a bicycle tyre are repaired swiftly.

Some cyclists may prefer to cycle on the road rather than the path, particularly on quiet streets. It is not considered that the volumes of cyclists justify the provision of cycle lanes or other dedicated facilities at this stage. However, every street should be considered a 'cycling street' and any changes to the carriageway should cater for cyclists as legitimate road users. Careful attention should be paid to pinch points created by traffic calming devices, as well as pavement surface conditions.

3.3 Path Construction Standards

It is recommended that all paths be constructed as shared paths in accordance with Austroads *Guide to Road Design Part 6A: Pedestrian and Cyclist Paths*.

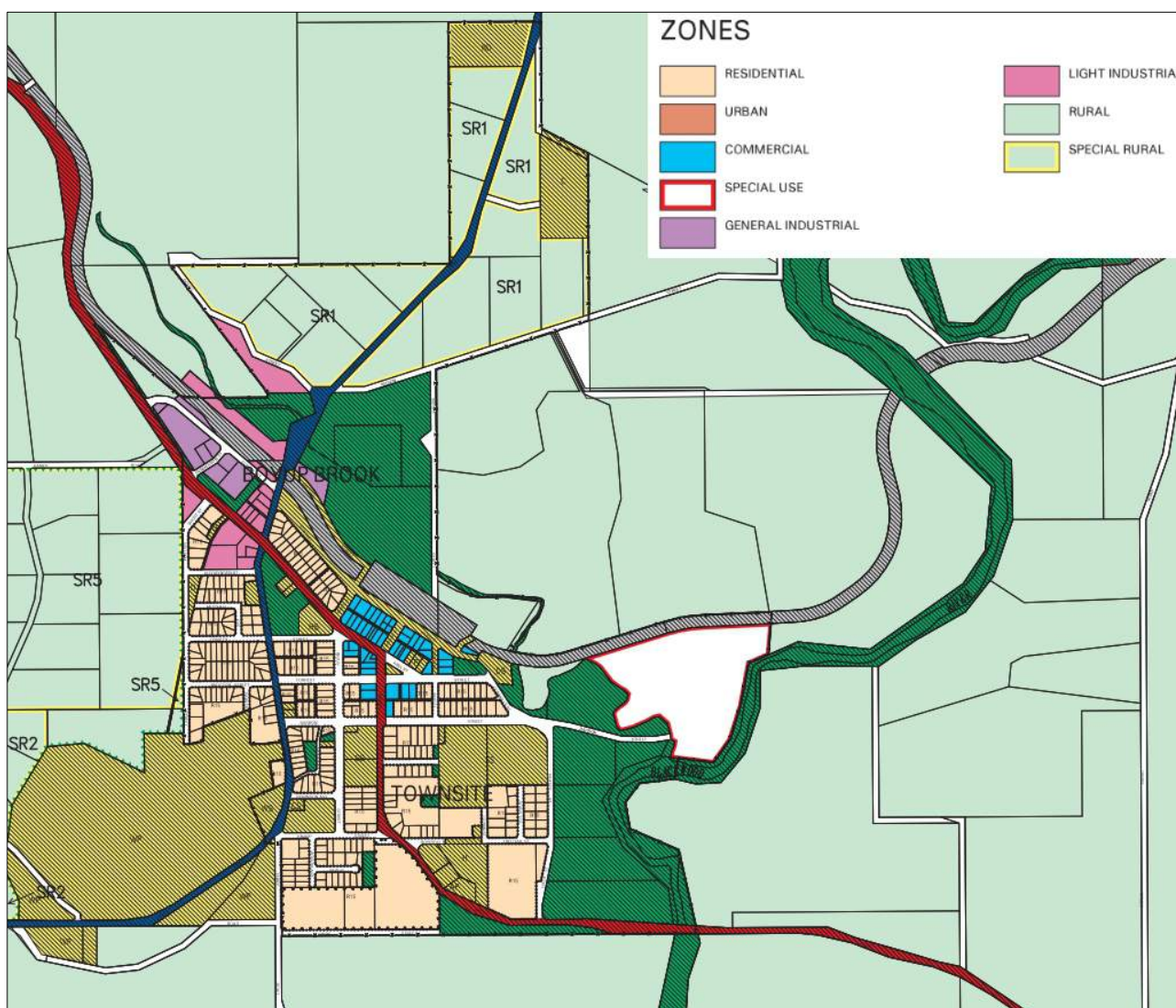
4 Network Analysis

4.1 Background

The Shire of Boyup Brook is located in the Blackwood Valley in the south west of Western Australia. The local government area has 1,588 people recorded as residents by the Census in 2012. The main industry in and around Boyup Brook is agricultural. In the vicinity of the Townsite there are areas of State forest including remnant jarrah and marri woodland which represent attractive recreational and tourism destinations.

The zoning map for the Shire of Boyup Brook is shown in **Figure 4-1**.

Figure 4-1 Shire of Boyup Brook Town Planning Scheme No. 2



Source: Western Australian Planning Commission

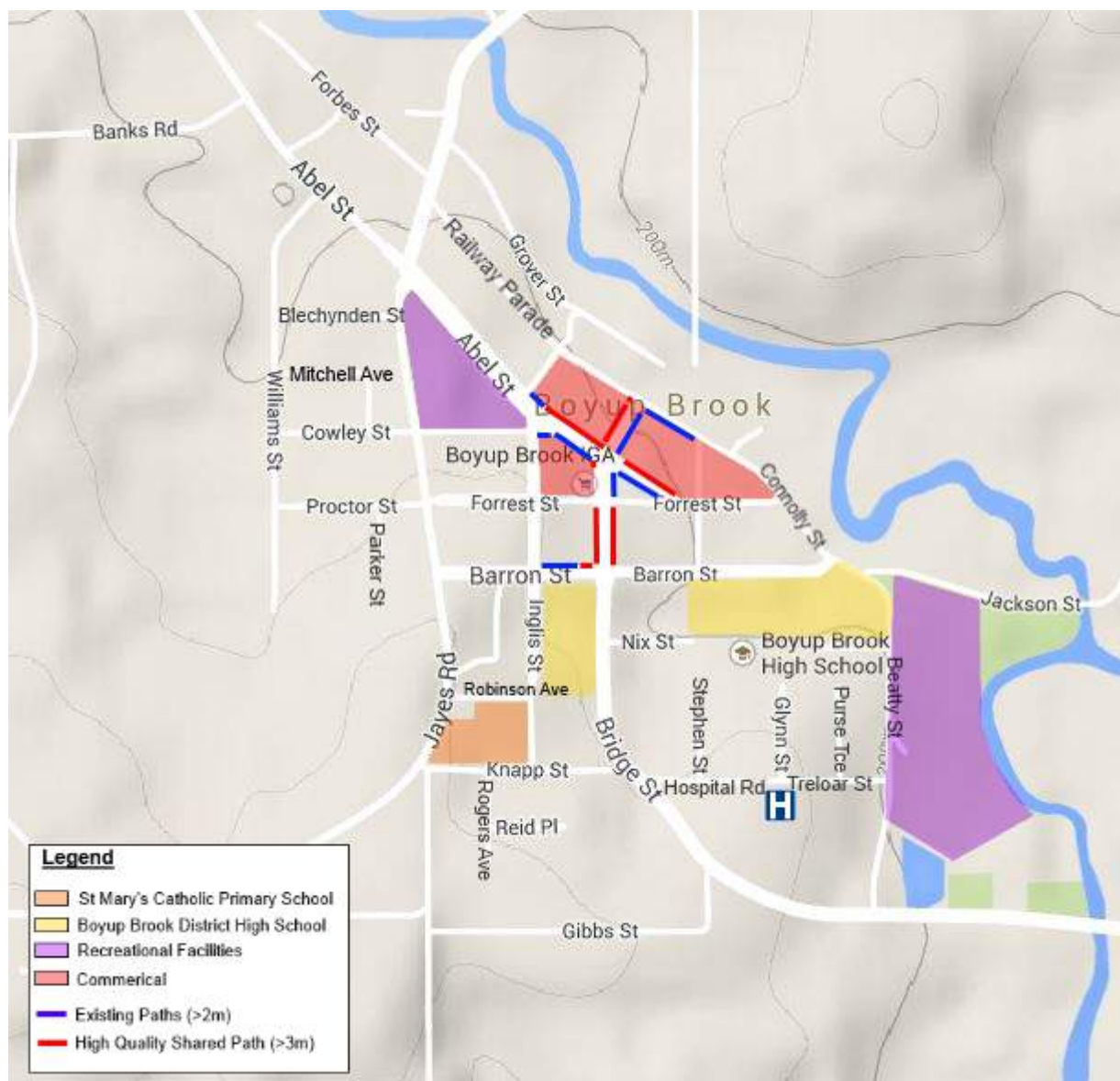
This bike plan focuses on improvements to the Boyup Brook Townsite. The Townsite itself is mainly residential with commercial development (small businesses) along Abel Street and Bridge Street.

The town is very scenic with rolling hilly country and granite outcrops. Community facilities include the library, medical centre, lawn bowls club, golf course, sports ground (where hockey, cricket, tennis and netball are played) and swimming pool.

4.2 Existing Network

The town generally has footpaths provided along both sides of the majority of streets, with some wider footpaths along Abel Street and Bridge Street in the commercial area, as shown in **Figure 4-2**.

