Fraser Coast Regional Council
Walk and Cycle Strategy
March 2015

Fraser Coast
REGIONAL COUNCIL

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Executive Summary

The aim of this strategy is to:

- *update the* strategy to reflect current trends and existing and expected future demand for walk and cycle infrastructure;
- provide a plan to manage our existing network and rollout of future infrastructure; and
- inform future reviews of the Local Government Infrastructure Plan (LGIP) and capital works programme.

This original Walk and Cycle Strategy (October 2010) was prepared for the Fraser Coast Regional Council by GHD. This document is based on the original strategy and modified where required to accommodate the Fraser Coast Planning Scheme and other changes.

Vision and Objectives

The vision for the Fraser Coast Regional Council Walk and Cycle Strategy is:

"The streets and parks of the Fraser Coast will be vibrant with pedestrian and cycle activity as people enthusiastically use walk and cycle facilities for social, recreational and transport purposes."

The vision is supported by the following guiding principles:

Safety – walking and cycling is encouraged by an environment where people feel secure and all facilities provide safe and consistent walking and cycling conditions.

Connectivity – the pedestrian and cycle network will connect people to where they want to go

Accessibility – the pedestrian and cycle network And environment provide equity and mobility for all users.

Amenity and Vitality – streets and parks are an Attractive environment for all activities and promote social interaction.

Cost Effectiveness – pedestrian and cycle Improvements and facilities will assist in improving the economic development of the city.

Sustainability – the construction and operational cost must be affordable to ensure that the network can be maintained in good order for the long term.

These principles have guided the development of actions and the implementation plan for the strategy.

Study Approach

A walk and cycle network has been developed that considers walking and cycling routes not only as linear transport corridors, but also the movement and activity within the places that generate and attract people.

Consultation was a key activity in the update and development of the strategy. Consultation activities were undertaken both internal and external to Council. The process sought community group and State Government input to gain a clear understanding of the needs of stakeholders.

This report is supported by appendix A detailing the costing and scheme prioritisation processes.

What does the future strategy look like?

The strategy for the future sets out:

- what the walk and cycle strategy could look like;
- the type of infrastructure it will have;
- how the network integrates with the adjacent land use; and
- how people will be encouraged to use it.

It is proposed to expand the current network of walking and cycling paths from 267km to a future network of 427km representing an increase of 60%. Expansion is focussed on infilling residential and commercial links in the urban centres and addressing the gaps in inter-regional connectivity. The future network is made up of 35km of Local pathways, 83km of District pathways and 42km of Special pathways. The longest physical link is the proposed recreational path (part of the Special network) linking Hervey Bay and Maryborough (34km).

The network will continue to be a mixture of on and off-road paths catering for dedicated walking and cycling activities and mixed use. It will be supported by facilities at appropriate locations including cycle parking, lighting, seating and shade. It is recommended that a system of way finding signs are designed and promoted to help people find their way around the network.

Integration of the walk and cycle network into the land use planning scheme is essential to influence the urban design of properties abutting the network at all scales of development. Appropriate urban design that ensures facilities are accessible and that streets and open spaces are fronted and overlooked by actively used facilities is encouraged.

Education is an important factor in ensuring safe use of facilities by pedestrians, cyclists and other groups, including drivers. Programmes which target enforcement and public education are recommended.

Council will promote and encourage the use of walk and cycle facilities through the ongoing support of user and community groups at a local level, and by tapping into State and Federal walking and cycling initiatives.

Benefits

The successful implementation of the *Fraser Coast Walk and Cycle Strategy* will benefit everyone. Vibrant pedestrian and cycling activities contribute to the following.

An integrated multimodal transport system - walking and cycling can be viable alternatives to the car for many short trips and regular commuting.

Liveable communities – neighbourhoods can be safer and friendlier if more people walk and cycle. Through increased community interaction, community bonds are strengthened, visitors are attracted and crime is deterred.

Improved personal well being – there are proven health benefits from walking and cycling which help to create a healthier population.

Implementing the Strategy

An Action Plan has been developed to implement the strategy. Refer to Table 11 on Page 53.

The successful implementation of the actions listed will require:

- commitment and resources;
- funding; and
- systems to manage, monitor and review the implementation.

The total network plan will require an investment in capital expenditure in the region of $48 million over the next 20 years. This funding can be reasonably sourced from an identified mix of local, state and federal government land use, parks and recreation, transport initiatives, infrastructure charges and capital works programmes. This expenditure does not include costs to maintain or replace existing infrastructure. The Strategy must be sustainable in the long term with ongoing funding to maintain existing and new assets into the future.

This strategy recognises that some pathways do not form part of a wider network and are not sufficiently utilised or needed to justify the cost of regular maintenance or replacement In some cases, these pathways may be removed instead of undertaking costly maintenance or replacement. A review of the network has identified approximately 2.3km of existing pathways that carry little traffic and do not link to the network. These should be assessed for need when they become due for replacement. These have been identified in Appendix A (Table 15). In all cases though, the need of a pathway should be re-established before committing to replacing the asset.

This strategy is not a fixed plan to roll out infrastructure and it recognises that additional needs may be identified and circumstances can change. Changes to the proposed networks are anticipated and regular reviews will incorporate these changes and keep this strategy as current and relevant as possible.

The costing exercise is also strategic in nature for the purposes of determining indicative network costs and project priorities. More detailed investigations and preliminary estimates should be carried out for each project prior to the commitment of funds.

The individual network links have been prioritised to guide the implementation process and a high level action plan with allocated responsibilities and time frames prepared to support it. A discussion of the establishment of a total quality management approach to implement the strategy is supported by suggested key performance indicators to measure and monitor the fulfilment of the guiding objectives of the strategy.

1. Introduction

1.1 Background

A relatively flat topography, especially within urban areas, coupled with high scenic amenity makes the Fraser Coast an ideal place to walk and cycle and demand for these activities are high.
The aim of the Fraser Coast Walk and Cycle Strategy review is to:

- update the strategies to reflect current trends and existing and expected future demand for walk and cycle infrastructure;
- provide a plan to manage our existing network and rollout of future infrastructure;
- ensure that the network is efficient, affordable and sustainable in the long term; and
- inform future reviews of the Local Government Infrastructure Plan (LGIP) and capital works programme.

1.2 Approach

The objectives of this review was to develop a future active network plan that is efficient and affordable and can be incorporated in Council's capital works programme.

To achieve this objective the following tasks were undertaken:

- Research and data collection of background documents and relevant engineering information;
- Review of the existing network;
- Review of the existing Walk and Cycle Strategy (GHD) dated 2010;
- Prioritise the network to align with Council's Infrastructure Investment Priority Framework.; and
- Future network and plan preparation.

1.3 Community Engagement

Consultation was a key activity in the update and development of the 2010 strategy. This previous consultation was considered as part of this review.

The main consultation activities sought community group and State Government input to gain a clear understanding of the needs of stakeholders.

The key activities for the community engagement aspect of the project were:

- steering committee meetings;
- technical working group workshops; and
- invitations for submissions from community groups.

Steering Committee

The project Steering Committee consisted of Fraser Coast Regional Council officers and the GHD Project Team.

The Steering Committee meetings were used to define engagement expectations, confirm key stakeholders and seek agreement for information to be obtained.

Technical Working Group

Two workshops were held with key stakeholders to identify issues, concerns, risks and opportunities. These workshops were facilitated by GHD.

The first workshop was held on 23 March 2010 and was attended by the following State Government organisations:

- Department of Transport and Main Roads;
- Department of Communities (Sports & Recreation);
- Queensland Health;
- Heart Foundation Walking Group; and
- Maryborough Cycling Club.

The second workshop was held on 29 March 2010 and was attended by the following community groups:

- Fraser Coast Bicycle User Group;
- The Hervey Bay Scooter Club;
- Heart Foundation Walking Group;
  and Maryborough Cycling Club.

The workshops provided an opportunity to outline general issues and concerns and identify opportunities for walking and cycling in the region.

1.4 Report Purpose and Boundaries

The *Fraser Coast Walk and Cycle Strategy(October 2010)* supported the development of the *Fraser Coast Planning Scheme.* It sets out the overall direction for infrastructure provision, education and information requirements to support active transport in the Fraser Coast Local Government Area. This revised version will inform future amendments to the Priority Infrastructure Plan and other planning documents.

Similar to the previous strategies, this study primarily focusses on the development of a recreational walk and cycle network rather than a broader transport context. Therefore, whilst some consideration has been given to broader walking and cycling purposes in the development of the network, the study has not specifically investigated the issues and needs

associated with these other users.

Whilst the strategy focuses specifically on walkers and cyclists, it is recognised that the infrastructure is also shared by other users such as mobility scooters and skateboarders. It is not the intention of this strategy to address the specific issues of these other users. However, in order to reduce conflict between users, and hence improve the safety of facilities, consideration of shared use is reflected in the infrastructure design.

1.5 Report Structure

The remainder of this report is structured in the following sections:

***Section 2 – Vision*:** sets out the overarching vision and guiding principles, supporting objectives and key performance indicators for the strategy.

***Section 3 – Context*:** provides background information and review of how the strategy integrates with State and local land use and transport planning statutory documents, laws and design guidelines.

***Section 4 – Network Planning*:** describes the approach that has been used to define and plan the network.

***Section 5 – Existing Conditions*:** provides an assessment of current travel behaviour and attitudes, road safety results, existing active transport strategies and programmes and a review of the existing walking and cycling infrastructure network.

***Section 6 – Future Strategy*:** details future strategies and infrastructure network and supporting education, enforcement and encouragement initiatives.

***Section 7 – Implementation*:** discusses funding sources, costs and prioritisation and outlines an action plan setting out the responsible agencies, priorities, funding and monitoring and review processes.

***Section 8 – Conclusions*:** summarises key findings and recommends a way forward for this strategy through a series of actions.

The streets and parks of the Fraser Coast region will be vibrant with pedestrian and cycle activity as people enthusiastically use walk and cycle facilities for social, recreational and transport purposes.

Figure 1 – Fraser Coast Locality Map
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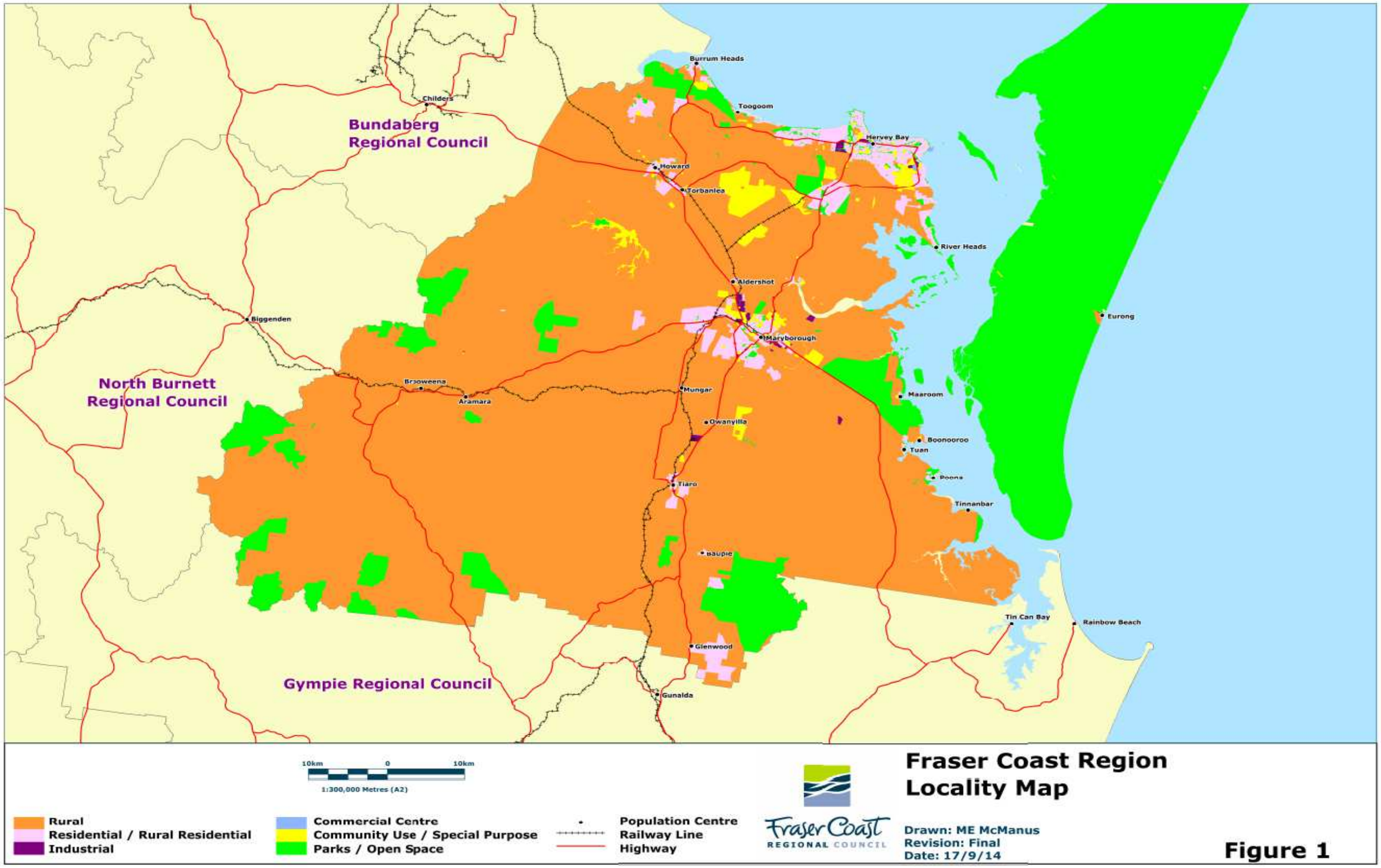


2. Vision

2.1 Overarching Vision

The vision for the *Fraser Coast Walk and Cycle Strategy* is based on that previously established for Hervey Bay and is as follows:

"The streets and parks of the Fraser Coast will be vibrant with pedestrian and cycle activity as people enthusiastically use walk and cycle facilities for social, recreational and transport purposes"

The vision aims to reflect the future desirable states for walking and cycling in the Fraser Coast and guide the overall outcomes of the strategy.

2.2 Benefits of Walking and Cycling

Walking and cycling are important activities in at least three different respects.

- ***They are key components of an integrated, multimodal transport system*** – walking and cycling can be viable alternatives to the car for many short trips and regular commuting.
- ***They promote liveable communities*** – neighbourhoods can be safer and friendlier if more people walk and cycle, through increased community interaction, community bonds strengthen, visitors are attracted and crime is deterred.
- ***They improve personal well-being*** – there are proven medical benefits from walking and cycling that help to create a healthier population.

It is this last element that is of most significance to recreational walking and cycling. There is clear evidence that if people were more active, health benefits would include prevention and control of obesity, cardiovascular disease, diabetes, some cancers, injury and the promotion of mental health. For older people, one of the most important health benefits of maintaining physical activity is the prevention of injurious falls. The promotion of exercise in this age group is likely to become one of the most important public health priorities in the twenty-first century.

Requiring minimal equipment, walking and cycling are among the most environmentally sustainable forms of travel, exercise and leisure activities. Encouraging people to walk and cycle reduces private vehicle use and subsequently suppresses the demand for the extraction of metals, gases and fuels required for car manufacturing and operating.

2.3 Guiding Objectives

The vision is underpinned by a series of guiding objectives. These objectives will support the development of the desired future network and guide actions required to implement and maintain the network.

Safety

Walking and cycling is encouraged by an environment where people feel secure and all facilities provide safe and consistent walking and cycling conditions.

The apparent or perceived lack of safety is a major barrier to increased walking and cycling. The aim of this principle is to develop a safer environment for walking and cycling including:

- safety from conflicts with traffic and other users;
- maintenance to overcome hazards;
- reducing the fear of crime (personal safety); and
- reduction in pedestrian and cycle related crashes.

Connectivity

The pedestrian and cycle network will connect people to where they want to go.