Figure 4-2 Existing Network



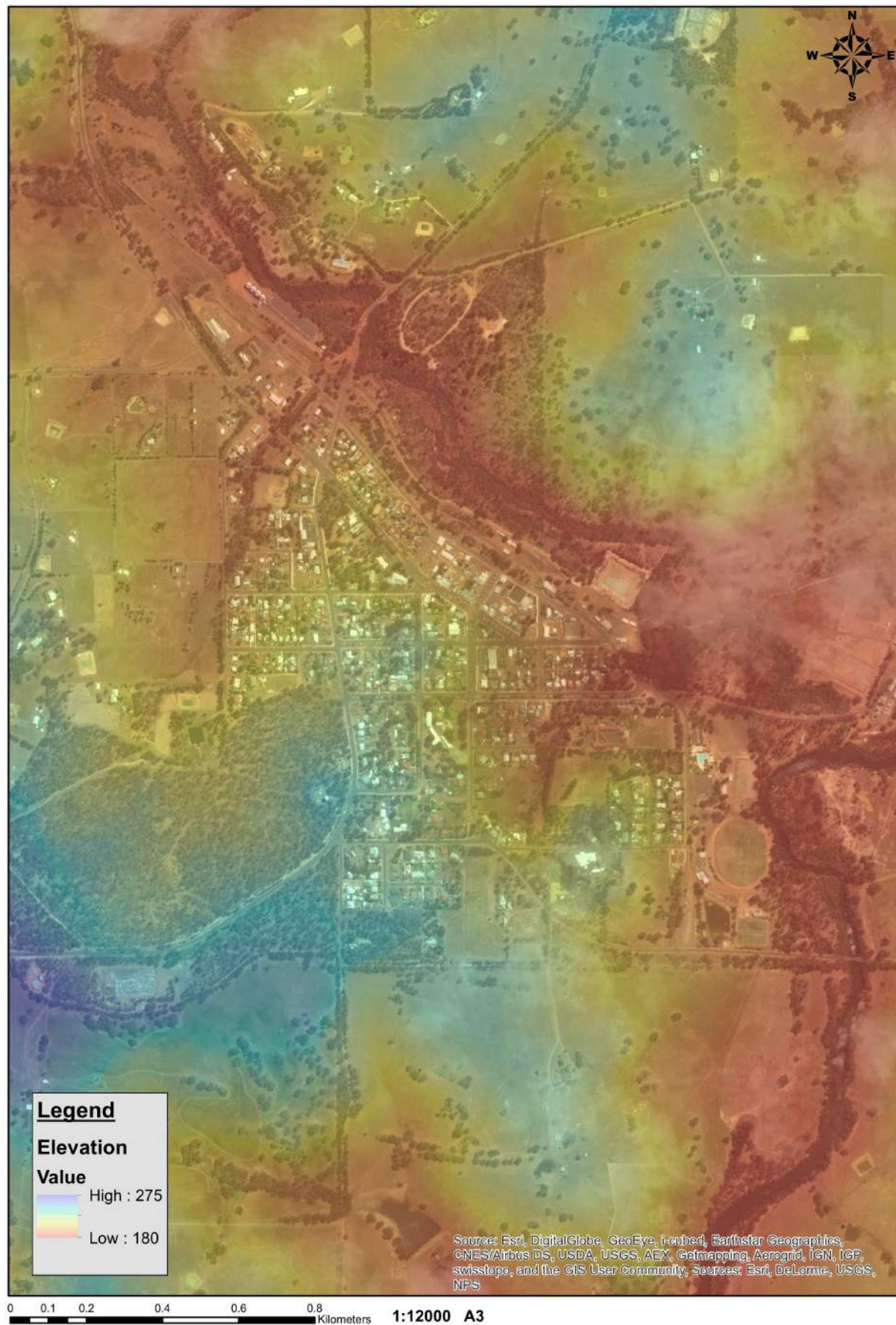
There are three schools in the southern part of the Townsite, with access provided via a comprehensive footpath network. However, these footpaths tend to be narrow (1.2m on average) and of varying condition.

4.3 Topography

Figure 4-3 shows the undulating topography of the townsite. The elevation ranges from 180m to 275m.

The most elevated sections are along Jayes Road, at St Mary's Catholic Primary School, Inglis Street and Gibbs Road. The highest peaks are along the Bicentennial Walk south of Jayes Road and the hospital site.

Figure 4-3 Boyup Brook Topography Map



4.4 Saddle Survey

Cardno conducted a saddle survey in October 2014 with Officers from the Shire of Boyup Brook and interested community members. The purpose of the saddle survey was to review the condition of the existing paths and identify any missing links.

The following section describes a series of observations pertaining to the main streets in the town.

Figure 4-4 View of Abel Street and Boyup Brook Hotel looking north from Bridge Street



Figure 4-5 Disability access to the local IGA supermarket on Abel Street



Figure 4-6 Abel Street – main street commercial precinct



4.4.2 Abel Street

The main street is characterised by small businesses and restaurants with alfresco areas. The road has on-street parking bays and a wide landscaped median which provides access for pedestrians. Abel Street is used by logging trucks (see **Figure 4-7**) and as a result is not considered to be generally attractive for on-road cycling.

Figure 4-7 Logging Truck



4.5 Schools

The Boyup Brook town site has two schools, located across three campuses.

- > St Mary's Catholic Primary School: Students from Kindergarten to Year 6
- > Boyup Brook District High School: Kindergarten to Year 6 at the Primary School site (on Bridge Street) and students from Year 7 to Year 10 at the Middle School site 600 metres away (on Barron Street).

4.5.1 St Mary's Catholic School

St Mary's Catholic Primary School is located at the corner of Knapp Street and Jayes Road. The Shire recently upgraded some of the footpaths surrounding the school (see **Figure 4-8**). Jayes Road has a posted speed limit of 50km/hr, but is a route used by heavy vehicles.

Figure 4-8 Upgraded footpath on Jayes Road



Most of the footpaths are in good condition as shown in **Figure 4-9**. Current WA laws allow only children younger than 12 years of age to ride on a path, unless it is designated as a Shared Path through signage or linemarking.

Figure 4-9 Existing footpaths on Knapp Street



The town is very hilly and as such there is a risk of riding at high speeds; which may be dangerous. Knapp Street (from Jayes Road to Bridge Street) is characterised by a steep downward sloping incline. School children using the footpath to ride on could potentially lose control due to the combination of the speed gained and the sudden change in alignment to the left (as shown in **Figure 4-10**).

During Cardno's on-site inspection, skid marks were observed in the gravel demonstrating that either people have lost control or that they have chosen to continue riding straight rather than follow the footpath. This

suggests that a path extension may be beneficial to provide safe braking and to follow the identified desire line.

Cyclists approaching Bridge Street will require measures to force them to slow down. It is recommended that non-skid coatings are used on the path to actively slow down cyclists. There are a number of coating products available to delineate cycle paths, reduce slippage and improve longevity. While the costs for these have not been included in the works recommendations detailed herein, consideration should be made for major, high traffic routes where the use of such products may be beneficial. The advantages of such a system include:

- Protection of the surface;
- Reduced maintenance and upgrade costs;
- Clearly delineated use marking;
- Increased attractiveness for cycleways; and
- Improved safety due to anti-skid resistance.

Products are available to coat both bitumen and concrete paths, and may be specified to provide a continuous surface over pavement and expansion joints. While the cost of coatings will vary according to the situation, an indicative cost would be in the order of \$30/sq.m for bitumen surfaces, and \$60/sq.m for concrete surfaces (including provision of the elastomeric underlayer).

Figure 4-10 Footpath at the corner of Knapp Street and Inglis Street



4.5.2 Boyup Brook District High School

Boyup Brook District High School is located near the centre of the town on two separate sites, with students from Kindergarten to Year 6 at the Primary School site (on Bridge Street) and students from Year 7 to Year 10 at the Middle School site 600 metres away (at the end of Nix Street).

4.5.2.1 Nix Street

Nix Street provides a potential pedestrian and cycling connection between the two school sites. However the path is in poor condition and is considered to be only an informal route. There is no concrete path, however it was noted at the site inspection that a grab rail has been provided (see **Figure 4-11**) at the centre of the creek ford. It is assumed that this grab rail is intended to protect underlying assets or to restrict access by motor vehicle.

Figure 4-11 Grab rail at creek crossing



Figure 4-12 Creek at the end of Nix Street



Nix Street (which connects to Boyup Brook District High School) provides a crucial east west link within the town and allows students access to the town oval.

An alternative east west route to the town oval is available using Hospital Road and Treloar Street (**Figure 4-13**). However, Hospital Road is extremely steep and requires a high level of fitness by cyclists (see **Figure 4-14**).

Figure 4-13 Location of informal route between Hospital Road and Treloar Street

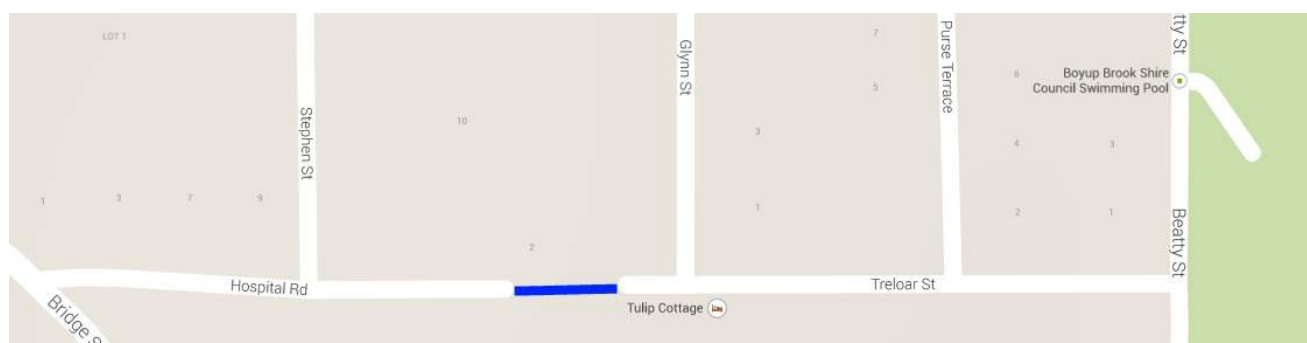


Figure 4-14 Hospital Road's steep incline



The road reaches its summit at the Hospital car park, with an equally steep descent along Treloar Street towards Beatty Street. This descent is considered to be generally unsafe, as cyclists may reach high speeds (>60km/hr) due to the steep incline. Treloar Street is also strewn with pebble gravel, posing a danger of skidding at high speed during descent (see **Figure 4-15**).

The termination of Treloar Street at Beatty Street requires cyclists to stop from high speed. Due to the difficulty of this manoeuvre there is a significant risk that cyclists will continue through onto Beatty Street without stopping.

Figure 4-15 Treloar Street



It is recommended that a shared path be provided on Nix Street to link Bridge Street and Beatty Street. This will serve the following functions:

- > Provide a crucial link between Boyup Brook District High School's Primary and Middle School sites
- > Provide students a link to the recreational facilities located on Beatty Street (swimming pool and sports oval).

By providing an attractive cycling and walking facility on Nix Street, this may assist to reduce the use of Hospital Road and Treloar Street by cyclists.

4.5.2.2 Pedestrian Crossing at the intersection of Nix Street and Beatty Street

A "zebra" crossing has been provided near the intersection of Nix Street and Beatty Street; however, it is in poor condition and is non-compliant with Austroads Standards (see **Figure 4-16**). The Shire has advised that the crossing will not be reinstated and it is recommended that the line markings are completely removed so as to avoid confusion.

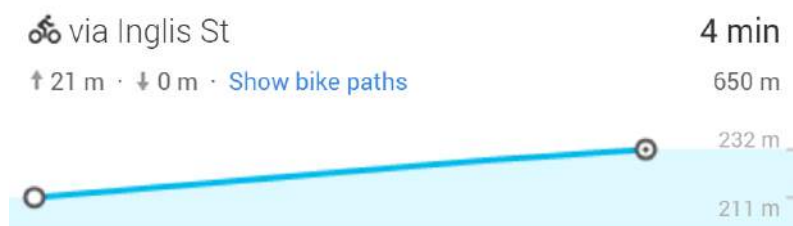
Figure 4-16 Zebra Crossing near Beatty Street swimming pool



4.5.3 Inglis Street

Inglis Street has a steep incline with a rise of approximately 21m from Knapp Street to Abel Street.

Figure 4-17 Inglis Street Incline



Source: Google Maps



Despite the steep incline, students choose to ride on Inglis Street rather than Bridge Street to access the retail area on Abel Street, as well as the skate park and children's playground (located to the north-west of the town in Sandakan Park). In order to prioritise Inglis Street as a cycling route, the Shire of Boyup Brook has advised that bus bays will be removed from Inglis Street to Barron Street to alleviate congestion and improve sight lines for cyclists.

4.5.4 Bridge Street

In contrast, whilst the undulating topography of the townsite is difficult to avoid, Bridge Street presents a less direct, but flatter parallel alternative to Inglis Street.

Bridge Street is a critical north-south link for the townsite and connects key destinations in the townsite. Students can use Bridge Street to access the commercial precinct (including the local supermarket) and cafes.

It is recommended that the existing path on the eastern side of Bridge Street between Barron Street and Beatty Street be upgraded to a shared path.

4.6 Bridges

There are several road bridges at the outskirts of the town which provide connectivity for cars and heavy vehicles to the primary road network.

These bridges create a 'pinch point' for long-distance cycling, being generally too narrow to allow safe passing within the lane, and having insufficient overall width to provide continuous cycle lanes across the

bridge. Therefore, the use of these bridges is likely to remain a considerable risk for cyclists, though one that is mitigated by the long approach sight distances and low traffic volumes.

4.6.1 Bridge at Boyup Brook-Kojonup Road crossing the Blackwood River

This bridge approach forms part of the Bicentennial Walk, with a rough path that leads underneath the structure and along the river bank.

The wooden construction of this bridge suggests that an additional pedestrian/cycling structure (to be 'hung' from the side of the bridge) would be generally infeasible, or at least extremely costly.





4.6.2 Bridge on Jayes Road (north of the townsite) crossing the Blackwood River

This bridge is marginally wider but still insufficient to support protected pedestrian/cycling facilities. Construction of an external structure may be possible on engineering merits, but the cost is considered to be excessive in the context of the overall Cycle Plan. Therefore, no cycling improvements are recommended at this location.



4.6.3 Skeleton Bridge

Skeleton Bridge or 'Skellows Bridge' as it is referred to by locals is located north of the Flax Mill and crosses the Blackwood River. The bridge is part of the Bridle Trail and is a popular walking trail. Feedback from the community suggested improvements to the bridge are required including better signposting to the bridge, new paths to direct people to the bridge and repair of the bridge to provide access through to Dinninup. It is

recommended that the Shire investigate various options for the bridge given its importance to the community.



Source: Total Trails

4.7 End of Trip Facilities

End of trip (EOT) facilities are a critical, but often forgotten, component of the cycling network. The presence and quality of EOT facilities can often make or break the decision to cycle for many trips. End of Trip Facilities consist of bicycle parking, lockers and showers.

The townsite had an abundance of 'toaster rack' style bicycle parking but are unused by locals. The existing end of trip facilities that were noted on the saddle survey are summarised in **Table 4-1**.

Table 4-1 Existing End of Trip Facilities

Location	Type of EOT Facility	Image
Sandakan Park	Bicycle Parking – toaster rack (9 spaces)	

Swimming Pool

Bicycle Parking – toaster rack (12 spaces)



Boyup Brook District
High School (Nix Street
site)

Bicycle Parking – toaster rack (5 spaces)



Boyup Brook District
High School (Primary
Site)

Bicycle Parking (6 spaces)



With regards to end of trip facilities for the schools. The Department of Transport's Connecting Schools Program is the most appropriate source of funding. Connecting Schools is a grant program aimed at improving bicycle access and end of trip facilities for schools. In the 2014/15 financial year, a total of \$100,000 was available in 50:50 matched funding.

Table 4-2 Examples of bicycle parking funded through the Connecting Schools Grant Program

School	Total Project Cost	Project	Image
St Jerome's Primary School, Munster	\$7k	Install new bike & scooter racks and art work	
Perth School, Lake	\$9k	Install new bike racks and shelter	
Bibra Lake Primary School, Bibra Lake	\$10k	Install new bike shed	

Source: Department of Transport

The grant can also be used for bicycle education and for more innovative projects. For example a sensory path was created at one school to allow students the chance to learn to ride in a safe environment. Road rules were simulated through the use of traffic signs (see **Figure 4-18**).

Figure 4-18 Sensory Path – Beeliar Primary School



Source: Department of Transport

It is recommended that the schools in Boyup Brook apply for funding for end of trip facilities through the Connecting Schools Grant program on a yearly basis.

Parking bays could also be converted to bicycle parking as demonstrated in Fremantle (see **Figure 4-19**). This treatment is generally appropriate where off-street shared paths and adjacent on-street parking are both provided.