This principle aims to ensure that all residents and visitors in urban areas of the Fraser Coast can walk and cycle safely anywhere they choose. The network needs to be direct and convenient to the users, providing connection to community facilities, schools, public transport, parks and open space and commercial and business locations. Such networks will ensure that pedestrian and bicycle travel is a convenient, desirable, and time efficient mode of transport and popular choice for recreation.

These connections not only ensure maximum use, they also enhance opportunities for the community to participate and they encourage integration and social interaction in and between neighbourhoods.

There is significant demand for opportunities for walking, cycling and the use of mobility scooters in Hervey Bay and Maryborough. The recreation and open space network forms a logical location for walk and cycle routes in rural and urban areas as well as assisting to connect residents and visitors to recreational opportunities.

Accessibility

The pedestrian and cycle network and environment provide equity of access and mobility for all users.

Walking, cycling and the use of mobility scooters can

increase personal mobility and choice for those who do not, or cannot drive, particularly the young, the disabled, and the elderly. Equity of access refers to providing access which is of equal convenience for all people, regardless of their physical abilities or impairments, age, income or location within developed areas. Wherever practical, Council will provide facilities in accordance with Australian standards for Access and Mobility under the *Disability Discrimination Act (DDA) 1992.*

This principle also supports Council's aim to continue to promote the Fraser Coast as a tourist destination for the mobility impaired.

Amenity and Vitality

Streets and parks are an attractive environment for the engagement of all activities. Social interaction comes naturally in this pleasant environment.

An attractive, interesting and active environment that encourages people to walk and cycle can be provided through good urban design and engineering. An attractive recreational network is tied to such factors as scenic quality, diversity and environmental quality. It is therefore important to ensure public enjoyment of open space and the public realm through appropriate design and planning.

Cost Effectiveness

Pedestrian and cycle improvements and facilities will assist in improving the economic development of the urban areas.

The *Fraser Coast Walk and Cycle Strategy* should be realistic, taking into account funding availability and aiming to maximise cost effectiveness. The strategy should also support and assist in expanding the local economy by creating active public spaces in which people want to congregate and corridors that people want to use.

2.4 Performance Requirements

Performance requirements have been categorised so that they align with the guiding objectives of the strategy and are presented in Table 1.

Table 1 - Key Requirements

Safety: Walking and cycling is encouraged by an environment where people feel secure and all facilities provide safe and consistent walking and cycling conditions
• A reduction in the number and severity of pedestrian and cyclist accidents on Council controlled Roads
Connectivity: The pedestrian and cycle network will connect people to where they want to go
• Increase the level of on-road cycling facilities
• An increase in the network of walkways that link towns and district centres
• Improved footpath conditions in residential areas
Accessibility: The pedestrian and cycle network and environment provide equity of access and mobility for all users
• An increase in cycling/walking mode share for journey to work trips
• An increase in cycling/walking mode share for journey to school trips
• Increased proportion of facilities that are fully Disability Discrimination Act compliant
Amenity and Vitality: Streets and parks are an attractive environment for the engagement of all activities. Social interaction comes naturally in this pleasant environment
• An increase in the length of off-road paths is provided
• Increased lighting and support facilities
Cost Effectiveness: Pedestrian and cycle improvements and facilities will assist in improving the economic development of the urban areas
• Reduced unit cost rates to implement and maintain the network

3. Context

The purpose of this section is to:

- set out the statutory framework within which the *Fraser Coast Walk and Cycle Strategy* has been developed;
- describe relevant legislation and local laws; and
- provide a summary of design guidelines and advice regarding walking and cycling infrastructure.

3.1 Statutory Framework

3.1.1 Statutory Context

The *Fraser Coast Walk and Cycle Strategy (October 2010)* supported the emerging Fraser Coast statutory land use plan and transport strategy and aligns with Wide Bay Burnett regional planning. This revised document will inform future revisions of the transport plans and Planning Scheme documents.

3.1.2 Wide Bay Burnett Regional Plan

Wide Bay Burnett is the regional planning body and covers the following local government areas.

- Fraser Coast Regional Council
- Bundaberg Regional Council
- Gympie Regional Council
- North Burnett Regional Council
- South Burnett Regional Council
- Cherbourg Aboriginal Shire Council

The regional plan for this area is the Wide Bay Burnett Regional Plan dated September 2011.

A draft Principle Cycle Network Plan (PCNP) for the Wide Bay Burnett has been prepared which identifies a strategic network of cycle routes (on and off-road) which are of regional significance. Council has endorsed the plan but is waiting for the State Government to finalise the document.

The Local Government Association of Queensland (LGAQ) has an alliance with the Department of Transport and Main Roads (DTMR) to manage Local Roads of Regional Significance (LRRS) via a Regional Roads Group (RRG). Where the LRRS network aligns with the Principle Cycle Network, the RRGs responsibilities include consideration of the provision of cycling infrastructure.

3.1.3 Fraser Coast 2031

Council adopted the Fraser Coast Planning Scheme in January 2014. This planning scheme was informed by the Sustainable Growth Strategy 2031 including the Integrated Transport Study.

This document reviews the Walk and Cycle Strategy dated October 2010 and considers the Fraser Coast Planning Scheme.

3.1.4 Existing Walk and Cycle Strategies

Hervey Bay Living Streets Strategy (2003)

The Hervey Bay Living Streets Strategy (Living Streets) was prepared by Eppell Olsen & Partners for Hervey Bay City Council in association with Sport and Recreation Queensland in 2003.

The aim of the strategy was to guide future planning and provision for walking and cycling in the city. It also included a walk and cycle infrastructure network plan.

Living Streets supported existing Council policies and initiatives such as the draft Recreation and Open Space Strategy Action Plan, Access Tourism Strategy and the Links Mobility Corridor. It fed into the development of the Fraser Coast Planning Scheme including the Priority Infrastructure Plan and the Planning Scheme Policy for Development Works.

Maryborough Walk and Cycle Strategy (2003)

The Maryborough Walk and Cycle Strategy was prepared by Arup for Maryborough City Council in 2003.

The aim of the strategy was to initiate and progress the development of a recreational walk and cycle network and provide a plan for its implementation. The study focussed on the recreational user and their network and infrastructure requirements and did not specifically investigate the issues and needs associated with other users such as students, commuters and local shoppers. As such it was a recommendation of the study that it could be widened to include these groups along with supporting education, encouragement and enforcement strategies.

3.2 Legislation and Local Laws

Disability Discrimination Act (1992)

The Disability Discrimination Act (DDA) was passed by Federal Parliament in October 1992 and became operational in March 1993. The Act is consistent with broader, modern social justice legislation in Australia and in many other countries.

The DDA makes it 'against the law' for public places to

be inaccessible to people with a disability, including footpaths and walkways. They should expect to be able to enter and make use of public places if people without a disability can do so. The Act applies to existing places as well as new places.

The DDA does not require the provision of access to be made if this will cause major difficulties or excessive costs. This is called 'unjustifiable hardship'. The Act also does not expect that changes will happen overnight, however, people with a disability should expect that changes would be made.

The Queensland Anti-Discrimination Act (QADA) is broadly similar in objective and scope to the DDA. It makes it unlawful to discriminate against people with disabilities, which has similar implications for pedestrian and cyclist facilities as the DDA. Both the Federal and State Acts operate concurrently, but the DDA is the most encompassing. Where there are inconsistencies between State and Federal legislation, the Federal legislation will apply.

The DDA and QADA have significant implications for the provision, design and maintenance of public pedestrian and shared pedestrian / cycle facilities. Clearly, new facilities should be accessible and Council should embark on a programme to make existing facilities accessible where reasonable and to do so in a reasonable time.

Many of the design requirements for people with disabilities also significantly improve conditions for others, such as the elderly and people with prams. This fact is often overlooked or not well understood by planners, designers and decision-makers. There is a need for an increased awareness of the benefits that accrue to all pedestrians as a result of providing facilities that comply with the DDA. This concept of 'universal design' emphasises that providing barrier-free access helps to meet the basic mobility needs of all members of society, including children, the elderly and people with temporary or permanent disabilities.

Fraser Coast Regional Council aims to become an accessible tourist destination. Application of access and mobility design standards will ensure this is achieved. Council have already implemented a number of high quality facilities specifically serving the needs of people with disabilities, for example, beach access ramps at Scarness, Torquay and Burrum Heads. Other facilities provided have also ensured the needs of people with disabilities are met such as suitable gradients along footpaths, tactile indicators and kerb ramps.

Sustainable Planning Act (2009)

The Sustainable Planning Act 2009 and associated regulations enables local governments to collect trunk infrastructure charges for the provision of trunk infrastructure. Transport infrastructure that can be fully or partially funded through these contributions include:

- roads;
- vehicle lay-bys;
- traffic control devices;
- dedicated public transport corridors;
- public parking;
- cycleways;
- pathways; and
- ferry terminals.

Local Government Infrastructure Plans (LGIP) identifies the existing and future trunk infrastructure necessary to cater for population growth. Any moneys collected from Trunk Infrastructure Charges must contribute towards the provision of the trunk infrastructure identified in the LGIP.

Local Law No. 4 (Riding of Bicycles on Footways)

Local Law No. 4 - prohibits cyclists from footways along specific roads. This was generally for the purpose of providing a safer environment for pedestrians along heavily utilised footways. The Local Law declares the following footways as being a footway upon which a cyclist is prohibited from riding upon:

- Adelaide Street (Sussex Street to Alice Street);
- Bazaar Street (Sussex Street to Alice Street);
- Kent Street (Lennox Street to March Street);
- Ellena Street (Lennox Street to Richmond Street);
- Wharf Street (Bazaar Street to March Street);
- Lennox Street (Kent Street to Alice Street);
- Main Street (Boat Harbour Drive to Charles Street);
- Torquay Road (Main Street to Taylor Street);
- Hunter Street (Between Torquay Road and Shopping Centres);
- Esplanade (Fraser Street to Tavistock Street);
- Bideford Street (Esplanade to Truro Street);
- Queens Road (Esplanade to McKean Street);
- Pier Street (Esplanade to King Street); and
- Esplanade (between Pier Street and Elizabeth Street).

3.3 Design Guidelines and Standards

Design guidelines are a fundamental component for the implementation of the Fraser Coast Walk and Cycle Network. Officers involved with the planning, design, construction and maintenance of the proposed walk and cycle network and facilities should be aware of the contents of these documents. The most relevant guides in Australia for pedestrian

and bicycle facilities are:

- Austroads Guide to Road Design - Part 6a (Pedestrian and Cycle Paths);
- On State Controlled Roads, Main Roads' 'Road Planning and Design Manual' is the primary road design standard, including for pedestrian and bicycle facilities;
- Standard pavement markings and signage for pedestrian and bicycle facilities are defined in the Queensland Manual of Uniform Traffic Control Devices (MUTCD); and
- Australian Standards for bicycle parking facilities are detailed in *AS2890.3- Part 3: Bicycle Parking Facilities.*

In addition, DTMR's State Cycle Unit has prepared a series of Cycle Notes available from their website (http://www.tmr.qld.gov.au/). They are designed to assist engineers and planners to provide for cycling in their local areas and cover a range of topics including planning, design and engineering, and operation and management. They provide a useful supplement to and should be read in conjunction with Austroads Part 14.

A similar toolkit for walking, called 'Easy Steps', was produced by Queensland Transport in 2005 and is also available from the website referenced above.

Further discussion of the health benefits of walking and cycling and checklists guiding good urban design practice to support these activities can be found in the 'Healthy Urban Development Checklist' produced by NSW Health in 2009. This document is available online at http://www.health.nsw.gov.au/ pubs/2010/hud checklist.html.

The Crime Prevention through Environmental Design (CPTED) Guidelines for Queensland is a joint publication of several State government agencies, including the Queensland Police Service, the Department of State Development, Infrastructure & Planning, the Department of Local Government, Sport and Recreation and the Department of Communities. The guidelines were launched on the 27th November 2007 and seek to promote the incorporation of CPTED principles into planning, design and management of development in Queensland. The document can be found at: http://www.police.qld.gov.au/programs/crimeprevention/cpted.htm

The "Healthy Spaces and Places: A national guideline to designing places for healthy living" was developed by a collaborative team comprising the Australian Local Government Association, the National Heart Foundation of Australia and the Planning Institute of Australia and funded by the Australian Government Department of Health and Aging. It is a national guideline for planning, designing and creating places where it is easier to be active - walking, cycling and using public transport every day. The document can be found at http//www.healthyplaces.org.au/site/

Local Law No. 4 - Riding of Bicycles on Footways prohibits cyclists from footways along specific roads.

4. Network Planning

4.1 Overview

Walk and cycle links should form a cohesive network that is legible, safe, easy to use and connects people to where they want to go. Common to most walk and cycle networks, the current infrastructure in Fraser Coast is fragmented due to the way it has been implemented historically. Whilst it is appreciated that it will continue to develop at a local level incrementally due to financial and developmental drivers, it is important for the strategic network planning to remain holistic.

Hence this strategy has reviewed and made suggestions for the future of the entire network and the supporting infrastructure and schemes. But at a practical level, this section presents a method for classifying individual sections of the network which can be used as building blocks for assessment, implementation and management of the strategy.

4.2 Pathway Hierarchy

In order for the streets and parks of the Fraser Coast to be vibrant with pedestrian and cycle activity, the streets and parks need to be designed to cater holistically for this activity. Walking and cycling routes pass through streets and parks that are characterised not only as linear transport corridors, but also by the movement and activity within them, and as places that generate and attract people.

In practical terms this involves establishing a walk and cycle network hierarchy based on both the link and place status of the route. It recognises that the infrastructure and facility needs of a lightly used link servicing a local residential neighbourhood such as Granville in Maryborough will differ from those of a heavily used special link such as the Mobility Corridor through the commercial areas of Boat Harbour Drive in Hervey Bay. In addition the potential funding sources and implementation strategies for new links in each of these areas will also vary.

This approach ensures the integration of the land use and transport planning of the network into a single cohesive strategy.

4.3 Link Status

The existing Maryborough and Hervey Bay strategies have different link categories for the network. The Maryborough Strategy defines Principal, Local and Future Recreational Routes; whilst the Hervey Bay Living Streets Strategy defines Intra-city, Suburban, Local and Touring Routes. For the purposes of the strategy, the walk and cycle link types have been adapted from the Queensland Cycle Notes and Easy Steps toolkits and are defined below:

Local Links – routes which service local neighbourhoods

District Links – routes which link several neighbourhoods

Special Links – high profile, generally off-road links for recreational and tourist purposes. This category would include the Mobility Corridor - in Hervey Bay and the proposed Rail Link Corridor between Hervey Bay and Maryborough.

The on-street walk and cycle link status of the network is also guided by the existing road hierarchy as discussed further in 'Section 5.3 – Road Network'.

Where Council is constructing new roads or reconstructing existing roads, provision is being made for on cyclists where possible. These may be in addition to the links identified in this strategy.

Local Pathway Link

District Pathway Link

5. Existing Conditions

5.1 Physical Conditions

The Fraser Coast has a total area of 7,166 square kilometres extending from Tiaro in the south to Burrum Heads in the north, Fraser Island in the east to rural lands and small townships like Brooweena and Teebar in the west.

The area includes two key urban centres of Hervey Bay and Maryborough in the north-east of the Council area. The remainder of the region is characterised by coastal townships and sensitive environmental areas on the eastern and northern coasts; significant rural farming lands in the western and southern parts of the region, and rural townships and settlements located throughout. The terrain is generally low lying with numerous water courses and subsequently the transport network that traverses it is susceptible to flooding.

The Fraser Coast has a sub-tropical climate, which averages 30 degrees in summer and 22 degrees in winter, and is conducive to outdoor activities such as walking and cycling all year round.

5.2 Travel Behaviour and Attitudes

A review of walking and cycling behaviours and attitudes has been undertaken at a regional level. Data was based on the following sources:

- ABS Census of Population and Housing (1991- 2006);
- Wide Bay Burnett Travel Survey (2006); and
- National Ride to Work Day registration information (2006-2008).