Figure 4-19 Parking bay conversion



Source: Cardno

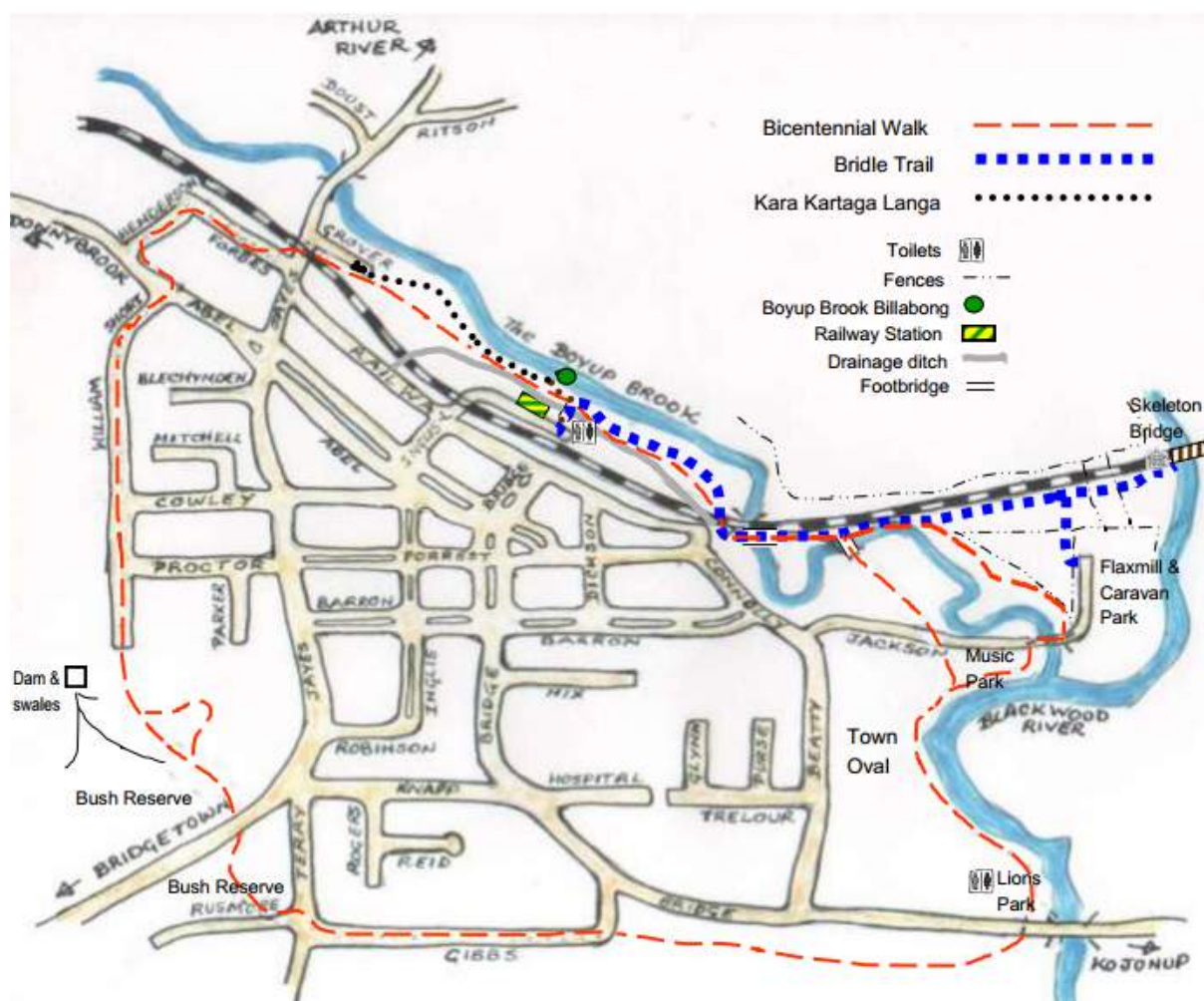
4.8 Tourism

There are several accommodation options in Boyup Brook, including B&Bs and caravan parks. There is also the potential to develop cycle tourism, more specifically in the areas of mountain biking and BMX riding. Whilst planning mountain biking trails is outside the scope of this bike plan, it is recommended that the network provides safe routes to these trails to allow recreational riders to ride to these facilities, rather than drive and unload their bicycles at the entrance to the trail.

4.8.1 Bi-Centennial Walk

The Bicentennial Walk is a 6 km long loop and runs generally along the town boundary. The walk trail is accessible from several points. It passes through bush reserves and along the banks of the Blackwood River and the Boyup Brook as shown in **Figure 4-20**. It is primarily used by walkers, mountain bike riders and people walking their dog.

Figure 4-20 Trail Map of Boyup Brook Townsite



The path is mainly unsealed with some small sealed sections. In its current state it is not considered suitable for riders as some sections are quite steep, in addition to its variable surface. There are currently signs erected which state that cycling is not permitted.

Figure 4-21 Location of steep section on Bicentennial Walk

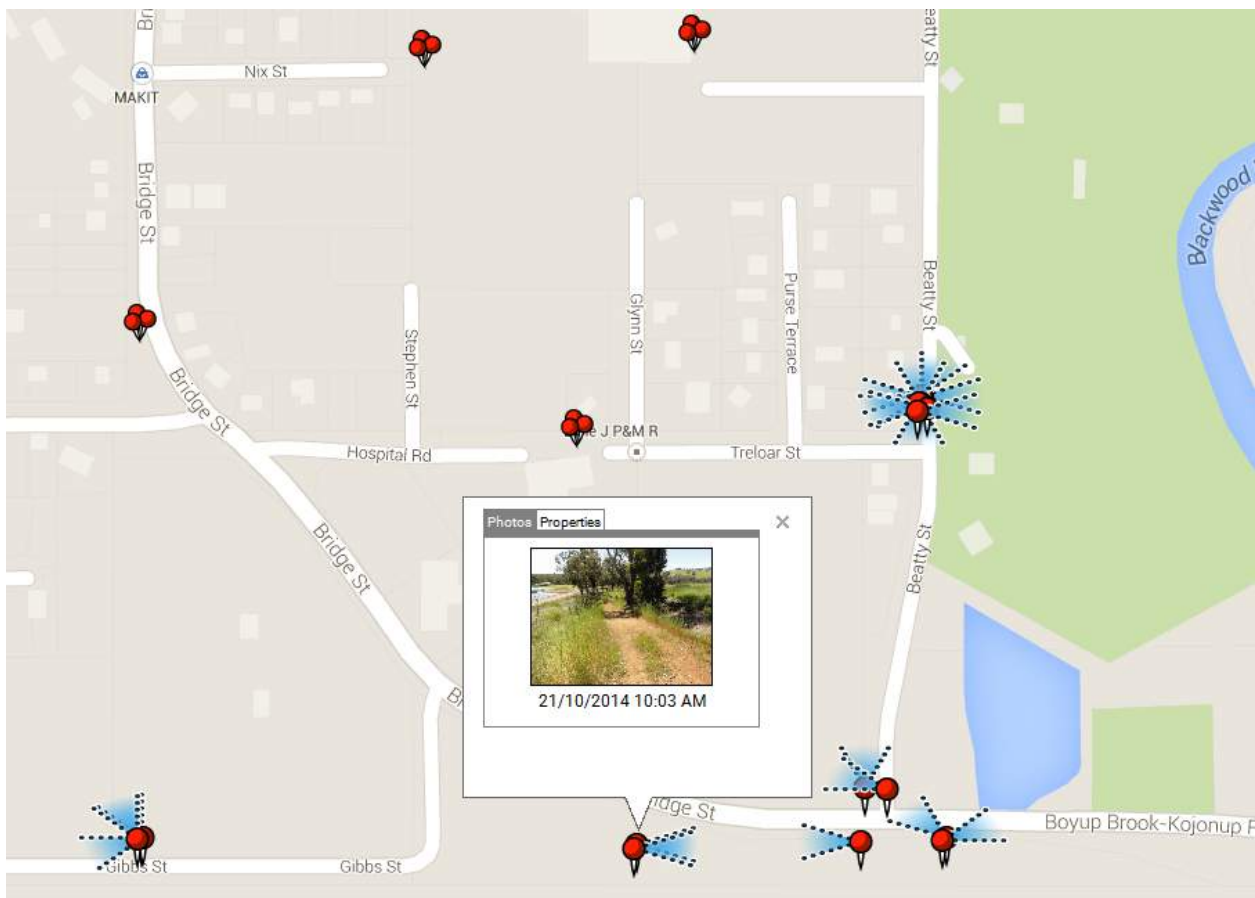
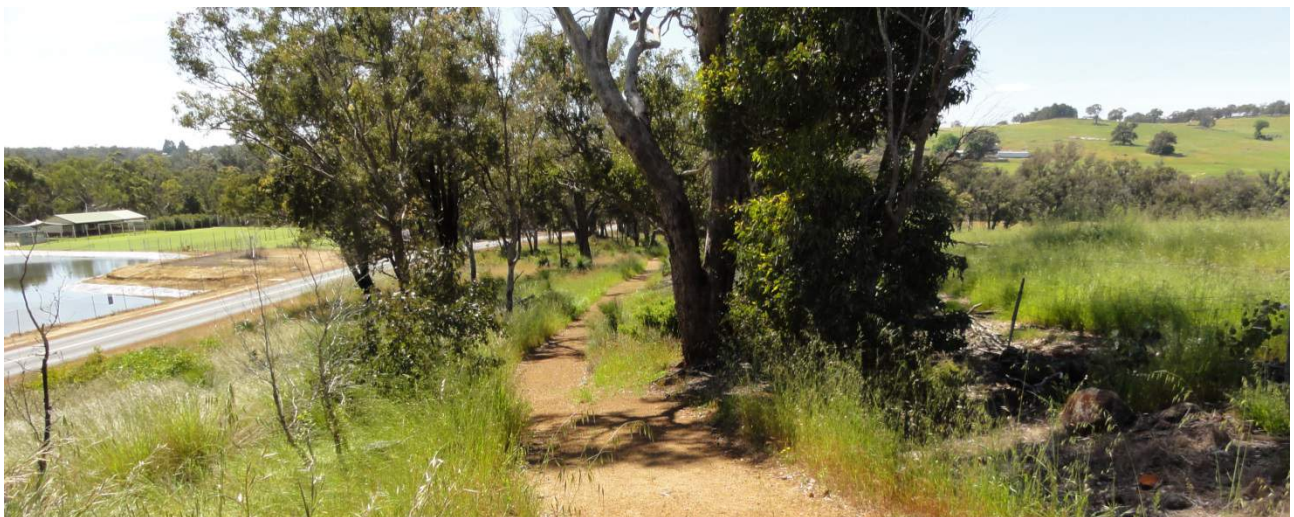


Figure 4-22 Steep section of Bicentennial Walk



This particular steep section, which runs parallel to Bridge Street in the vicinity of Beatty Street can be addressed through a local realignment of the path. There is adequate land at level grade closer to Bridge Street which would avoid the hill, as well as allow better access via Beatty Street to the Bicentennial Walk.