The Fraser Coast population has increased by approximately 18,038 residents over six years to 92,458 people in 2007. Hervey Bay (5.0%) has experienced the most significant average annual growth rate in this period, followed by Woocoo/Tiaro (3.4%) and Maryborough (1.4%). The proportion of older persons in the Fraser Coast is higher than for Non-Metropolitan Queensland. The largest proportion of households is composed of couples with no children at home (35.3%) reflecting the elderly population.[1]

Typical of rural regions, car ownership is high with 65% of people over the age of 15 owning a motor vehicle or motorcycle. This represents some 92% of households in the region having a motor vehicle. Whilst there are a number of public transport services in Hervey Bay and Maryborough, the rural residential areas are highly dispersed and difficult to service. In addition, smaller communities are of a size that does not support regular fixed route passenger transport services.

This heavy reliance on private vehicle ownership in remote areas due to a lack of public transport and taxi alternatives creates transport disadvantage for the aged, the young, low income owners and the mobility impaired. Walking and cycling are important transport alternatives for these groups and not just undertaken as an exercise or recreational activity - the proportion of students walking and cycling to school is around 20-30% across the region.

Most people who walk do so for transport purposes such as shopping and accessing work. In contrast

1 2.1 – Demographic Profile, "FCRC Economic Profile 2009"

the most common reasons given for cycling are recreational and social purposes. Exercise/training is a significant reason for both groups.[2]

As shown in Table 2, the average mode share of journeys to work by walking and cycling are higher Maryborough than the Queensland average, whilst participation rates in Hervey Bay are average. Participation rates in Tiaro and Woocoo are below average for cycling but above average for walking.

Figure 2 indicates that those who cycle to work are willing to cycle much further (around half of trips are up to 10km in length) than for other trip purposes (where half are less than 5km). People who walk do so for relatively long distances: two-thirds of all walking trips are longer than 15 minutes. People are prepared to walk for longer distances to access work or education (3km on average or up to 30 minutes) than for other purposes (the majority of walking trips are less than 1km)[3]

2 ABS, 2006, Queensland wide data.

3 ABS, 2006, Queensland wide data.

Table 2 - Walk and Cycle Journeys to Work Mode Share (Source: 2006 ABS)

LGA (2006)	Bicycle	Walk only
Hervey Bay	1%	4%
Maryborough	4%	6%
Tiaro	0%	6%
Woocoo	0%	5%
Queensland Average	1%	4%

Average trip distances

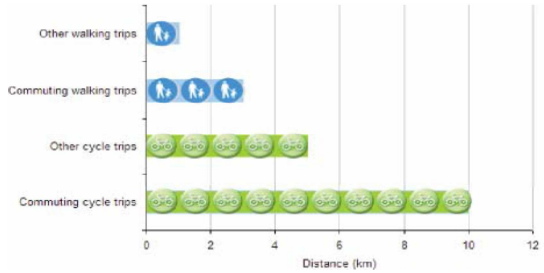


Figure 2 – Average Walk and Cycle Journey Distances

5.3 Road Network

80% of the existing walk and cycle network is on-road. The road network in Fraser Coast consists of:
State Controlled Roads – owned and managed by the Department of Transport and Main Roads; and
Local Roads – owned and managed by Fraser Coast Regional Council.

There is significant variation in the type and quality of roads in the Fraser Coast responding to the disparate land use types and settlement patterns. In the urban areas of Hervey Bay and Maryborough the majority of roads are to a high quality paved standard catering to high volumes of traffic. In the regional townships and rural areas roads may be unpaved and cater to only a few vehicles per day.

In addition to walkers and cyclists, routes may accommodate residential traffic, commercial traffic, public transport and heavy goods vehicles. Many of the roads in the Fraser Coast are not equipped to handle B-Doubles, caravans, tourist vehicles, buses etc. Road safety and user conflicts have become a concern within the area. Poor directional and interpretive signage has been identified as an issue on Fraser Coast roads.

5.4 Walk and Cycle Network

5.4.1 GIS Analysis

The existing Geographic Information System (GIS) datasets that depict walking and cycling tracks have been collated and reviewed. The GIS datasets were compiled from previous strategies and have been reviewed in order to ascertain which parts of the recommended network have been implemented since then.

These datasets have been expanded to include all existing formal walking and cycling tracks within the Fraser Coast Regional Council area. This has largely been done from a desktop exercise with on-site spot checks.

Safety

Relevant **accident history** of the site

Key information that is missing from the above includes data on end of trip facilities, crossing information and cyclist and pedestrian counts. The scope of future detailed studies could be widened to capture this information.

Extracted maps of the existing network for the entire Fraser Coast (excluding local links for clarity), Hervey Bay, Maryborough, Burrum Heads and River Heads are shown in Figures 3, 4, 5, & 6.

The total existing walk and cycle network has a physical length of 267km. The existing network has been classified by link type and the network length in each category is shown in Table 3.

Table 3 - Existing pathway lengths

	Local	District	Special	Total
Existing Pathway Lengths (km)	153	80	34	267

5.4.2 Network Issues and Opportunities

Infrastructure concentrated in population centres

The network infrastructure is varied across the region. This generally reflects the size of residential population centres with the larger centres having more facilities. However, this does not reflect the proportion of users within other smaller centres and the increasing public demand for facilities between these areas.

The network in Hervey Bay primarily consists of a shared footpath along the foreshore connecting Urangan and Point Vernon. This is supplemented by a Mobility Corridor running parallel to the foreshore path near Boat Harbour Drive. There are some north/south links within the urban area consisting of a series of footpaths and shared paths primarily serving the local schools.

The network in Maryborough has physical constraints such as the Mary River, the Bruce Highway and the rail line through the town centre. Considerable effort has been made to create pedestrian and cycle links at these locations including a newly constructed two span pedestrian bridge over the Bruce Highway at Baddow on Gayndah Road, linking the commercial precincts on either side of the highway, and provision of cyclist

facilities on the Granville Bridge. Recreational cycle paths are also provided in the major parks such as Queens Park and Anzac Park/ Baddow Golf Links.

Connectivity

It can be seen from the network maps, that there is a lack of connectivity in the existing street and open space network. In addition, the existing identified walk and cycle network is disjointed. In some areas this is due to a lack of connectivity in the existing street and open space network itself. However, in most cases it is due to a piecemeal approach to implementing the network - i.e. infrastructure for walkers and cyclists are built in conjunction with other road projects and new developments and not as stand-alone network initiatives.

In particular there is a lack of inter-connectivity between the urban centres and intra-connectivity between neighbourhoods in the larger urban centres of Maryborough and Hervey Bay.

Focus on recreational routes

Over a third of the network is on local roads, predominantly in residential areas. After residential links, the other significant attractors and generators for the existing network are parks and open spaces. This is a reflection of walk and cycle strategies in the area focussing on the development of a recreational walk and cycle network rather than the broader transport context. Given the relatively wide road widths in many urban areas, there is an opportunity for more on-road cycling facilities and to ensure that new roads cater for cyclists.

Not surprisingly there were no special links identified in industrial areas.

Rural Links

There are no discernable walk and cycle district links identified in rural areas. This is because the network does not show all the footpaths or sealed verges on main roads which are used as informal walking and cycling routes. It is noted that many of the existing footpaths in rural areas (particularly in Howard and River Heads) are soft grass or dirt paths and not always kept clear and maintained. In particular, unsealed roads or roads vulnerable to weather conditions such as flooding can cause significant barriers to walking and cycling in these areas. Some rural roads have no verges at all, such as the road to Toogoom.

Shared Paths

It is perceived that some shared paths are too narrow to be comfortably used by walkers and cyclists. In particular the pathway along the Esplanade in Hervey Bay is identified by community groups to be too narrow and the paved surface difficult for cyclists.

5.4.3 Supporting Infrastructure Provision

Because this study is at a strategic level, a fully updated inventory of supporting infrastructure has not been made. However the key issues noted in previous studies for Hervey Bay and Maryborough are summarised below. It is expected that a full inventory of existing facilities would be made in future design stages and upgrades of the network. It should be checked that existing facilities conform to Austroads standards and that future facilities are designed accordingly.

Crossing Points

There are many heavily trafficked streets, roads and highways with poor or missing pedestrian and cyclist crossing facilities. Existing crossings often require users to travel significantly out of their way. It is proposed that more formal pedestrian crossing or traffic lights are required along main roads in the urban centres.

Roundabouts, such as those along Boat Harbour Drive, are identified as being particularly difficult to navigate and cross for cyclists and walkers. The roundabouts along Boat Harbour Drive are barriers to walkers and cyclists.

A list of priority road crossings has also been prepared to compliment the walking and cycling network. This list is included as Table 14 in Appendix A.

Bollards and Fencing

The design of path terminal devices need to be conspicuous to cyclists. The use of small central bollards should be avoided where possible as they present significant hazards to cyclists.

The purpose of barriers and fences adjacent to paths is to provide protection to the user from an obstacle or hazard. However, in some instances the fencing itself can provide a hazard and reduce connectivity in a network. For example, in Burrum Heads there used to be pedestrian access from residential Riverview Drive to the shopping precinct in Burrum Street via a walkway around the perimeter of Hillcrest Holiday Park to the Lions Park. Since closing in a drain at the rear of Hillcrest for safety reasons, and fencing in of the caravan park, this link has been effectively closed off to residents. It should be noted that this link has been identified in this plan for replacement and part of the foreshore pathway.

Signage

Regulatory signs are required to formally establish who can use facilities and enforce road rules. There are a number of locations where 'exclusive bicycle path signs' have been used which legally prohibits other users from using the facility but no alternative routes for pedestrians are provided.

There are also a number of on-road locations where there is no signage warning motorists of the presence of cyclists, particularly at the terminal points of off-road paths. The Esplanade is one of the most active cycle-ways in Hervey Bay and there is no formal signage or lane markings to indicate to motorists the large volume of cyclists using the road.

During site visits, specific information and guide signs marking the network and providing information on distances to common attractions and facilities were not generally observed.

Bicycle Parking and End of Trip Facilities

There are few public parking and end of trip facilities provided in Fraser Coast, with some private facilities provided at shopping centres, schools and major employers. However, bicycle parking facilities tend to be in less visible locations making them less conspicuous and unsafe. Other end of trip facilities such as showers, change and locker facilities for cyclists are required at key attractors on the network.

Comfort Facilities

Facilities such as drinking fountains, toilets, seating, lighting, shade and shelter all contribute to the comfort of users along walk and cycle paths. Generally, 'special links' such as the formal foreshore path in Hervey Bay and Queens Park in Maryborough have supporting facilities along their length but there are few facilities observed on local and district links.

5.5 Road Safety

Crash data relating to pedestrians was obtained from Fraser Coast Regional Council for the ten years from 2000 to 2010 for the entire Fraser Coast. The crashes that involved pedestrians and/or bicycles were extracted and a summary of the severity of each of these crashes per unit type is shown in Table 4.

Table 4 shows cyclists having a higher representation in minor injury crashes (72%), while pedestrians have a higher representation in fatal crashes (77%).

Of the 379 crashes involving pedestrians and cyclists, 292 crashes were found to have occurred within 50m of the proposed walk and cycle network. This would indicate that the pathways proposed at these locations are warranted and with potential upgrading of the existing infrastructure would improve cyclist and pedestrian safety.

Comfort facilities on Mobility Corridor Hervey Bay

Crossing facilities, Maryborough

Table 4 – Pedestrian and cyclist accidents in the Fraser Coast (2000-2010)

Unit Type	Minor Injury	Medical Treatment	Hospitalisation	Fatal
Pedestrian	23	52	76	10
Bicycle	58	79	78	3
Total	**81**	**131**	**154**	**13**