Figure 4-23 Bicentennial Walk

There is huge potential to develop the Bicentennial Walk into a cycling trail appropriate for mountain bike and other recreational riders. This would require the construction of concrete or stabilised limestone paths. Concrete is recommended over asphalt due to the risk of tree roots over time growing under the asphalt path and causing it to become uneven.

During the saddle survey, Cardno completed the Bicentennial Walk with local assistance. However, wayfinding is poor in some critical locations and without their assistance and guidance, Cardno staff would not be able to find their own way around the walk.

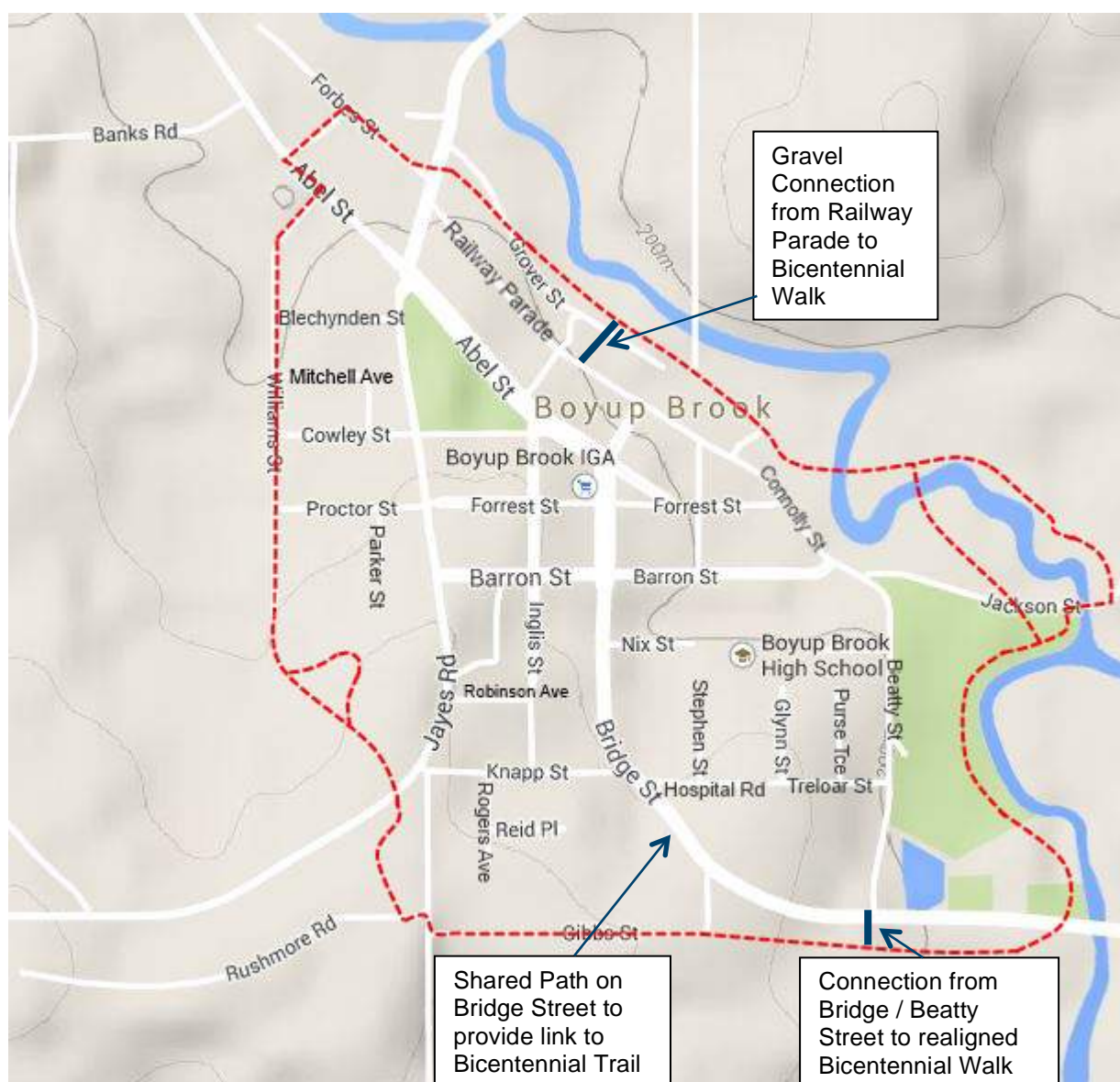
It is recommended that the gravel sections of the path be graded on a regular basis to enable safer access to the path by cyclists. A signage and wayfinding strategy should also be developed to ensure that tourists visiting Boyup Brook are able to navigate the walk without assistance. It is understood that not all the land is owned by the council and both the terms and conditions of the future cycling trail should be negotiated with current land owners, or the alignment of the trail be modified as required to avoid private land.

Table 4-3 Issues on Bicentennial Walk

Image	Issue	Recommendation
	Lack of wayfinding. It is not clear from the existing signage which route should be followed	Wayfinding strategy should be implemented to guide tourists
	Crossing Jayes Road. Unclear as to where the path continues.	Wayfinding measures as discussed in the previous section.
	Path is uneven and bumpy	Grading of the walk to ensure a smoother surface and better experience for riders
	Path is uneven and bumpy	Grading of the walk to ensure a smoother surface and better experience for riders

In order to pursue the town's potential for tourism. Routes should be developed to provide access to the walk. The suggested links are shown in **Figure 4-24**. The red dashed lines show the Bicentennial Trail.

Figure 4-24 Map of Bicentennial Walk



These connections will provide easier access to the trail for residents. At the moment the trail can be difficult to locate without local knowledge and is not of a sufficient and consistent quality to enable safe cycling at all points.

4.9 Railway Parade

Railway Parade is located in the north-east section of the townsite and is a route used by walkers and recreational cyclists, it also forms part of the Bicentennial Walk.

Community feedback identified safety issues with the walking trail adjacent to Railway Parade. Weeds are widespread and the bridge behind the Shire of Boyup Brook's depot is missing some planks (see **Figure 4-25**). Puddles also form on the walking trails after rain.

Figure 4-25 Bridge behind the Shire of Boyup Brook's Depot



It is recommended that additional drainage works should be completed in order to prevent flooding. The bridge should be repaired and riders and walkers diverted to avoid this section of the Bicentennial Walk.

4.10 Future Network Recommendations

The previous sections discussed the existing network, more specifically the opportunities, constraints, safety issues and which routes are currently being utilised by the community. This section focuses on the infrastructure actions required to deliver a coherent network to support high connectivity between schools, commercial areas, recreational areas, tourist attractions and the trails.

In order to complete the network it is recommended that a series of upgrades be implemented to provide access to all the key destinations. Off-street paths are recommended for Knapp Street, Inglis Street, Bridge Street (from Barron to Beatty Street).

Table 4-4 Future Network Requirements

Location	Type of path	Reason for prioritisation/ significance to the overall network	Priority
Inglis Street (from Barron Street to Robinson Street)	Shared Path	Provides direct connection to town centre for school children. This path borders the local primary school on the west side. The current path is 1.4m wide and has a 700mm drop off the edge which is unsafe. This path also connects St Marys Catholic Primary School to Barron Street.	Short Term (next 5 years)
Beatty Street (from Bridge to Forrest Street)	Shared Path	Connects to recreational areas	Long Term (5-10 years)
Barron Street (from Bridge to Connolly Street/Beatty Street)	On-street bicycle lanes	Provides east west connection in the town site	Short Term (next 5 years)
Forrest Street (from Connolly Street/Beatty Street to Abel Street)	On-street bicycle lanes	Provides a connection to Abel Street (retail area) and Railway Parade which ultimately connects to the Bicentennial Walk.	Short Term (next 5 years)
Bridge Street (from Barron Street to Beatty Street)	Shared Path on western side	Provides a connection to the Bicentennial Walk and provides a path on the same side that the school is situated on.	Long Term (5-10 years)
Railway Parade	On-street bicycle lanes	Provides a connection to the Bicentennial Walk, as well as connections to businesses located on Railway Parade	Short Term (next 5 years)

4.11 On-street bicycle lanes

The plan also proposes on-street bicycle lanes on Forrest Street and Barron Street. These links are essential as they provide east-west connections through the town, and are considered appropriate given the wide pavement widths and low traffic volumes.

Exclusive bicycle lanes are part of providing the connectivity required to enable convenient and safer trips by bicycle. They are generally provided on both sides of the road and are delineated by pavement markings and bicycle lane signage.