Figure 3 – Existing Walk & Cycle Network Fraser Coast Overview

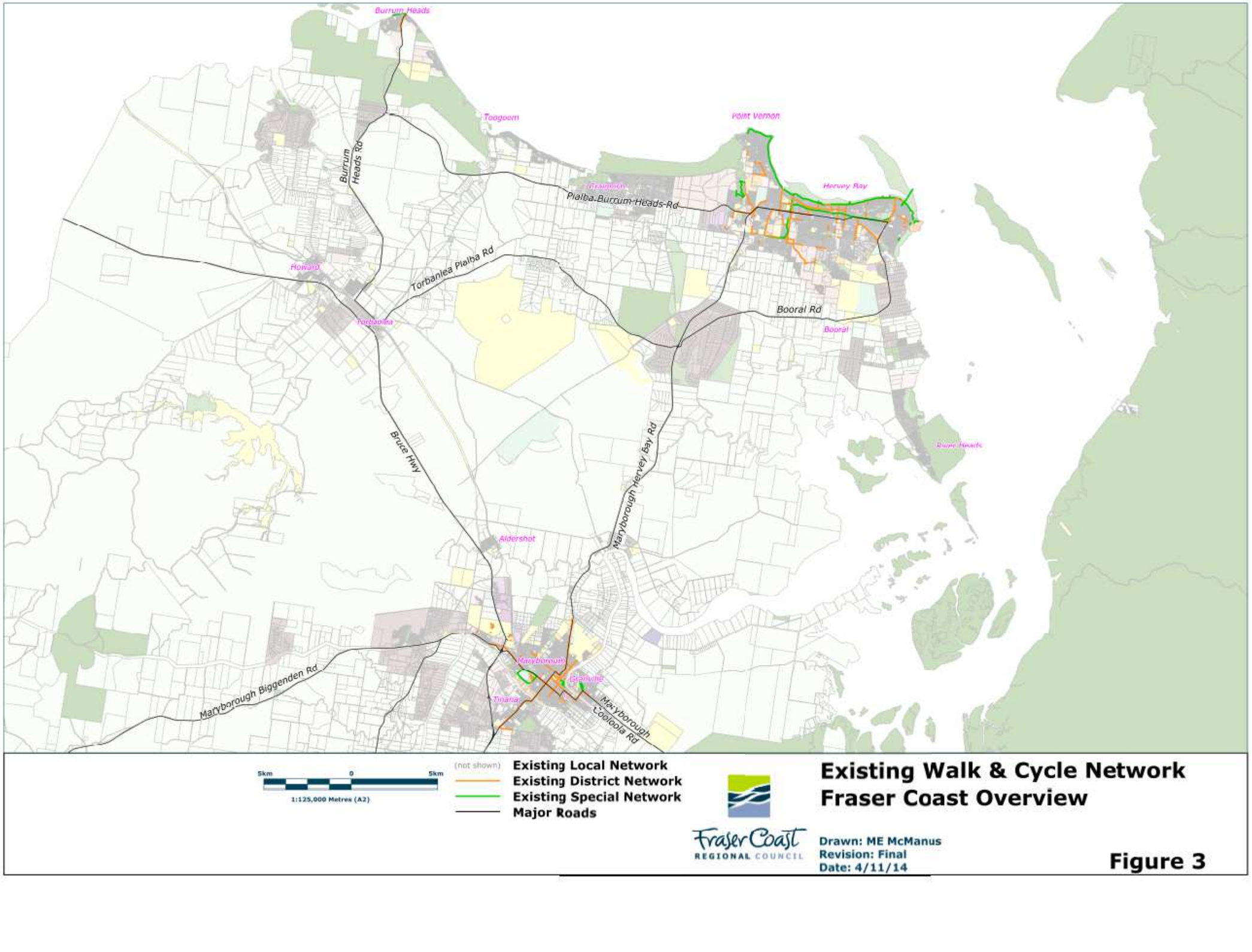


Figure 4 – Existing Walk & Cycle Network - Hervey Bay

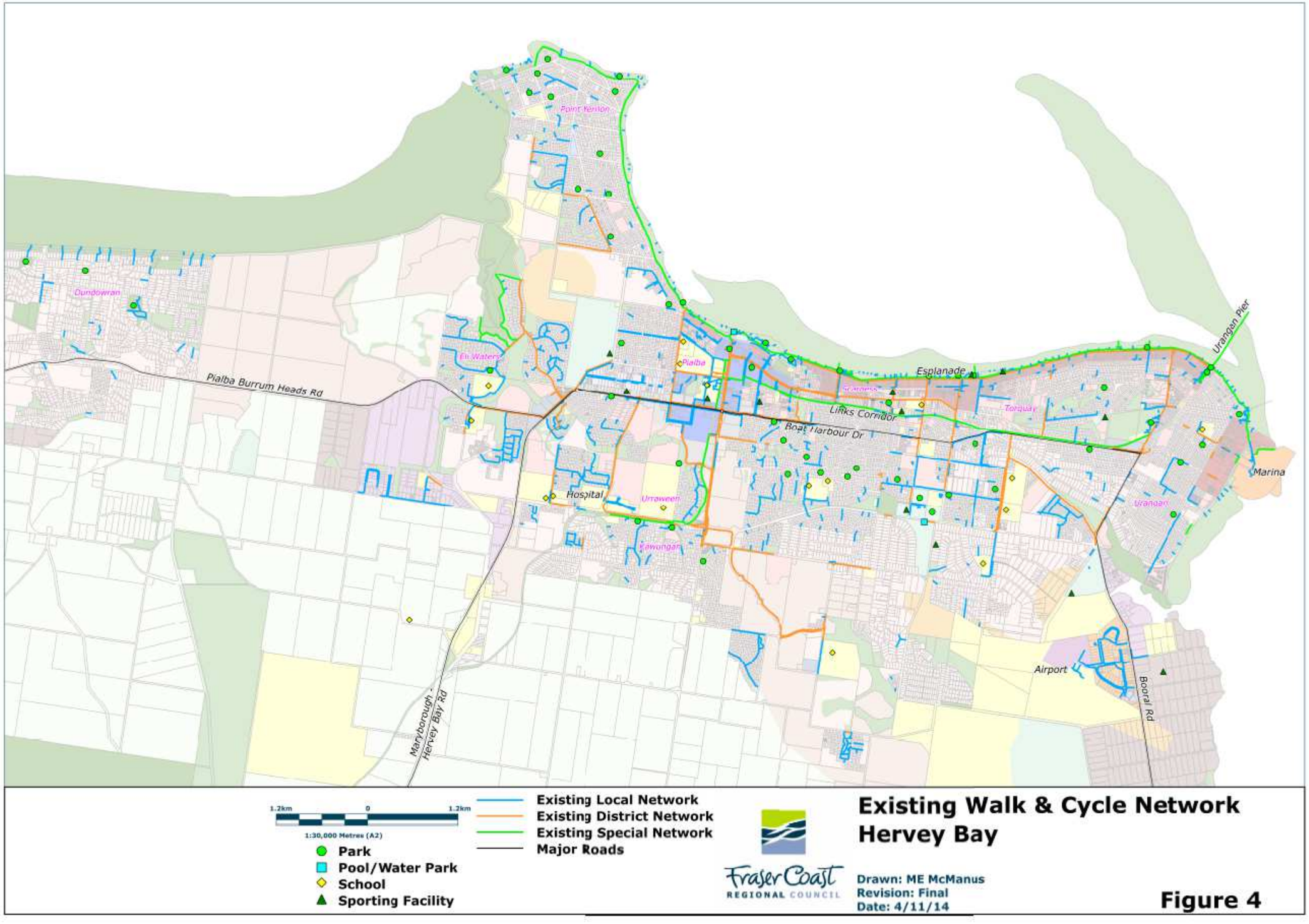


Figure 5 – Existing Walk & Cycle Network - Maryborough

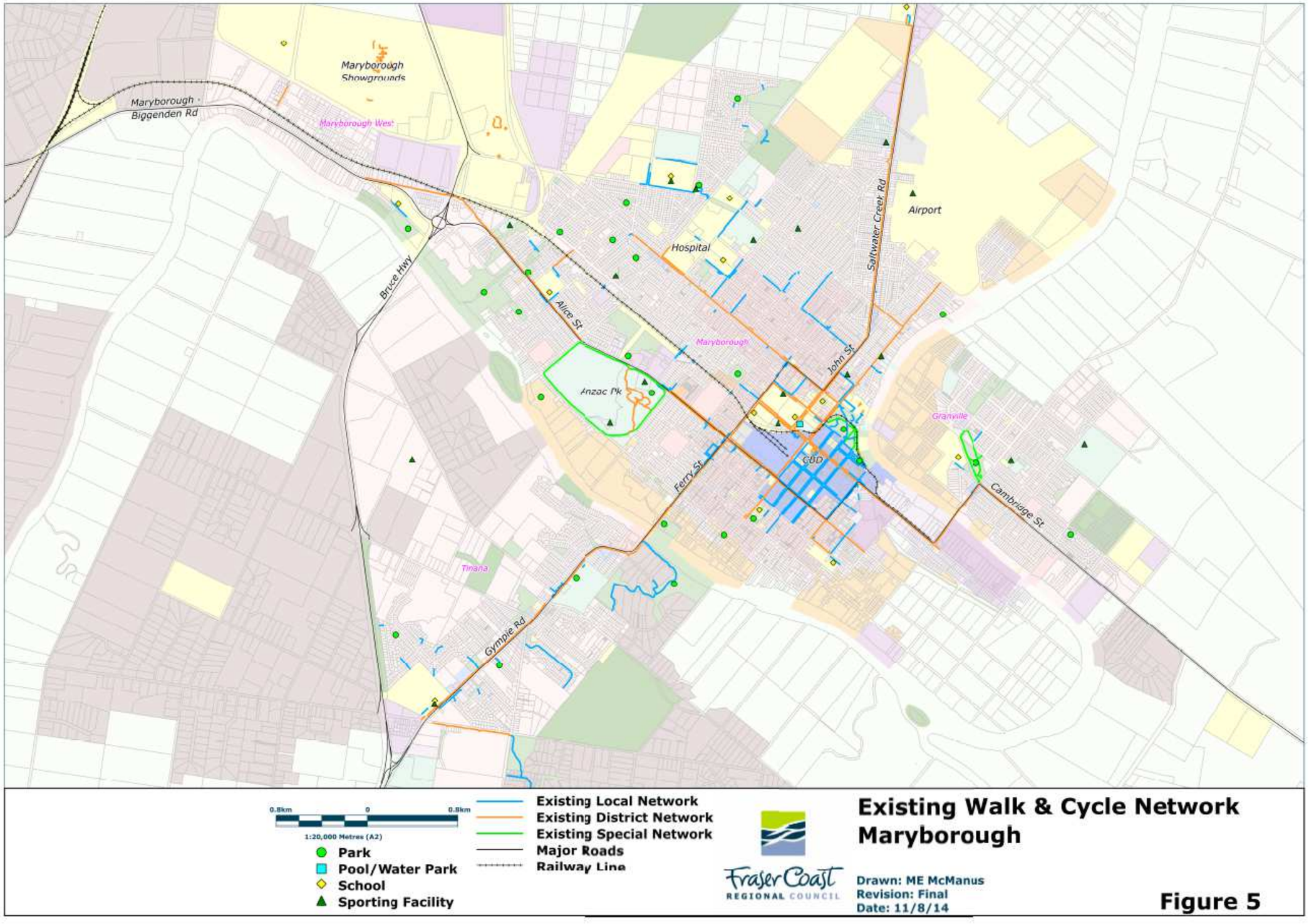
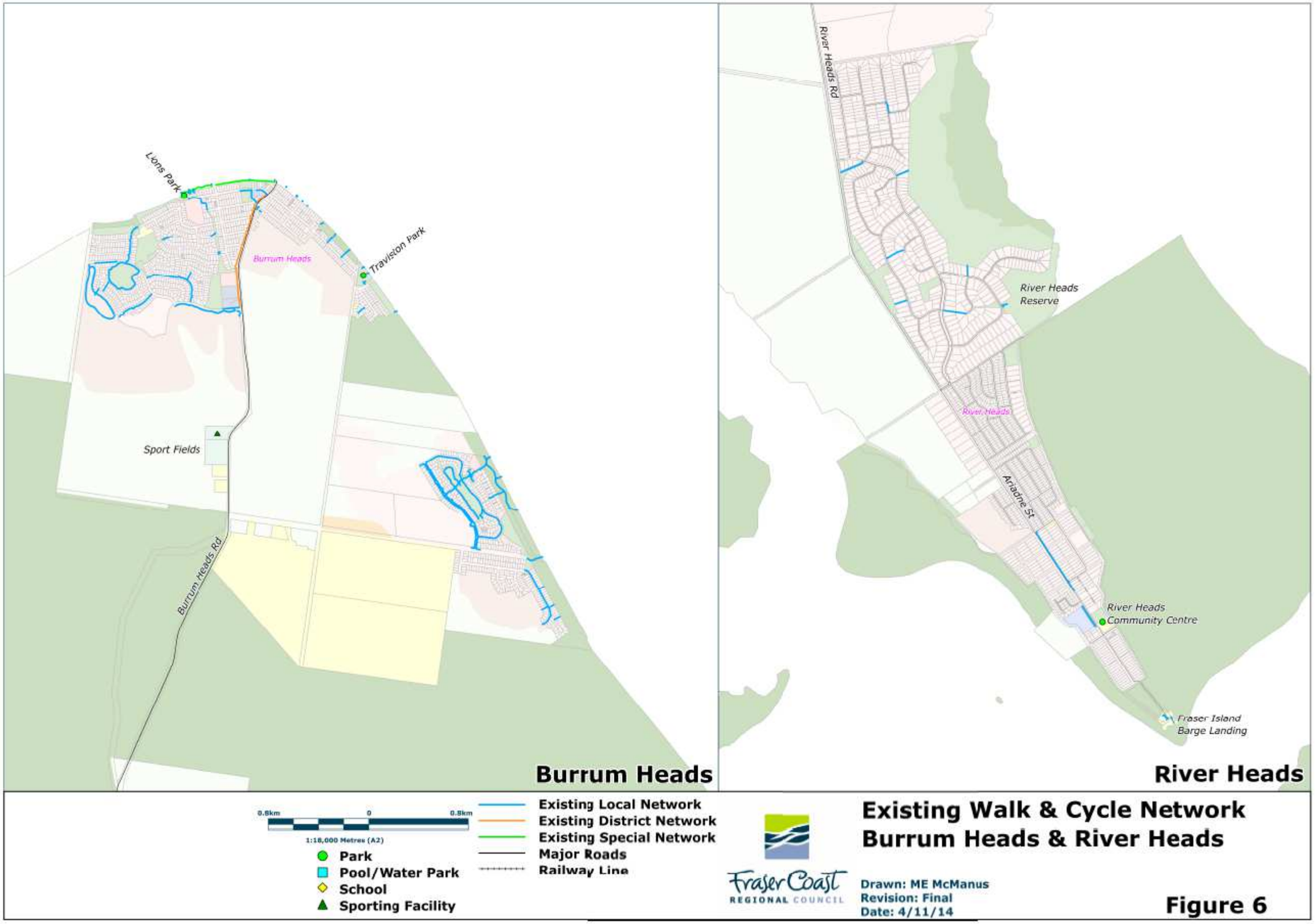


Figure 6 – Existing Walk & Cycle Network - Burrum Heads and River Heads



5.5.1 Regional Level Observations

The crash statistics have previously been analysed at a regional level. This analysis found that, on a per trip basis:

- Maryborough was safer for cyclists compared to other areas within Wide Bay Burnett;
- Hervey Bay was considered dangerous for cyclists; and
- Both Hervey Bay and Maryborough were considered dangerous for pedestrians.

In general, young teens (between the ages of 12 and 16) were overly represented in crash statistics, with adults under represented. However, in major crash statistics all teenagers (between the ages of 12 and 20) and people in their seventies were overly represented in major accidents, with 50-70 year olds under represented.

It was also observed that major crashes involving cyclists were more likely to occur during the afternoon school peak period between the hours of 3pm and 4pm, with a smaller peak observed in the morning between the hours of 8am and 9am. Similar trends for pedestrians were observed but the peaks were smaller. Fatal accidents were observed to be more likely to occur during the hours of 7pm and 9pm, in darkness or unlit areas.

5.5.2 Major Crash Locations

The crash statistics were analysed to determine areas with a high crash density. The areas that were found to have a high crash density for pedestrians were as follows:

- Kent Street, between Lennox Street and Bazaar Street, Maryborough;
- The junction of Ellena Street and Bazaar Street, Maryborough; and
- The intersection of Charlton Esplanade and Bideford Street, Hervey Bay.

All of these areas have existing footpath facilities, with Kent Street and the intersection of the Esplanade and Bideford Streets having dedicated pedestrian crossing facilities.

The areas that were found to have a high crash density for cyclists were as follows:

- The intersection of Boat Harbour Drive and Main Street, Hervey Bay;
- The intersection of Alice Street and Cheapside Street, Maryborough;
- The intersection of Ferry Street and Walker Street, Maryborough;
- The intersection of Kent Street and Guava Street, Maryborough; and
- The intersection of Odessa Street and Maryborough Tuan Forest Road, Maryborough.

All of these areas have existing footpath facilities, which are not considered adequate for the majority of cyclists, with only the intersection of Kent Street and Guava Street having a shared path. This shared path was situated on Kent Street but was of a narrow design.

The intersections of Ferry Street and Walker Street, Kent Street and Guava Street and Odessa Street and Maryborough Tuan Forest Road, all have a path proposed in their vicinity and the implementation of these paths should be considered a high priority.

The intersection of Boat Harbour Drive and Main Street was identified as being dangerous in the consultation submission by the Fraser Coast Bicycle User Group (BUG). Coupled with its high crash density, upgrading of this junction should also be considered a high priority.

5.6 Existing Strategies

5.6.1 Active Transport to School

Council developed and implemented an eleven month Active Transport to Schools project at Hervey Bay High and Pialba State School in 2007/2008. This project was very successful and achieved some great results in terms of reducing the number of students driven to and from school in favour of walking and cycling. As part of this project, two separate surveys were conducted into the behaviour of students and their families travelling to school. The surveys were comprehensive and identified factors including:

- Barriers to walking and cycling;
- Factors that would encourage students and their families to walk and cycle to and from school more often; and
- How many bikes each household owned.

Pialba State School continues to implement an Active Transport to School Programme. Maryborough Central School has also developed a school travel plan.

Council will continue to implement measures to encourage active transport to the schools on the Fraser Coast as funding and resources become available.

5.6.2 Local Cycle Groups

Fraser Coast BUG

In many local governments, community input into bicycle planning is undertaken via a Bicycle User Group (BUG). BUGs are usually set up by community members who want to improve cycling in their local area. The BUG can be an invaluable resource of expertise for Councils as they can provide local knowledge of issues and problems. They can streamline consultation for cycling initiatives by representing a variety of users, not just one cyclist, which ensures a variety of needs are considered. BUGs can also organise bike rides and other events to promote cycling. Their advocacy and promotional role can assist in increasing the pro¿ le of cycling in a local area and the decision makers.

The Fraser Coast Bicycle User Group was formed as the Hervey Bay BUG in 2003. It has three branches, based in Hervey Bay, Maryborough and Howard and over 160 members. Anecdotally up to 60 members a week take part in a regular Saturday morning recreational ride in Hervey Bay and other activities include:

- Annual 'River to River' ride from Burrum Heads to River Heads;
- 'Revolutionary Women' – an annual training programme led by a qualified female trainer;
- Participation in inter-regional activities such as the annual 9-day Cycle Queensland event; and
- Active links with the Bicentennial National Trail organisation.

Fraser Coast Cycling Group

The Fraser Coast Cycling Group has a membership of approximately 80 members ranging from 8 to 70 years old. There is a steadily growing membership of approximately 25% per year. Most members are on-road cyclists. The club members meet on Saturday mornings and predominately ride to Burrum Heads and Toogoom. They coordinate activities with Fraser Coast BUG and Triathlon Group, which trains weekly.

5.6.3 Cycle Training Sites

There is an existing cycling training site at Maryborough Special School. However, it was noted in the consultation workshops that it is generally locked to the public due to vandalism.

Riverside Christian College runs an independent bike education programme in Grades 5, 6 and 7.

5.6.4 Recreational Working Groups

The Hervey Bay Ramblers Group has a membership of approximately 25 members. Main activities include Saturday morning walks on footpaths and roads.