According to Austroads guidelines, exclusive bicycle lanes have several advantages including:

- > It clearly defines the road space provided for use by each mode
- > Provides lateral separation and improved safety when motor vehicles in the adjacent lane are moving
- > Creates awareness in the minds of motorists that a cyclist may be present (even if numbers of cyclists are low)

A minimum of 1.5m wide bicycle lanes are required, as this width is desirable as defined in Austroads. The road pavement at both Forrest Street and Barron Street is wide enough to accommodate this. Bicycle lanes are also inexpensive in comparison to concrete shared paths.

4.11.1 Forrest Street

Forrest Street is located next to the commercial area of the Townsite, intersecting Beatty Street, Bridge Street, Ingis Street and Jayes Road. It does not currently have any cycling infrastructure other than footpaths (which can only be utilised by children). The road is quite wide, varying between 12m and 15m (see **Figure 4-26**). This road width is adequate for constructing on road bicycle lanes in both directions (from Railway Parade to Abel Street).

Figure 4-26 Forrest Street



Care should be taken to provide adequate separation adjacent to on-street parking bays and it is recommended that the surface of the cycle lane be improved with an asphalt layer.

4.11.2 **Barron Street**

On-street bicycle lanes are proposed from Connolly Street to Bridge Street (see **Figure 4-27**). This link is valuable as Barron Street is adjacent to Boyup Brook District High School and can be used by high school students to access the town centre.

Figure 4-27 Barron Street



It is recommended that the surface of the cycle lane be improved with an asphalt layer to create a better riding experience.

5 Community Consultation

Community Consultation is vital when formulating a bike plan. The local community can provide valuable input at the early stages of the development of a bike plan.

5.1 Methodology

The community consultation used a blank slate approach, whereby the planning of the bike plan was seen as a learning process. In this approach, a primary goal is to collect as much data and information as possible, and to develop an understanding of a comprehensive range of substantive issues and topics.

For the Shire of Boyup Brook Bicycle Network Plan, several consultation methods were utilised. These were as follows:

- > **Meetings** with the Local Government to determine expected outcomes of the plan
- > **Saddle Survey** was undertaken with staff from the local government as well as the local General Practitioner who is very enthusiastic and supportive of the health benefits that a bicycle network can provide the community
- > **Expressions of Interest** were distributed in the local community which asked simple and direct questions on how best the Shire can improve their existing path network. Questions included:
 1. Where do you like to walk and cycle around your town?
 2. Have you noticed any safety issues with existing paths?
 3. What improvements would you like to see to existing paths?
 4. Where would you like to see new paths built?

The survey was distributed to the local schools, Doctor's surgery, Shire's offices, swimming pool, tourist and visitor information centre and at the IGA notice board. The survey has also been advertised on the Shire's website, in the school newsletters and the monthly paper, the Boyup Brook Gazette. See **Appendix A below** for a copy of the community survey that was distributed.

- > **Meetings** with the local schools to ensure that they are kept informed of the development of the bike plan and were able to provide input. Safety issues were discussed as well as discussion on the travel behaviour of the students.

Feedback from the local government indicated that a priority for the bike plan should be to provide a safer environment for children to ride in the town. For example, key destinations for children include the schools, local IGA, skate park, swimming pool and sporting grounds. Ensuring safe connections between these destinations should be prioritised in the Bike Plan.


The schools were also supportive of providing safe routes for children but also stressed that the footpaths are often used by people with mobility devices (such as gophers). The ageing population in Boyup Brook will have an impact on the network as well as open up the Shire to other sources of funding which can support the bicycle network.

5.2 Summary of Survey Responses

A total of 8 responses were received and the key issues are summarised in **Table 5-1** and have been considered as part of the development of the network plan and work schedule.

Table 5-1 Summary of survey responses

Questions	Community Feedback
Safety Issues	<ul style="list-style-type: none"> > Bridge over Blackwood River > Manage horseriders who use walk trails > Bicentennial trail between bridge (near the flaxmill can be impassable in winter due to bogginess) > After rains many trails become slippery > Doublegee (weed) around railway reserve > Bridge behind Shire depot missing planks
Suggestions	<ul style="list-style-type: none"> > Signage to Skellows Bridge and repair the bridge. > More seating for rest stops along town walk > Bicentennial trail between bridge (near the flaxmill can be impassable in winter due to bogginess) – suggest the construction of a timber walkway. > Signage/wayfinding > Better crossing of viaducts for walkers of people with prams > Link from near craft hut through to existing walk trail > A better defined circuit path in the railway reserve with branching of options allowing shorter or longer walks > More weed control > Cycle lanes/warnings about cyclists on Main Roads. > Bitumen loop (5-20km long) that cyclists can use
Popular cycling routes	<ul style="list-style-type: none"> > Park at the Railway yards – toilets and ample parking – start point – head west along the railway track as far as funds are available to perhaps Benjinup Siding with ample shelters and H2O tanks on the path – similar to what has been provided at Skelleys bridge > For a more challenging route – head east to Music Park, along river or existing walk trail and follow Hales boundary Gibbs st to main Bridgetown Road – cross over and follow track to park view subdivision to Greenline and Railway line and back to station precinct. > Bicentennial Trail > Skellows Bridge (near Flaxmill) > Along the Blackwood River > Music park > Wandoo Forest (bush reserve off the bicentennial trail – west side of Jayes Road) > Walking trail along Blackwood river loop and into the Wandoo area on west side of town > Railway Parade walk trail/railway reserve

- 
- > around the tennis club
 - > along Short Street
-

Some of the responses stated that new paths were not needed but rather more maintenance for existing paths.

6 Recommendations

6.1 Network Plan

The network plans represent an 'ultimate network' for a planning horizon of 10+ years and accordingly many of the proposals on the plan will not be constructed for a number of years. However, the ultimate network plan is presented as a guide to enable Council to take full advantage of any opportunities which may arise to develop parts of the network through other projects – e.g. streetscape improvements, road upgrades or land redevelopment.



6.2 Works Schedule and Priorities


Priorities have been established based on consideration of the following criteria:

- > Providing safer routes to schools
- > Providing safer routes to sporting facilities
- > Providing safer routes to shops and community facilities
- > Completing missing links in the network
- > Addressing particular safety concerns on popular routes.

It is recommended that the prioritisation across the Shire as a whole should be undertaken by Council. The projects are summarised in **Table 6-1** and the detailed schedule of works are in **Appendix B**.

Table 6-1 Schedule of Works

Project No.	Priority	Project Description	Indicative Order of Cost Estimate	Eligible for which grant
2	1	Improvements to Knapp Street adjacent to St Mary's Catholic Primary School	\$20,000	Regional Bicycle Network Grant (DoT) or Connecting Schools
4a)	2	Curb Upgrades for pedestrian and cyclist access (various locations) -Intersection of bridge and Barron Street	\$ 3,000	N/A
				
4b)	2	 In front of the IGA	\$2,000	N/A

4c)	2		\$3,000	N/A
		Inglis Street (north of Robinson Ave)		
3a)	3	Shared Path on Inglis Street (from Barron Street to Robinson Avenue)	\$110,000	Regional Bicycle Network Grant (DoT)
3b)	4	Shared Path on Inglis Street (from Barron Street to Cowley Street)	\$65,000	Regional Bicycle Network Grant (DoT)
3c)	5	Shared Path on Inglis Street (from Abel Street to Railway Parade)	\$12,000	Regional Bicycle Network Grant (DoT)
6a)	6	Beatty Street Shared Path (from-Forrest Street to Boyup Brook District High School)	\$100,000	Regional Bicycle Network Grant (DoT)
6b)	7	Boyup Brook District High School to Treloar Street	\$70,000	Regional Bicycle Network Grant (DoT)
6c)	8	Treloar Street to Bridge Street	\$70,000	Regional Bicycle Network Grant (DoT)
14	9	Creek study	\$60,000	Regional Bicycle Network Grant (DoT)
1b	10	Nix Street link between Boyup Brook District High School sites (creek crossing)	\$30,000	Regional Bicycle Network Grant (DoT)
5	11	 Bike racks installed under this structure at Boyup Brook Primary School	\$3,000	Connecting Schools (DoT)
12b	12	End-of-trip facilities at Boyup Brook District High School	\$15,000	Connecting Schools (DoT)
12c	13	End-of-trip facilities at St Mary's Catholic Primary School	\$15,000	Connecting Schools (DoT)
12a	14	End-of-trip facilities near IGA – Due to the lack of space – Insert 3-4 u rails between the first parking bay and the brick wall which is adjacent to the entry to the car park*	\$2,000	Regional Bicycle Network Grant (DoT)



12d	15	End-of-trip facilities near Swimming pool	\$4,000	Regional Bicycle Network Grant (DoT)
12e	16	End-of-trip facilities near Sports oval	\$4,000	Regional Bicycle Network Grant (DoT)
8	17	Forrest Street on-street bicycle lanes	\$14,000	Regional Bicycle Network Grant (DoT)
13	18	Bicentennial Walk scoping study	\$60,000	Regional Bicycle Network Grant (DoT)
7	19	Barron Street on-street bicycle lanes	\$30,000	Regional Bicycle Network Grant (DoT)
11	20	Bicentennial Trail Connection via Railway Parade (stabilised limestone)	\$20,000	Regional Bicycle Network Grant (DoT)
9	21	Bridge Street shared path (eastern side)	\$260,000	Regional Bicycle Network Grant (DoT)