5.7 Key Issues

Relevant walking and cycling issues have been identified from:

- The consultation process;
- The previous Walk and Cycle Strategies; and
- The Draft Wide Bay Burnett IRTP Active Travel Strategy working paper.

They are summarised in the constraints and opportunities matrix in Table 5.

Council has developed and implemented Active Transport to Schools projects at various schools on the Fraser Coast

Ibis Boulevard Eli Waters Pedestrian and Cycle Way

Table 5 - Constraints and Opportunities Matrix

Opportunities	Constraints	Opportunities	Constraints
Physical Conditions		**Supporting Infrastructure**	
o Flat topography	o Flooding of road network	o Existing bollards, crossing facilities and signage on the network	o Remedial works required to fix substandard existing bollards, crossing facilities and signage
o Warm climate		o Compilation of GIS tools used to plan future signing and wayfinding strategies for the network	o Difficult to provide adequate crossings at roundabouts
Travel Behaviour and Attitudes		o Demand for end of trip facilities at private and public attractors	o Isolated spots or places with too little activity to safely provide facilities
o Growing population increasing demand for facilities	o Dominance of private vehicle trips	o Some existing comfort facilities already provided	
o Above state average walking and cycling trips to work and high proportion of students walking and cycling to school	o Dispersion of attractors and generators	**Road Network Safety**	
o Good penetration of State Controlled Roads linking major and regional townships and coastal communities	o Unpaved roads without shoulders or footpaths in rural areas	o Safety education focussed at reducing accident rates of young teens and journeys to school	o Adequate width to provide safe shared paths
	o High volumes of traffic in urban areas	o Improved lighting facilities for cyclists at accident hotspots	o Difficult to improve crossing facilities at roundabout controlled junctions
	o Poor connectivity of the existing street and open space network in newer subdivisions	**Existing Strategies**	
Walk and Cycle Network		o Existing Walk and Cycle Strategies	o Adequate width to provide safe shared paths
o Existing infrastructure in Maryborough and Hervey Bay – particularly recreational routes	o Disjointed existing network infrastructure due to piecemeal implementation	o Active community walking and cycling groups	o Difficult to improve crossing facilities at roundabout controlled junctions
o Demand to improve inter-connectivity between urban centres	o Existing infrastructure does not all conform to standards - substandard widths and surface materials	o Cycle training site facilities at Maryborough Special School	
o Demand to improve intra-connectivity within smaller towns			

6. Future Strategy

The strategy for the future is governed by the vision for walking and cycling and driven by the gap analysis of the existing constraints and opportunities. It sets out:

- What the walk and cycle network could look like The type of infrastructure it will have;
- How the network integrates with adjacent land uses; and
- How people will be encouraged to use it.

6.1 Future Network Plan

The proposals for future network links were sourced from the following:

- A review of the previously proposed walk and cycle links that have not yet been implemented for Maryborough and Hervey Bay;
- Consultation with stakeholders regarding their perceived priorities; and
- Review of other opportunities for developing the network including integration of infrastructure with: urban development, road network construction or improvements and public transit routes.

The future network needs to cater for population growth, settlement patterns, economic development and changing travel behaviour. As such the network proposed here has been developed in consideration of the Wide Bay Burnett Regional Plan, the Sustainable Growth Strategy and the Fraser Coast Planning Scheme. The proposed walk and cycle network which includes future Special and District pathways is shown in Figures 7, 8, 9 & 10. The proposed local path network is shown in Figures 14, 15 and 16 in Appendix B. It is anticipated that the local network plan will be regularly updated to service changing local needs. The local pathways shown in Figure 12 and Figure 13 can be changed accommodate local needs without changing the strategy.

The total existing and proposed walk and cycle network has a physical length of 427 km, and will expand the existing network by 60%. The existing network has been classified as discussed in Section 4.4 and the network length in each category is shown in Table 6.

Table 6 - Future categorised lengths

	Local	District	Special	Total
Future Pathway Lengths (km)	35	83	42	160

The future network needs to cater for population growth, settlement patterns, economic development and changing travel behaviour.

The longest physical link proposed is Special the Rail Trail link between Hervey Bay and Maryborough. This has been identified as a Special link in the network hierarchy.

The proposed network is a high level plan based on a desktop review. Each link should be fully scoped, at the preliminary design stage of implementation.

Actions

1. Ensure the recommendations of the Walk and Cycle Network plan is included into future Fraser Coast Regional Council planning documents;
2. Support the development of the Wide Bay Burnett Principal Cycle Network Plan;
3. Make network plans available in GIS; and
4. Review and update the Walk and Cycle Network Plan.

6.2 Design Guidance

Infrastructure design decisions need to be made regarding:

- Whether a link is on or off-road;
- If the link is off-road, who will use the path (dedicated or shared use);
- What type of supporting facilities will be provided; and
- How people will find their way around the network.

As discussed in Section 3.3, full design standards for walk and cycle network infrastructure are set out in Austroads - Part 13 and Part 14 and guidance is provided in the Queensland Cycle Notes and Easy Steps toolkits.

6.2.1 Selecting On or Off-road Facilities

Where the proposed walk and cycle network overlaps with the road network, the decision to provide either on or off-road paths and whether or not they are shared or dedicated cyclist or walking facilities will be determined by:

- The nature of trips (commuter or recreational);
- Expected volumes of people using the path;
- Available space and funding; and
- Traffic characteristics including average motor
- Vehicle speeds and volumes.

Typically the reason for a cycling or walking trip will determine the demand for an on or off-road facility. For example, commuters prefer the most direct and convenient route, but recreational and novice walkers and cyclists prefer off-road paths and quiet local routes.

Currently, the provision of, and design guidelines for pathways in Hervey Bay, is detailed in Section SC6.3.4 of the Planning Scheme Policy for Development Works. A summary of the pathway requirements is provided in Table 7.

Detailed tables guiding the decision making process on whether or not to provide on or off-road cycle path facilities are set out in the Queensland Cycle Notes. It can be seen from these tables that off-road treatment is generally advised when there is a high speed (>70 kph) and high traffic volume (>3000 vpd) on the link. This would include many of the State Controlled Roads in Fraser Coast and hence Regional links on the proposed walk and cycle network.

It is also advised to provide off-road facilities on lower speed links (<=70 kph) with high traffic volumes (>3000 vpd) where there are likely to be a large proportion of recreational or school age cyclists i.e. some high volume district links abutting community use, residential and rural areas. By definition, most of the special links in the proposed network will be off-road facilities.

A summary of the likelihood of a pathway being on or off road is summarised in Table 8. However, each link will be subject to a design which will determine whether the link is an on or off road solution for the situation.

Table 7 - Planning Scheme Policy for development works - Pathway Requirements

	Local	District	Special
Residential	Footpath	Shared Pathway	Not Defined
Rural	None	None	None
Industrial	Footpath	Footpath	Not Defined
Commercial	Footpath	Footpath	
Community Use	Not Defined		
Parks and Open Space			

Table 8 - Likely On or Off Road Link Treatment

	Local	District	Special
Residential	On Road	On or Off Road	Off Road
Rural	On Road	On or Off Road	Off Road
Industrial	On Road	On or Off Road	N/A
Commercial	On Road	On Road	On or Off Road
Community Use	On or Off Road	On or Off Road	Off Road
Parks and Open Space	On or Off Road	On or Off Road	Off Road