*Austroad Standards stipulate when parking is provided near motor vehicle parking areas, protection should be provided by means of kerbing, low fencing or some other perimeter barrier. Spacing should be as shown in

Figure 6-1 Austroads bicycle parking spacing standards

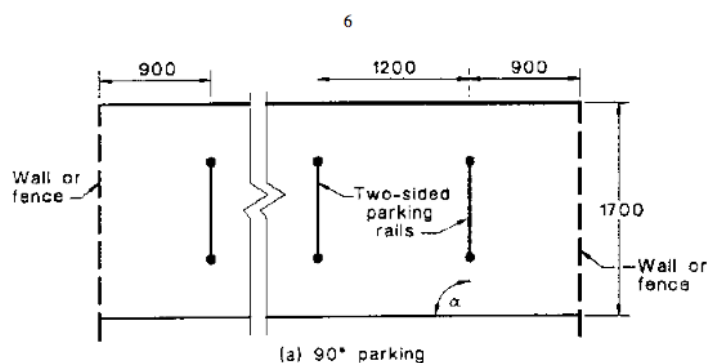


Figure 6-2 Ultimate Bicycle Network

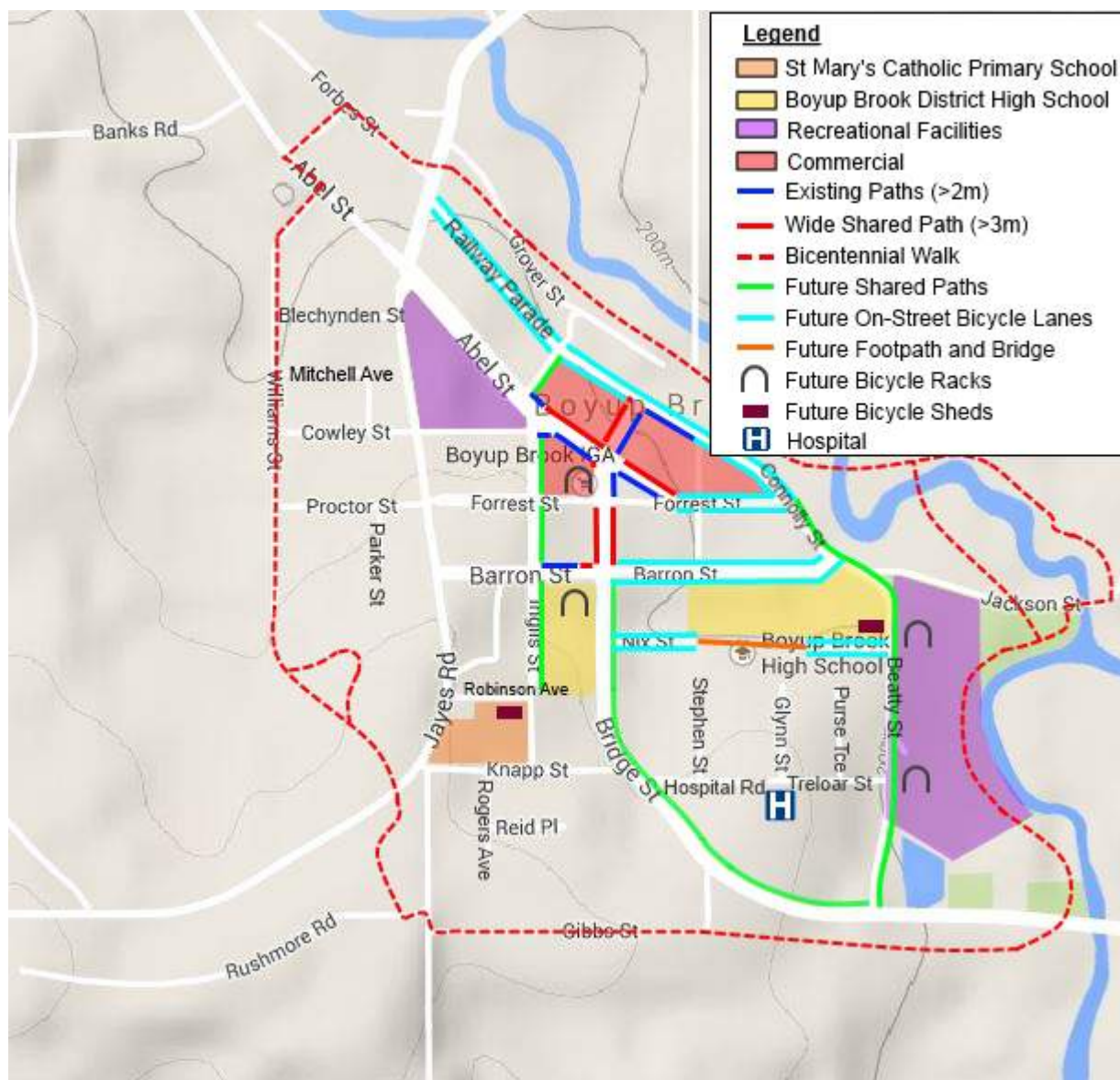


Figure 6-2 shows the ultimate bicycle network for the town site and locations of End of Trip Facilities. The key connections are

- > Inglis Street (North-South)
- > Bridge Street (North-South)
- > Barron Street (East-West)
- > Forrester Street (East-West)
- > Nix Street (East-West)

The key connections to the Bicentennial walk include the shared path on Bridge Street and the shared path connection off Railway Parade.

7 Funding Opportunities

7.1 Department of Transport

7.1.1 Regional Bicycle Network Grants Program

The Regional Bicycle Network (RBN) Grants Program is a State funding initiative to assist local governments within Regional WA with the planning and implementation of the regional component of the Western Australian Bicycle Network (WABN). The intention is to fund projects that deliver the greatest benefit for the community and in particular, those that reduce barriers to additional people cycling to specific destinations.

7.1.1.1 **Program Categories:**

Category 1: Local Bike Plans (\$230k allocation)

Category 2: Path and On-Road Projects (\$1 million allocation)

Category 3: End of Trip and Innovative Projects (\$100k allocation)

The Path and On-Road categories of previous years have merged into one category. Other infrastructure has been renamed End of Trip and Innovative Projects.

These allocations change from year to year.

7.1.1.2 **Priorities:**

1. Connections to Schools: Projects that encourage students to cycle to school or tertiary education institutions.
2. Promoting Cycling Tourism: Projects that encourages tourists to cycle to local attractions.
3. Connections to Activity Centres: Projects that encourage connect to strategic Activity Centres identified in State Government's Directions 2031.

In order to maximise the opportunities available through this grant to construct infrastructure, when applying for projects, the above priorities should be emphasised. The increased safety as a result of a new project is a fundamental objective of the RBN Grants Program.

7.1.2 Connecting Schools Grant Program

Connecting Schools is a grant program aimed at improving bicycle access and end of trip facilities for schools. In the 2014/15 financial year, a total of \$100,000 was available in 50:50 matched funding. To be eligible for the grant, schools must also employ complementary behaviour change techniques through the 'TravelSmart to School' program, to encourage increased cycling to school.

The definition of infrastructure for this grant is flexible, encouraging innovative approaches. Examples of traditional infrastructure includes: internal shared paths (on school grounds), on road bicycle lanes, bicycle shelters, bicycle and scooter racks and end of trip facilities. Innovative infrastructure may include place making installations, bicycle parks to teach children how to ride (similar to the old traffic schools) and other initiatives which may encourage students to cycle. Applicants for this grant must demonstrate how the infrastructure proposed is expected to have a positive impact on the number of students cycling to school.

Applications for grants under this program are run generally in parallel with the RBN grant program through the Department of Transport.

7.1.3 Bikeweek Grants

Community groups, organisations and local governments can apply to share in \$30,000 in grants to support local cycling events and activities as part of Bikeweek. This grant is aimed at providing funding for events taking place in Bikeweek and not for infrastructure.

Local Governments are eligible to apply. The Bikeweek objectives are:

- > Promote and encourage cycling for transport, fun and fitness.

- > Grow the number of Western Australians commuting by bicycle
- > Increase awareness of where to ride for transport trips
- > Raise the profile and celebrate cycling activities within WA
- > Encourage and provide opportunities for women, children and novice riders to get involved in Bikeweek events and try cycling.

Support will be provided to initiatives that meet the following criteria:

- > Demonstrate how the initiative will promote and encourage cycling for transport, fun and/or fitness.
- > Demonstrate how the initiative intends to achieve one or more of the following objectives:
 - encourage cycling to the train station, shops, park, community centre and local areas
 - of interest to families and communities;
 - encourage existing riders to ride for transport more often;
 - introduce new riders to cycling;
 - raise awareness of existing cycling infrastructure and cycling routes;
 - raise the profile of cycling for transport in WA;
 - improve the skills and confidence of novice riders; and
 - encourage cycling amongst groups with low cycling participation levels (e.g. women, young people, seniors and culturally diverse communities etc.).

For example in 2014, Over 40 different activities took place across WA. This included bike to work breakfasts, bike mechanic workshops, free bike checks, bike education sessions, cycling skills clinics, social and themed rides, cycling adventures, National Ride2School Day and the screening of bike films in public spaces.