Figure 7 – Proposed Walk & Cycle Network Fraser Coast Overview

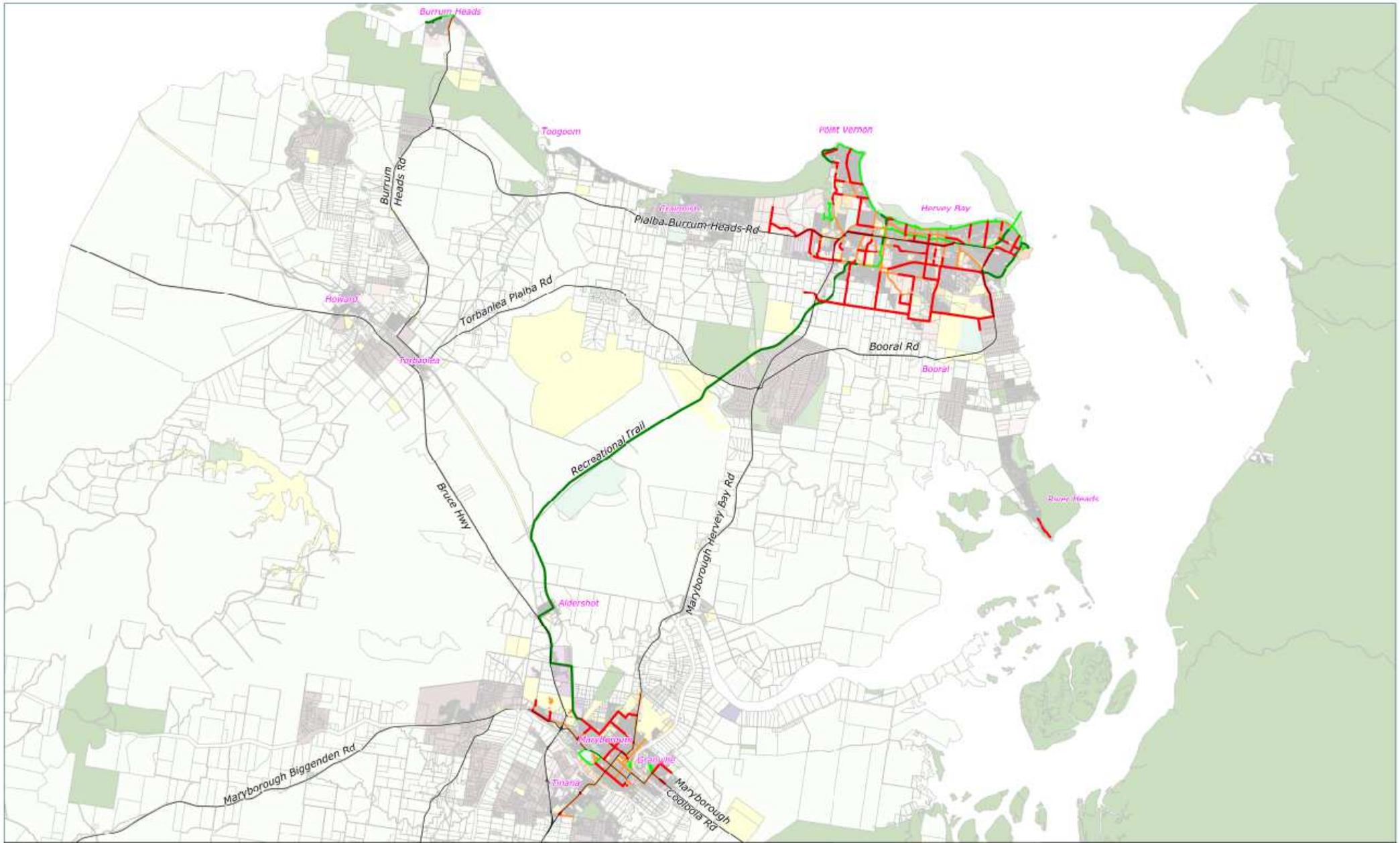


Figure 8 – Future Walk & Cycle Network - Hervey Bay

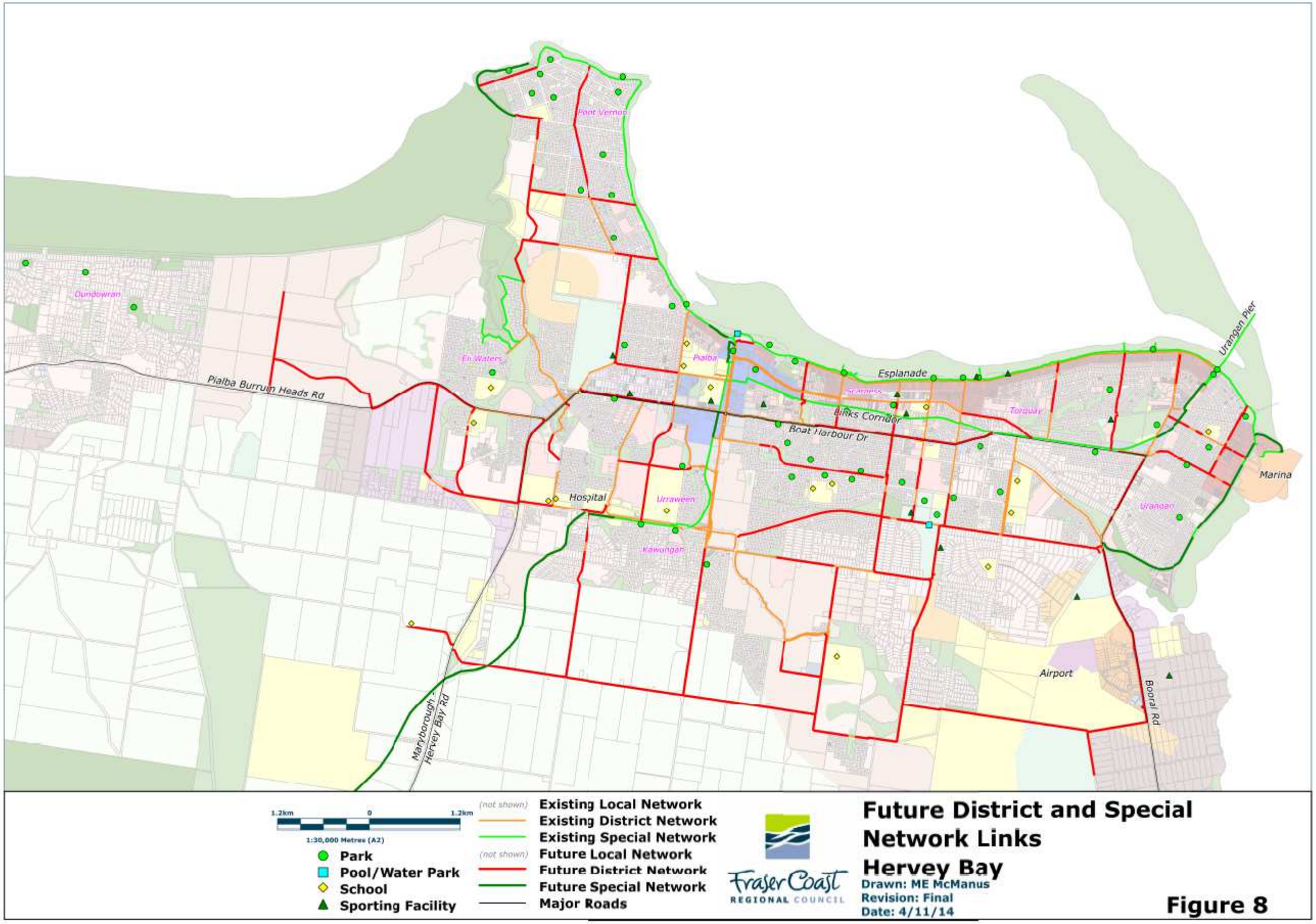


Figure 9 – Future Walk & Cycle Network - Maryborough

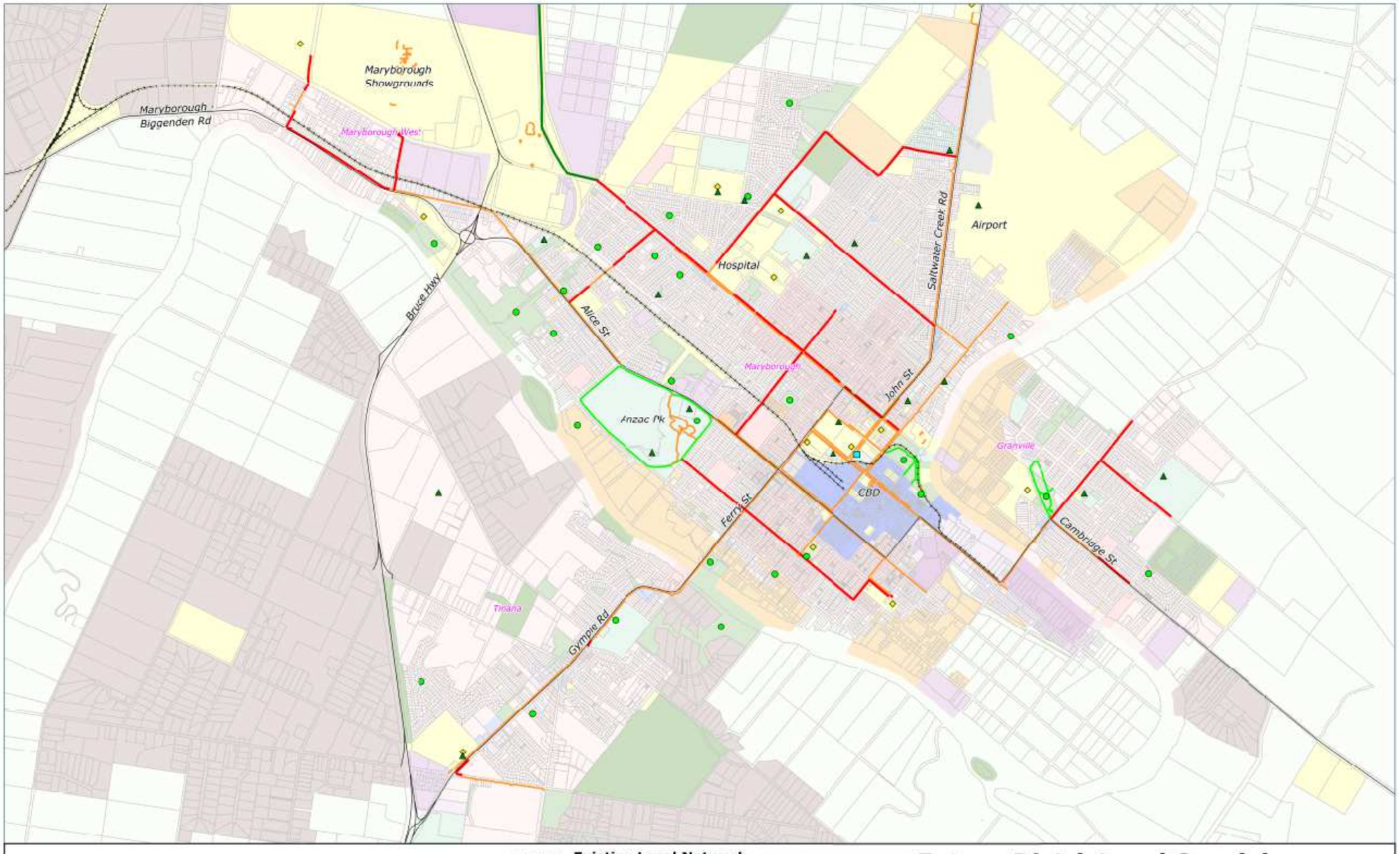
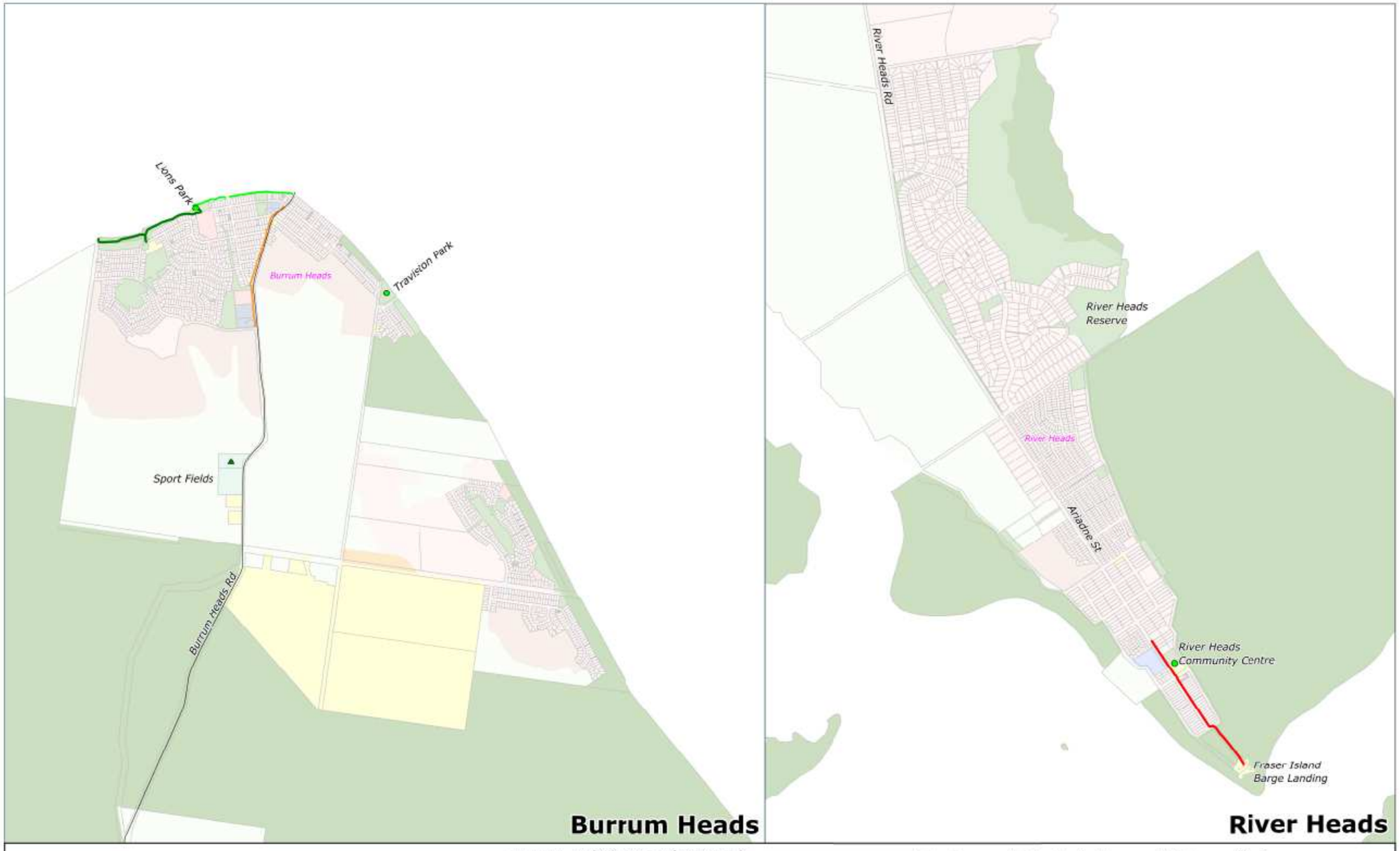


Figure 10 – Future Walk & Cycle Network - Burrum Heads and River Heads



6.2.2 Typical Off-road Path Treatments

Ideally off-road facilities will cater for the shared use of pedestrians, cyclists and other users such as roller bladers and mobility scooters. This is appropriate where there is demand for both pedestrian and off-road bicycle facilities. However, where there is not enough available width to warrant mixed use, the separation of the two modes may be required.

For this strategy, the intended use of future links has been assumed from the minimum path width as set out in Table 9 below. However, additional pathway widths may be considered necessary in the vicinity of schools or other high traffic areas.

Table 9 - Width Assumptions (off Road)

Path Type	Width (m)
Local	1.3
District	2.5
Special	2.5 minimum

Final determination of configuration and width will be subject to detailed design in consideration of constraints and local requirements.

In addition to width requirements, Austroads - Part 16a discusses further design requirements for the link including:

- Pavement materials;
- Location of crossings; and
- Use of bollards and end treatments.

6.2.3 Supporting infrastructure

Support facilities are a key component of a well-planned walking and cycling network as they make the trip more enjoyable and therefore encourage greater use. Support facilities may include:

- Toilets;
- Drinking water;
- Bicycle Parking facilities;
- Information and maps;
- Seating;
- Shade; and
- Lighting.

Where links are within parks and reserves, these facilities may already be provided and the size and location of them should be determined as part of an overall master plan for each park. Facilities should also be located at end points and main attractors on the network such as shopping facilities, schools, places of employment and community use locations on the network.

Seating and shade trees should be provided along links wherever possible. They add to the functionality and the visual attractiveness of the route. Such facilities are often easier to install along paths within parks and open space areas since footways are often constrained with competing kerbside infrastructure – however, they are equally required in both locales. It is important that shade trees and seats are located with adequate clearance to the path so that they do not become a hazard.

Bicycle parking should conform to Australian Standard *AS2890.3 - Part 3: Bicycle Parking Facilities.* This standard recommends three classes of bicycle parking that are acceptable in Australia defined by security class and parking requirement. It is noted that racks that support the bicycle by only one wheel are not recommended for use.

Lighting is important to user safety and extending the use of walking and cycle paths beyond daylight hours. It is an important component of CPTED. Where paths are on-road or a footway adjacent to a road, there is generally existing street lighting in the urban areas. This is not the case in many rural areas in Fraser Coast and for some off-road paths. At these locations, additional lighting may need to be provided and should be designed in accordance with AS/NZ51158.3.1:2005. Use of solar powered lighting reduces running costs and earthworks and should be considered. Further design guidance on appropriate provision of street lighting can be found in Planning Scheme Policy for development works section SC6.3.9.

6.2.4 Signage and Wayfinding

A clear and legible recreational path network is important if people are to be encouraged to use it. A signage programme is being progressively implemented by Council particularly for recreational paths (i.e. 'special links'), key district and some regional routes.

The signage programme should incorporate:

Regulatory and Warning Signs – these are provided along shared paths in accordance with the MUTCD.

Guidance Signs – these are provided to define routes, in particular 'principal' recreational routes and routes within major parks, and provide information to enable users to find their way around the network. Information may include key destinations (eg. Parks, CBD), road names, directions to toilets and drinking facilities, and directions to other parks. Some examples of direction signs are provided in Figure 11.

Interpretive Signs – these are provided within parks or at other locations along routes that may have specific environmental, visual, or local history values. They add to the overall experience and enjoyment of using the path and park and could be implemented as part of a park master plan. Distance markers along routes, particularly along path 'loops' within parks can also add to the appeal of using them. Some examples of these types of signs are provided in Figure 12.

Street art and place making – street and public art can be used as informal place makers and meeting points on the network and should be coordinated with the existing public art programmes. An example of street art is shown in Figure 13.

Ultimately, the aforementioned signage programme, in particular the guidance and interpretive sign components, should be complemented by information brochures and internet content that outlines the various routes and experiences available. Information on walking and cycling should also be included in the development of online journey planning tools for the region.

Actions

5. Continue to implement local area wayfinding measures in the network; and
6. Provide integrated walking and cycling information and network maps in information brochures, Council internet sites and online journey planning tools.

Figure 11 – Examples of Direction Signs (Source: Queensland Manual of Uniform Traffic Control Devices)

Figure 12 – Examples of Interpretive Signs (Source: Maryborough Walk and Cycle Strategy 2003)

Figure 13 – Street Art in Maryborough

Maryborough born artist Susie Hansen designed the large sculpture in Ellena Street as a tribute to Maryborough industry. The sculpture is a fly wheel cut in half which was originally fitted to a single cylinder knynoch suction gas engine in the powerhouse of Walkers Ltd. It is a distinctive place maker and meeting point in the town centre.

6.3 Integration with Land Use Development

Integration of the walk and cycle network into the land use planning scheme is essential to influence the urban design of properties abutting the network at all scales of development - from master planning of new subdivisions to the individual design of single properties.

The development assessment stage provides the best opportunity to ensure good design and facilities for walking and cycling are integrated in the urban environment. Early consideration and implementation is often less expensive and easier to implement than retrofitting an existing design.

The design should seek to achieve the guiding walk and cycle network objectives of safety, connectivity, accessibility, amenity and vitality and cost effectiveness. This can be achieved through appropriate urban design that encourages streets and open spaces to be fronted and overlooked by actively used facilities and consideration of the following principles (as set out in the Queensland Cycle Notes):

- Orientation of buildings to front cycle routes;
- Minimum setbacks to enhance casual surveillance;
- Higher-density residential living to support public transport, cycling and walking;
- Off-street car parking located at the rear or side of a dwelling with driveway access from rear service lanes;
- High quality walking, cycling, public transport and disability access; and
- Kerb ramps on all footpaths and shared paths.

The above list is equally applicable to achieving good design outcomes for pedestrians as well as cyclists and is consistent with the fundamental concepts of CPTED (direct presence, passive and natural surveillance, and legibility).

Actions

7. Integrate walk and cycle design considerations into urban layout requirements and policies.

6.4 Encouraging the Network to be Used

6.4.1 Education

Education is an important factor in ensuring the safe use of facilities by pedestrians, cyclists and other groups, including drivers. User behaviour can be affected by programmes which target enforcement and public education. Education and information is also vital to encouraging the community to walk and cycle. Education programmes can include:

- Driver awareness of pedestrian and cyclist needs and behaviours;
- Pedestrian and cyclist awareness of vehicles and encouraging them to be more 'defensive in their actions';
- Pedestrian and cyclist safety issues, particularly related to safe road crossings;
- Target schools programmes (parents, teachers and students) on safe walking and cycling practices and the benefits of walking and cycling to school; and
- Users of shared bicycle and walking facilities.

There are a number of existing programmes run by State Government which address the above such as promotional and media campaigns targeting pedestrian and cyclist safety. Council Implemented an Active Transport Schools Programme in 2007/08 and this programme should be implemented once again.

At a local level, active public user groups provide strong linkages with the community. The Fraser Coast BUG has offered its ongoing support to promote the routes and initiatives proposed as a result of the previous Safe Routes to School programme. They have also proposed the provision of a practical cyclist education site in Hervey Bay to supplement the Maryborough Special School training site.

6.4.2 Encouragement

Encouragement strategies can make a significant difference to increasing walking and cycling in the city. Promotion of Council walk and cycle facilities and encouraging their use is vital to promoting the range of services and liveability of the City. It can also improve the tourist experience and increase opportunities for tourism promotion. Encouragement strategies can include:

- Promoting the health, environmental, social and economic benefits of walking and cycling;
- Disseminating information on walk and cycle facilities e.g. network plan maps;
- Marketing and promotion campaigns integrated with health and community campaigns;
- Community events which encourage people to walk and/or cycle e.g. charity fun walks;
- Behavioural change programmes; and
- Encouraging community involvement in planning stages e.g. community led pedestrian and cycle safety and accessibility audits.

Ongoing support and coordination between Council and community groups will be invaluable in organising some or all of the above strategies.

6.4.3 Enforcement

Enforcement of the road rules for pedestrians and cyclists and the behaviour of motorists is a central issue to the successful shared use and operation of the network. It is important that all users are aware of the rules that apply to cyclists and pedestrians and their consequent rights - that facilities are maintained to a standard so that they can be safely used - that rules are enforced, and the Queensland Police and the Department of Transport and Main Roads are active in their responsibility of issuing notices and infringements.

Key issues for enforcement include:

- Use of shared paths and footpaths by prescribed groups;
- The use of cycle helmets; and
- Motorist behaviour and speed – particularly in high pedestrian crash priority areas.

Where the Council has implemented local laws prohibiting users such as cyclists from using certain footpaths, alternative facilities and convenient routes should be provided as part of the future walking and cycling network.

6.4.4 Maintenance

Pedestrian and cycle facilities need to be maintained on a regular basis. Maintenance can also be used to progressively update existing facilities to meet current design standards. Maintenance ensures high quality facilities are preserved and reduces obstacles and barriers. Maintenance activities range from sweeping of paths and clearance of obstructing vegetation to the repair and reconstruction of pavement materials where the existing facility is severely impaired.
The Council's maintenance standards for pedestrian and cycle facilities should appropriately deal with pedestrian and cycle needs. Work programmes should aim to reduce response times for addressing defects by taking into account relative priorities and resources available when compared with other maintenance activities.

Actions

8. Liase with the Fraser Coast BUG, community groups and other interested parties;
9. Promote State and Federal walk and cycle encouragement and education initiatives and programmes within Fraser Coast; and
10. Develop standardised review and asset management of existing footways, shared paths, bikeways and supporting infrastructure (including marking, signing, parking and lighting) in Council maintenance programmes.

7. Implementation

This strategy in itself is the first step in the Council's commitment to improving conditions for walking and cycling in Fraser Coast and a legacy of the Maryborough and Hervey Bay strategies. The successful implementation of the actions listed in this strategy will require:

- Commitment and resources;
- Funding; and
- Systems to manage, monitor and review the Implementation.

The previous section discussed some of the resources required for the future strategy.

This section details available funding sources, capital costs and network priorities and implementation of monitoring and review systems which will be required to fully implement the strategy.

7.1 Funding Sources

The capital funds required to implement the future infrastructure network can be sourced from a mixture of the following:

- Capital works budget for new and maintenance works;
- Infrastructure Charges from new development;
- Infrastructure provided by new development; and
- State and Federal Government schemes and subsidies.

7.1.1 Council Walking and Cycling Budget

Fraser Coast Regional Council is continuing to progress the work previously undertaken by Hervey Bay and Maryborough Councils and, over the past 11 years since the adoption and implementation of the Maryborough Walk and Cycle Strategy (2003) and the Hervey Bay Living Streets Strategy (2003), has invested millions of dollars into improving the pedestrian and cycle infrastructure in the Fraser Coast Region. In fact, footpaths and cycleways costing in excess of $2M were constructed by Council in 2013/2014. The works budget for 2014/15 shows a capital works expenditure of $1.2M. The dedicated funding specifically addresses, in the majority of projects, the recommendations of the aforementioned strategies.

In addition to the projected funding identified in the Capital Works Programme, Council continues to collect Development Contributions through Infrastructure Charges and makes applications where possible for Federal and State Government funding.

In determining its Walk and Cycle Budget, Council undertakes a consultation process in conjunction with the recommendations of its adopted strategies, with interest groups, strategic planners, internal Council Departments and private developers or their representatives to deliver infrastructure that value adds to the existing Walk and Cycle Network. Through this consultation process Council is able to determine a clear direction in setting future expenditure budgets for its Active Transport Programme.

7.1.2 Fraser Coast Regional Council Works Budget (FCRC Works)

Funding for walking and cycling infrastructure in the Fraser Coast has evolved to become a dedicated Capital Delivery Item within Council's Work's Budget. However, further budget considerations should be implemented to integrate future budget expenditure with future infrastructure items such that a holistic infrastructure delivery programme is developed.

In this regard, implementation and forward planning of the walk and cycle network should continue to be incorporated with the following infrastructure works programmes:

Road upgrades – where practical and possible an integrated transport solution should be implemented.

Open space and recreation projects - opportunities to implement end of trip facilities, provide mixed use trail networks and acquire additional land to link the network.

Drainage corridors – the planning or retrofit of drainage corridors may present an opportunity to construct sections of the off-road network.

Urban design and developer consent – provision of infrastructure associated with a specific development or change of use planning application.

Works budget funding is most likely to be used on council controlled roads and corridors and as such would be suitable to fund local and district links. It is also suitable for links in 'Community Use' and 'Parks and Open Space' land use areas.

7.1.3 Infrastructure Charges

Council has an adopted infrastructure Charges resolution that enables Council to collect infrastructure charges from new development. These funds can be used to provide trunk pathway infrastructure to

facilitate new development. The Fraser Coast Planning Scheme incorporates a Priority Infrastructure plan which identifies the trunk pathway infrastructure required to facilitate development. Alternatively, a development may construct the trunk infrastructure with appropriate offsets against the infrastructure charges.

7.1.4 Infrastructure Provided by Development

New pathway infrastructure may be provided by new residential, commercial or industrial development to facilitate the active transport needs of that development. These are determined though the development assessment process and may be conditioned on the development approval or provided though an infrastructure agreement.

7.1.5 State and Federal Government Schemes

State or Federal government funding programmes are often available to assist local governments in the design and implementation of cycling infrastructure. This funding can be in the form of one off grants for a particular project or a targeted scheme to improve particular areas of the network. These generally change over time.

Key funding programmes include:

Transport Infrastructure Development Scheme (TIDS) administered by the Queensland Department of Transport and Main Roads (DTMR). TIDS has previously funded dedicated bikeways and shared paths on a 50/50 subsidy basis with local governments. On-road bike lanes have also been funded on a 50/50 basis. This programme no longer includes pathway construction projects.

Safe School Travel (SafeST) Subsidy Scheme: The scheme is funded from the Roads Implementation Programme (RIP) and provides 50/50 subsidy to Queensland local governments for approved school transport related infrastructure works. This may include provision of school zones, crossing facilities, pedestrian refuge islands, bike facilities and other traffic management devices.

7.1.6 Summary of Potential Funding Sources

The most likely funding sources used to fund infrastructure links on the network and support the implementation of the strategy is summarised in Table 10.

Actions

11. Ensure optimised use of State and Federal funding for walking and cycling including identification of schemes suitable for the Transport Infrastructure Development Scheme, Local Government Development Programme, Major Facilities Programme and Safe Routes to School programmes.

7.2 Indicative Network Costs

A strategic capital infrastructure costing exercise was undertaken for all the links identified in the future network plan and full details are provided in Appendix A.

Total indicative estimates for the proposed future walk and cycle network links are:

- $5.3 M for local routes;
- $24.0M for district routes; and
- $18.4M for special routes.

This is a total cost of $47.7M for the network. The total funding requirements are for the implementation of the entire network over the 20 year lifespan of the strategy. As such it represents an average annual cost of approximately $2.4 million per annum or $300/m of network (at 2013 prices).

Of the 220 future links in the network, there are 5 links that have an estimated capital cost over $1 million each, representing a total combined cost of $16.9M. These are all identified as special pathway links.

Table 10 – Likely Sources of Funding

	Capital Works Programme	Infrastructure Charges	Developer provided	State and Federal Government Funding
Special	yes	yes		yes
District	yes	yes		yes
Local	yes		yes	yes

The highest cost route is the Hervey Bay to Maryborough Rail Trail represents 26% of the entire network cost.

Priority road crossing schemes, as discussed in Appendix A, require a further total $1.6 million - which is not included in the total network cost.

It should be noted that the costing exercise is strategic in nature for the purposes of determining indicative network costs and project priorities. More detailed investigations and preliminary estimates should be carried out for each project prior to the application for funding or commitment of funds.

Actions

12. Monitor walk and cycle network expenditure and update unit cost rates for future planning.

7.3 Prioritisation

Priorities for the network have been established in accordance with Council's Infrastructure Investment Priority Framework. Priority rankings are defined as:

- ***Priority 1*** – Replacement/refurbishment of existing footpaths identified as part of the local and regional footpath network*
- ***Priority 2*** – Completion of missing links of existing local and regional footpath network, connectivity to key transport and recreational hubs.
- ***Priority 3*** – New footpaths and cycleways as identified in the Fraser Coast LGIP as regional footpath network and funded by developer contributions.
- ***Priority 4*** – New footpaths and cycleways as identified in Walk & Cycle Plan as local footpath network.
- ***Obsolete Footpaths*** – removal of identified footpaths no longer required will occur over time with minimal maintenance incurred only to comply with safety and risk management.

Pathways are further prioritised in the preparation and/or amendments to the Priority Infrastructure Plan and capital works programme. In prioritising the network links, consideration is given to:

- Projects that complete a route by providing a missing link or eliminate pinch points;
- Integration with schemes that already have funding – in particular other known road construction, maintenance programmes and major land use developments;
- Projects that provide the most benefit – cost effective schemes that increase safety and amenity for the greatest number of users; and
- Projects with strong community support and demand

In practice, the network will be implemented as appropriate funds are applied for and/or become available. Projects may implement one or more network links based on:

- Geographical area (such as land use developments or major road programmes); and
- Desired outcomes (including safe routes to school or accident black spot reduction).

As such the ranking of each link can be used as a guide to funding prioritisation and implementation strategies.

Actions

13. Review and update the walk and cycle network and associated strategic priorities.

District Link - Pathway with On-Road Cycle Lane

SpecialPathway Link – Mobility Corridor

8. Conclusions

8.1 Summary

This strategy represents the vision of Fraser Coast Regional Council to develop vibrant streets and parks that support pedestrian and cycle activity for social, recreational and transport purposes.

The warm climate, relatively flat topography, lively towns and stunning scenery make the Fraser Coast a natural location for walking and cycling. The residents and visitors of the Fraser Coast currently enjoy walking and cycling for recreational, commuting and daily transport purposes. However, there is scope to improve the safety, connectivity, accessibility, amenity and vitality and cost effectiveness of facilities and condition for these activities.

8.2 Action Plan

A compilation of all of the actions, including assigned responsibility and priority, suggested in this strategy is presented in Table 11.

This strategy represents the vision and of Fraser Coast Regional Council to develop vibrant streets and parks that support pedestrian and cycle activity for social, recreational and transport purposes.

Table 11 – Action Plan

ID	Action	Responsibility	Timing
1	Ensure the recommendations of the Walk and Cycle Network plan is included into future Fraser Coast Regional Council planning documents	FCRC	ongoing
2	Support the development of the Wide Bay Burnett Principal Cycle Network Plan	WBB / FCRC	ongoing
3	Make plans available on GIS	FCRC	2015
4	Review and update the Walk and Cycle Network Plan	FCRC	Annually
5	Continue to implement local area wayfinding measures in the network	FCRC	ongoing
6	Provide integrated walking and cycling information and network maps in information brochures, Council internet sites and online journey planning tools	FCRC	ongoing
7	Integrate walk and cycle design considerations into urban layout requirements and policies	FCRC	ongoing
8	Liaise with the Fraser Coast BUG, community groups and other interested parties	FCRC	ongoing
9	Promote State and Federal walk and cycle encouragement and education initiatives and programmes within Fraser Coast	FCRC	ongoing
10	Develop standardised review and asset management of existing footways, shared paths, bikeways and supporting infrastructure (including marking, signing, parking and lighting) in Council maintenance programmes	FCRC	ongoing
11	Ensure optimised use of State and Federal funding for walking and cycling including identification of schemes suitable for the Transport Infrastructure Development Scheme, Local Government Development Programme, Major Facilities Programme and Safe Routes to School programmes	FCRC	ongoing
12	Monitor walk and cycle network expenditure and update unit cost rates for future planning	FCRC	annually
13	Review and update the walk and cycle network and associated strategic priorities	FCRC	annually

9. References

9.1 Glossary

BUG	Bicycle User Group
CPTED	Crime Prevention through Environmental Design
DDA	Disability Discrimination Act (1992)
DSDIP	Department of State Development, Infrastructure & Planning
DTMR	Department of Transport and Main Roads
FCRC	Fraser Coast Regional Council
GIS	Geographic Information System
ICS	Infrastructure Charging Schedule
LGDP	Local Government Development Programme
LRRS	Local Roads of Regional Significance
MFP	Major Facilities Programme
MUTCD	Manual of Uniform Traffic Control Devices
PCNP	Principle Cycle Network Plan
QADA	Queensland Anti-Discrimination Act (1991)
RRG	Regional Roads Group
SafeST	Safe School Travel Subsidy Scheme
SPA	Sustainable Planning Act (2009)
TIDS	Transport Infrastructure Development Scheme
WBB	Wide Bay Burnett

9.2 Bibliography

1. ABS Key Demographic Indicators, Australian Bureau of Statistics, 2006
2. Australian Standards - Design for access and mobility (AS 1428 (Suite)), Australian Standard® , 2009
3. Australian Standards – Parking facilities. Part 3: Bicycle parking facilities (AS 2890.3), Australian Standard®, 1993
4. Crime Prevention Through Environmental Design (CPTED) Guidelines for Queensland, Queensland Government, 2007
5. Disability Discrimination Act 1992, Commonwealth of Australia, 1992
6. Easy Steps – a toolkit for planning, designing and promoting safe walking, Queensland Government (Queensland Transport), 2005
7. Guide to Traffic Engineering Practice – Part 13: Pedestrians, Austroads, 1999
8. Guide to Traffic Engineering Practice – Part 14: Bicycles, Austroads, 1999
9. Healthy Urban Development Checklist, NSW Department of Health, 2009
10. Hervey Bay Living Streets Strategy Walk and Cycle Plan, Eppell Olsen & Partners for Hervey Bay City Council, 2003
11. Interim Road Planning and Design Practice, Queensland Government (Engineering and Technology Group), May 2010
12. Manual of Uniform Traffic Control Devices, Queensland Government (Main Roads), 2009
13. Maryborough Walk and Cycle Strategy, Arup for Maryborough City Council, 2003
14. Queensland Anti-Discrimination Act 1991, Queensland Government, 1991
15. Queensland Cycle Strategy, Queensland Government (Queensland Transport), 2003
16. Sustainable Planning Act 2009, Queensland Government, 2009
17. Wide Bay Burnett Regional Economic Profile (Department of Infrastructure and Planning),Queensland Government 2009
18. Fraser Coast Regional Council Walk and Cycle Strategy, (GHD) October 2010
19. Fraser Coast Planning Scheme 2014

9.3 Websites

Bike User Guide, Department of Transport and Main Roads:
http://www.tmr.qld.gov.au/Travel-and-transport/Cycling/Bike-user-guide.aspx

Department of Transport and Main Roads:
http://www.tmr.qld.gov.au/

Fraser Coast Regional Council:
www.frasercoast.qld.gov.au

Pedestrian Guide, Department of Transport and Main Roads:
http://www.tmr.qld.gov.au/Travel-and-transport/Pedestrians-and-walking/Pedestrian-guide.aspx#safe

Healthy Spaces and Places Guidelines:
http://www.healthyplaces.org.au/site/

Crime Prevention through Environmental Design (CPTED) Guidelines:
https://www.police.qld.gov.au/programs/cscp/resources.htm

Appendix A

Network Costing and Prioritisation

Costing Methodology

A.1 Costing Methodology

The links in the future network have originated from:

- Future links identified in the 2003 Maryborough Walk and Cycle Strategy that have not been constructed;
- Future links in the 2003 Hervey Bay Living Streets Strategy that have not been constructed;
- New Future links identified in the 2010 study;
- The Priority Infrastructure Plan adopted in January 2013; and
- Links identified as part of this review.

Unit rates were calculated from current construction costs by work undertaken by and for the Fraser Coast Regional Council in 2013. The unit rates include a 20% contingency but do not include the installation of bench seats, lighting or landscaping.

The costing exercise is strategic in nature for the purposes of determining indicative network costs and project priorities. More detailed investigations and preliminary estimates should be carried out for each project prior to the commitment of funds.

Table 12 – Unit Rates for Future Link Costs

Item	Unit	Rate
Local Pathway (1.3m wide)	metre	$150
District Pathway (2.5m wide)	metre	$290
Special Pathway (3.5m wide)	metre	Up to $1150
Special Pathway (Rail Trail)		Based on detailed costings
Pedestrian Refuges	each	$40,000

A.2 Road Crossing Priorities

Also included in the strategy is a list of road crossings (Table 14) to compliment the walk and cycle network. This includes pedestrian refuges and traffic signals. The projects on this list are subject to more detailed investigation and subject to constraints. The signalised crossings will be provided and funded as part of future road intersection signalisation works.

A.3 Redundant Network Links

Table 15 is a list of potential pathway links that may not be replaced when the condition deteriorates beyond repair. These should be assessed for need when they become due for replacement.