7.2 Healthier Workplace WA

Healthier Workplace WA is delivered by the Heart Foundation WA in conjunction with Cancer Council WA and the University of Western Australia. They offer small grants of up to \$10 000 for workplaces to implement projects that promote and support workers' health and wellbeing.

In regards to the implementing the bike plan, the grant can be used for installing bike racks, rails and cages, shelter for bike racks, change room items and pool bikes.

Last year, the City of Vincent was awarded a \$5000 grant to purchase electric bicycles for use by staff and the community. The establishment of the staff bike fleet will allow staff who feel confident, to cycle to meetings or to site visits within the City's boundaries. In addition, the electric bikes could be used by the new Town Centre Managers, providing a high profile example of the City supporting more sustainable transport systems.

Electric bikes would be ideal for Boyup Brook given the topography of the area. E-bikes would ease the burden when riding over hills.

Figure 7-1 Example of Healthier Workplace Grants utilised for an Electric Bike Fleet



Source: Department of Transport

7.3 RAC Community Sponsorships

In 2011 the RAC launched the Community Sponsorships program to empower communities across WA to deliver unique and enriching initiatives.

The program has a range of sponsorship categories for community groups to access including Grass Roots, Project and Partnership categories.

Within these sponsorship categories the RAC has four sponsorship focus areas:

- > Safe driving – “we believe that all road users have the right to be safe when using WA roads”.
- > Less emissions – “we want to lower emissions from vehicles”.
- > Moving around – “we encourage the use of active and public transport to help make moving around more efficient and affordable”.
- > For the better – “from our humble beginnings to the diverse organisation we are today, there is one thing that has not changed and that’s our drive to make WA a better place”.

Applications open three times a year and for the project to be considered, it must strongly demonstrate how the project encourages alternative forms of transport such as active transport.

The RAC also encourages projects that actively engage with regional communities.

The Shire of Boyup Brook could apply for cycle training that could be delivered to schools in the area as well as other interested community members.

7.4 Office of Road Safety Community Grants

The Government of Western Australia has made funds available from the Road Trauma Trust Account to assist in the development and implementation of road safety projects. These road safety projects need to foster widespread community support and participation throughout the State to assist in the prevention of road crashes causing serious injury and death. Grants are available for projects that focus on the Safe System approach that aligns with Towards Zero the WA Road Safety Strategy 2008-2020.

To further encourage community groups to participate in road safety, the Road Safety Community Grant Program provides from \$50 to \$1000 in event grants. Successful applicants will be supplied with a road safety message with relevant information and suggestions for supporting policies.

This grant could be used in conjunction with a large event, for example the Boyup Brook Country Music Festival. A stall could set up promoting the bicycle plan improvements as well as a road safety message which encourages road users to share the road especially with cyclists who are vulnerable road users.

8 Conclusion

The Shire of Boyup Brook's Bicycle Network Plan satisfies the requirements of DoT's regional bicycle network grants and was developed using *DoT's Guidelines for Developing a Bicycle Plan 2014*.

The main purpose of the plan is to develop a coordinated and strategic approach to delivering cycling infrastructure in order to maximise funding opportunities.

1. To provide connections to key attractors within the Town site;
2. Ensure safe connections and routes to schools; and
3. Maximise the potential of cycle tourism.

The Bicycle Network Plan provides the policy context through detailed descriptions of the national, state and local policies that underpin the recommendations.

Consultation was carried out through a saddle survey, meetings with the shire and a survey was carried out for the residents.

A mixture of shared paths, on-road bicycle lanes and end of trip facilities has been recommended by Cardno. This bicycle network plan will be used to support future applications by the Shire of Boyup Brook for bicycle network funding from the Department of Transport.

Bicycle Network Plan

APPENDIX

A

COMMUNITY SURVEY



EXPRESSIONS OF INTEREST

WALKING AND CYCLING PATH PLAN

Do you like to walk or cycle around your town?

The Shire of Boyup Brook has engaged sustainable transport consultants Cardno to prepare a **Walking and Cycling Path Plan for the Boyup Brook Townsite.**

All interested residents are now invited to provide submissions on how best the Shire can improve our path network.

- Where do you like to walk and cycle around your town?

- Have you noticed any safety issues with existing paths?

- What improvements would you like to see to existing paths?

-
-
- Where would you like to see new paths built?
-
-
-
-

Please send your feedback via the Shire website www.boyupbrook.wa.gov.au, email: shire@boyupbrook.wa.gov.au, in person or by post: PO Box 2, Boyup Brook 6244.

Please include your name, street and town in your submission.

Submissions close Monday 15th December 2014.

Rob Staniforth-Smith
Manager of Works and Services

APPENDIX

B

SCHEDULE OF WORKS

Priority	No.	Corridor	Start	End	Bicycle Lane Location	Description of Work	Comments/Issues	Indicative Order of Cost Estimate
10	1b	Nix Street	Nix Street	Boyup Brook District High School	N/A	New path Connection where Nix Street terminates between Boyup Brook District High school's two sites. New footpath constructed along the creek area connecting the two existing roads	Does not include cost of bridge over creek. An extensive study should be conducted on the creek area prior to the construction of the path	\$ 30,000
1	2	Knapp Street	Existing footpath on Knapp Street	Bridge Street	N/A	Extension of the existing footpath on Knapp Street to Bridge Street along with construction of kerb ramps and grab rails		\$ 20,000
3	3a	Inglis Street	Barron Street	Robinson Avenue	Eastern	This path borders the local primary school on the west side. This path also connects St Marys Primary School to Barron Street (on eastern side)	The current path is 1.4m wide and has a 700mm drop off the edge which is unsafe.	\$ 110,000
4	3b	Inglis Street	Barron Street	Cowley Street	Eastern	Shared Path to provide access to town centre (eastern side)		\$ 65,000
5	3c	Inglis Street	Abel Street	Railway Parade	Eastern	Shared path to provide access to Railway Parade and ultimately Bicentennial Walk		\$ 12,000
2	4a	Intersection of bridge and Barron Street				Curb Upgrades for pedestrian and cyclist access		\$ 3,000
2	4b	In front of the IGA				Curb Upgrades for pedestrian and cyclist access		\$ 2,000
2	4c	Inglis Street (north of Robinson Ave)				Curb Upgrades for pedestrian and cyclist access		\$ 3,000
11	5	Boyup Brook Primary School				10 bike racks installed under this structure at Boyup Brook Primary School.		\$ 3,000
6	6a	Beatty Street	Forrest Street	Boyup Brook District High School	Eastern	Construction of shared path along Beatty Street from Forrest Street to Boyup Brook District High School	Part 1 of Beatty Street shared path	\$ 100,000
7	6b	Beatty Street	Boyup Brook District High School	Treloar Street	Eastern	Construction of shared path along Beatty Street from Boyup Brook District High School to Treloar Street	Part 2 of Beatty Street shared path	\$ 70,000
8	6c	Beatty Street	Treloar Street	Bridge Street	Eastern	Construction of shared path along Beatty Street from Treloar Street to Bridge Street	Part 3 of Beatty Street shared path	\$ 70,000
19	7	Barron Street	Bridge Street	Connolly Street/Beatty Street	N/A	On street bicycle lanes installed along Barron Street providing east west connection in the town site		\$ 30,000

Priority	No.	Corridor	Start	End	Bicycle Lane Location	Description of Work	Comments/Issues	Indicative Order of Cost Estimate
17	8	Forrest Street	Connolly Street/Beatty Street	Abel Street	N/A	On street bicycle lanes installed along Forrest Street providing a connection to Abel Street (retail area) and Railway Parade which ultimately connects to the Bicentennial Walk.		\$ 14,000
21	9	Bridge Street	Barron Street	Beatty Street	Western	Shared path constructed along western side of Bridge Street providing a connection to the Bicentennial Walk and provides a path on the same side that the school is situated on. Also include connection to Bicentennial Trail as discussed in Section 4.8.1 of report		\$ 260,000
20	11	Bicentennial Walk	Bicentennial Walk	Railway Parade	N/A	Priovide stabilised limestone connection from Bicentennial Walk to Railway Parade		\$ 20,000
14	12a	IGA				5 bike racks installed on site - if there is inadeqate space covert a parking bay into bicycle parking		\$ 2,000
12	12b	Boyup Brook District High School				Installation of bike shed (refer to example in Table 4-2)		\$ 15,000
13	12c	St Mary's Catholic School				Installation of bike shed (refer to example in Table 4-2)		\$ 15,000
15	12d	Swimming pool				12 bike racks installed on site		\$ 4,000
16	12e	Sports oval				12 bike racks installed on site		\$ 4,000
18	13	Bicentennial Walk scoping study				A study on the current condition of Bicentennial walk		\$ 60,000
9	14	Creek study				A study on the geology of the area surrounding the creek along with feasibility and costing estimates for a proposed path and bridge	This should be completed before the construction of the proposed footpath	\$ 60,000
							TOTAL	\$ 972,000

About Cardno

Cardno is an ASX200 professional infrastructure and environmental services company, with expertise in the development and improvement of physical and social infrastructure for communities around the world. Cardno's team includes leading professionals who plan, design, manage and deliver sustainable projects and community programs. Cardno is an international company listed on the Australian Securities Exchange [ASX:CDD].

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