Table 13 – Future Pathway Schedule

Road Name	Suburb	Length (m)	Estimated Cost	Type	Investment Priority
Special Pathways					
Mobility Corridor	Pialba	351	$373,000	Special	3
Mobility Corridor	Urangan	999	$1,148,000	Special	2
Mobility Corridor	Urraween	651	$455,000	Special	2
Rail Trail	Maryborough to Urraween	34,453	$12,412,000	Special	4
The Esplanade	Burrum Heads	924	$642,000	Special	3
The Esplanade	Point Vernon	1,488	$1,000,000	Special	3
The Esplanade	Urangan	3,205	$2,388,000	Special	3
District Pathways					
Albert Street	Maryborough	218	$63,220	District	2
Alice Street	Maryborough	195	$56,550	District	2
Amos Road	Booral	562	$162,980	District	3
Ann Street	Maryborough	1,629	$472,410	District	3
Ann Street	Torquay	499	$144,710	District	2
Ariadne Street	Maryborough	301	$87,284	District	3
Ariadne Street	River Heads	320	$92,719	District	3
Banana Street	Granville	704	$204,160	District	3
Banksia Street	Point Vernon	993	$287,970	District	3
Barnstaple Street	Torquay	47	$13,569	District	3
Beach Road	Pialba	181	$52,438	District	3
Beach Road	Urraween	1,423	$412,670	District	3
Bideford Street	Torquay	416	$120,576	District	3
Boat Harbour Drive	Pialba	1,022	$296,380	District	3
Boat Harbour Drive	Scarness	991	$287,390	District	3
Boat Harbour Drive	Torquay	1,212	$351,480	District	3
Boat Harbour Drive	Urangan	1,015	$294,350	District	3
Booral Road	Urangan	2,391	$693,390	District	3
Boundary Road	Urangan	1,362	$394,980	District	3
Boundary Road	Wondunna	1,600	$464,000	District	3
Cambridge Street	Granville	313	$90,770	District	3
Chapel Road	Nikenbah	3,166	$918,140	District	3
Cheapside Street	Maryborough	202	$58,508	District	3
Christensen Street	Urraween	115	$33,292	District	3
Colyton Street	Torquay	128	$37,146	District	3

Conservation Drive	Urraween	386	$112,010	District	3
Corfield Street	Point Vernon	76	$21,962	District	3
Corser Street	Point Vernon	360	$104,272	District	3
Denmans Camp Road	Scarness	1,142	$331,180	District	3
Doolong Road	Kawungan	762	$221,038	District	3
Doolong Road	Wondunna	1,205	$349,450	District	3
Doolong South Road	Wondunna	3,200	$928,000	District	3
Dougan Street	Point Vernon	1,331	$385,990	District	3
Drury Lane	Dundowran	1,302	$377,676	District	3
East Street	Scarness	77	$22,330	District	2
Elizabeth Street	Urangan	1,146	$332,340	District	3
Elstow Street	Maryborough West	219	$63,475	District	3
Fairway Drive	Urraween	38	$11,078	District	2
Gayndah Road	Maryborough West	986	$285,986	District	3
Greensill Road	Dundowran Beach	1,358	$393,829	District	3
Gympie Road	Tinana	227	$65,830	District	3
Ibis Boulevard	Eli Waters	698	$202,469	District	3
Jensen Drive	Urraween	191	$55,390	District	2
Kelly Street	Point Vernon	233	$67,570	District	3
Lincolnfield Street	Torquay	26	$7,540	District	3
Madsen Road	Urraween	1,935	$561,150	District	3
Maggs Hill Road	Nikenbah	1,778	$515,484	District	3
Main Street	Nikenbah	1,574	$456,501	District	3
Main Street	Urraween	306	$88,740	District	3
Mant Street	Point Vernon	808	$234,448	District	3
March Street	Maryborough	195	$56,550	District	3
Margaret Street	Urangan	1,234	$357,860	District	3
Martin Street	Point Vernon	805	$233,450	District	3
Maryborough Hervey Bay Road	Urraween	1,229	$356,410	District	3
Mcliver Street	Kawungan	120	$34,730	District	3
Miller Street	Urangan	852	$247,080	District	3
Murphy Street	Point Vernon	953	$276,370	District	3
Nagel Street	Oakhurst	270	$78,300	District	3
Neptune Street	Maryborough	1,380	$400,200	District	3
Newhaven Street	Pialba	107	$30,998	District	3
Nikenbah Dundowran Road	Nikenbah	719	$208,435	District	3
Nissen Street	Urraween	424	$123,064	District	2
North Street	Point Vernon	458	$132,742	District	3
Odessa Street	Granville	958	$277,820	District	3

Old Maryborough Road	Pialba	664	$192,560	District	3
Oleander Avenue	Kawungan	1,532	$444,280	District	3
Pallas Street	Maryborough	1,166	$338,140	District	3
Pantlins Lane	Urraween	437	$126,788	District	3
Pialba Burrum Heads Road	Dundowran Beach	2,547	$738,630	District	3
Pialba Burrum Heads Road	Eli Waters	1,253	$363,370	District	3
Pulgul Street	Urangan	488	$141,520	District	3
Queens Road	Scarness	237	$68,730	District	3
Rasmussen Road	Kawungan	944	$273,760	District	3
Raward Road	Wondunna	2,884	$836,360	District	3
Russell Street	Maryborough	610	$176,900	District	3
Scrub Hill Road	Urraween	938	$272,020	District	3
Shore Road West	Urangan	3,301	$957,290	District	3
Showgrounds Road	Maryborough West	257	$74,594	District	3
Stirling Drive	Urraween	972	$281,880	District	3
Sydney Street	Maryborough	438	$126,977	District	3
Tavistock Street	Torquay	615	$178,350	District	3
The Esplanade	Pialba	405	$117,450	District	3
The Esplanade	Point Vernon	93	$27,112	District	3
The Esplanade	River Heads	843	$244,456	District	3
Tooth Street	Pialba	1,434	$415,860	District	3
Torquay Terrace	Torquay	931	$269,990	District	3
Urraween Distributor	Kawungan	1,932	$560,280	District	3
Urraween Road	Urraween	826	$239,540	District	3
Victory Street	Maryborough	546	$158,340	District	3
Walker Street	Maryborough	2,370	$687,300	District	3
Woodstock Street	Maryborough	1,607	$466,030	District	3
Zephyr Street	Scarness	456	$132,240	District	2
Local Pathways					
Albert Street	Maryborough	402	$60,300	Local	2
Alice Street	Maryborough	46	$6,951	Local	4
Amity Street	Maryborough	207	$31,068	Local	4
Ann Street	Torquay	111	$16,581	Local	4
Ariadne Street	River Heads	416	$62,400	Local	4
Armstrong Road	Dundowran Beach	72	$10,872	Local	4
Baird Drive	Pialba	70	$10,500	Local	2
Bazaar Street	Maryborough	56	$8,400	Local	2
Beach Road	Pialba	300	$45,000	Local	4
Bideford Street	Torquay	61	$9,195	Local	2

Boat Harbour Drive	Pialba	156	$23,400	Local	2
Boat Harbour Drive	Torquay	8	$1,220	Local	2
Boat Harbour Drive	Urangan	236	$35,400	Local	4
Booral Road	Urangan	28	$4,166	Local	4
Boronia Drive	Poona	136	$20,387	Local	4
Boundary Road	Torquay	51	$7,721	Local	2
Bowen Street	Maryborough	66	$9,912	Local	2
Boys Avenue	Maryborough	423	$63,402	Local	4
Bryant Street	Maryborough	249	$37,302	Local	4
Burrum Heads Road	Burrum Heads	1,686	$252,900	Local	4
Cambridge Way	Urraween	32	$4,778	Local	2
Campbell Street	Torquay	170	$25,542	Local	4
Carlisle Court	Kawungan	55	$8,213	Local	2
Carlo Street	Pialba	221	$33,191	Local	4
Charles Street	Pialba	62	$9,260	Local	4
Cheapside Street	Maryborough	8	$1,199	Local	4
Cherry St	Maryborough	1,225	$183,821	Local	4
Churchill Street	Maryborough	400	$60,000	Local	2
Collare Court	Urangan	165	$24,695	Local	4
Corbet Lane	Tinana	578	$86,700	Local	2
Corfield Street	Point Vernon	148	$22,230	Local	2
Corser Street	Point Vernon	1,031	$154,650	Local	4
Dayman Street	Urangan	545	$81,750	Local	4
Denmans Camp Road	Torquay	60	$8,991	Local	4
Desmond Drive	Toogoom	549	$82,350	Local	4
Dover Street	Pialba	662	$99,300	Local	4
Down Street	Scarness	44	$6,551	Local	4
Dundee Drive	Kawungan	48	$7,155	Local	2
Eatonvale Road	Tinana	14	$2,136	Local	2
Emerald Park Way	Urangan	229	$34,350	Local	2
Exeter Street	Torquay	404	$60,600	Local	4
Ferry Street	Maryborough	170	$25,467	Local	4
Frangipanni Avenue	Kawungan	110	$16,554	Local	2
Frank Street	Scarness	96	$14,438	Local	4
Freshwater Street	Scarness	615	$92,250	Local	4
Freshwater Street	Torquay	610	$91,500	Local	4
Garden Drive	Urangan	656	$98,400	Local	4
Glenwood School Road	Glenwood	152	$22,814	Local	4
Gossner Street	Scarness	213	$31,925	Local	4

Grevillea Street	Kawungan	98	$14,673	Local	4
Gympie Road	Tinana	441	$66,150	Local	4
Hansen Street	Urangan	413	$61,926	Local	4
Heritage Outlook	River Heads	412	$61,800	Local	4
Hervey Street	Scarness	112	$16,725	Local	4
Hibiscus Street	Urangan	347	$52,050	Local	4
Hillyard Street	Pialba	204	$30,635	Local	4
Hunter Street	Pialba	172	$25,800	Local	2
Islander Road	Pialba	705	$105,750	Local	4
Ivor Drive	Burrum Heads	808	$121,200	Local	2
Jonwest Close	Torquay	39	$5,909	Local	4
Kemble Way	Urraween	11	$1,608	Local	2
Kent Street	Maryborough	294	$44,100	Local	4
Kingfisher Parade	Toogoom	592	$88,800	Local	4
Kirriemuir Court	Kawungan	59	$8,834	Local	2
Lennox Street	Maryborough	195	$29,315	Local	2
Limpus Street	Urangan	73	$10,970	Local	4
Liuzzi Street	Pialba	378	$56,700	Local	4
March Street	Maryborough	91	$13,650	Local	2
Margaret Street	Urangan	386	$57,900	Local	4
Marineview Avenue	Scarness	514	$77,100	Local	2
Matthies Street	Maryborough	142	$21,300	Local	4
Mckean Road	Scarness	348	$52,152	Local	4
Miller Street	Urangan	136	$20,466	Local	3
Moolyyir Street	Urangan	416	$62,400	Local	4
Moreton Street	Pialba	82	$12,335	Local	2
Moreton Street	Toogoom	220	$33,000	Local	4
Morning Street	Maryborough	476	$71,400	Local	4
Neptune Street	Maryborough	430	$64,500	Local	4
Nissen Street	Pialba	279	$41,850	Local	2
Nissen Street	Urraween	294	$44,100	Local	2
North Street	Maryborough	54	$8,172	Local	2
Old Maryborough Road	Pialba	678	$101,700	Local	4
Orchid Avenue	Urangan	372	$55,761	Local	4
Orchid Drive	Burrum Heads	1,966	$294,900	Local	4
O'Regan Drive	Craignish	48	$7,265	Local	4
Petersen Road	Craignish	181	$27,150	Local	4
Prospect Street	Maryborough	121	$18,206	Local	4
River Heads Road	River Heads	623	$93,450	Local	4

Rocky Street	Maryborough	519	$77,850	Local	4
Rosentreter Lane	Eli Waters	863	$129,450	Local	4
Royle Street	Maryborough West	245	$36,774	Local	4
Samarai Drive	Kawungan	215	$32,217	Local	4
Searle Street	Maryborough	87	$13,106	Local	2
Shell Street	Urangan	115	$17,192	Local	2
Shelley Street	Scarness	429	$64,350	Local	2
Squire Street	Kawungan	423	$63,450	Local	4
Steley Street	Howard	178	$26,736	Local	4
Stephenson Street	Pialba	189	$28,350	Local	2
Sussex Street	Maryborough	373	$55,950	Local	4
Sydney Street	Maryborough	170	$25,461	Local	4
Tavistock Street	Torquay	34	$5,171	Local	4
Teddington Road	Tinana	144	$21,594	Local	2
The Esplanade	Pialba	148	$22,200	Local	2
The Esplanade	Point Vernon	86	$12,900	Local	4
The Esplanade	Scarness	30	$4,500	Local	2
Themeda Way	Poona	43	$6,494	Local	4
Tooley Street	Maryborough	122	$18,309	Local	4
Truro Street	Torquay	984	$147,600	Local	4
Truro Street	Urangan	198	$29,693	Local	4
Vanda Street	Urangan	530	$79,430	Local	4
Walker Street	Maryborough	131	$19,614	Local	2
Watson Street	Pialba	301	$45,150	Local	4
Wharf Street	Maryborough	289	$43,355	Local	4
Windjammer Circuit	River Heads	119	$17,808	Local	4
Winston Noble Drive	Maryborough	107	$16,037	Local	4
Wood Street	Maryborough	117	$17,594	Local	4
Woodstock Street	Maryborough	320	$48,000	Local	4
Woongoolbver Court	River Heads	375	$56,250	Local	4

Table 14 – Refuges and Crossings

Road Name	Near	Suburb	Facility Type	Cost	Investment Priority
Dayman Street	Mobility Corridor	Urangan	Pedestrian refuge	$40,000	2
King Street	Mobility Corridor	Urangan	Pedestrian refuge	$40,000	2
Elizabeth Street	Mobility Corridor	Urangan	Pedestrian refuge	$40,000	2
Miller Street	Mobility Corridor	Urangan	Pedestrian refuge	$40,000	2
Nissen Street	Hospital	Urraween	Pedestrian refuge	$40,000	2
Boundary Road	Elizabeth Street	Urangan	Pedestrian refuge	$30,250	3
Boat Harbour Drive	Ann Street	Torquay	Pedestrian refuge	$30,250	4
Boundary Road	Tavistock Street	Torquay	Pedestrian refuge	$60,000	2
Urraween Distributer	Grevillia Street	Kawungan	traffic signals	*	3
Watson Street	corner store	Pialba	Pedestrian refuge	$40,000	2
Boundary Road	Robert Street	Torquay	traffic signals	*	3
Torquay Road	Denmans Camp Road	Scarness	traffic signals	*	3
The Esplanade	Main Street	Pialba	Pedestrian refuge	$40,000	2
Elizabeth Street	Moolyyir Street	Urangan	Pedestrian refuge	$60,500	4
Bideford Street	Colyton Street	Torquay	Pedestrian refuge	$40,000	4
Denman Camp Road	Oleander Avenue	Scarness	Pedestrian refuge	$40,000	3
Boundary Road	Denman Camp Road	Kawungan	traffic signals	*	3
Main Street	Boat Harbour Drive	Pialba	traffic signals	*	3
Doolong Road	Denmans Camp Road	Kawungan	Pedestrian refuge	$40,000	3
The Esplanade	Corser Street	Point Vernon	Pedestrian refuge	$40,000	4
Moolyyir Street	Esplanade	Urangan	Pedestrian refuge	$40,000	4
Murphy Street	Banksia Street	Point Vernon	Pedestrian refuge	$40,000	3
Pialba Burrum Heads Road	Augustus Blvd		Pedestrian refuge	$40,000	2
Maryborough Hervey Bay Road	Urraween Rooad	Urraween	traffic signals	*	3
The Esplanade	Banksia Street	Point Vernon	Pedestrian refuge	$40,000	3
The Esplanade	Martin Street	Point Vernon	Pedestrian refuge	$40,000	3
The Esplanade	Witt Street	Torquay	Raised crossing	$40,000	3
The Esplanade	Margaret Street	Urangan	Pedestrian refuge	$40,000	3
The Esplanade	Elizabeth Street	Urangan	Pedestrian refuge	$40,000	2
The Esplanade	Boat Harbour Drive	Urangan	Pedestrian refuge	$40,000	3
Bideford Street	Exeter Street	Torquay	Pedestrian refuge	$40,000	4
Old Maryborough Road	Charles Street	Pialba	traffic signals	*	3

Tooth Street	Martin Street	Point Vernon	Pedestrian refuge	$40,000	3
Urraween Distributor	Nissen Street	Urraween	Pedestrian refuge	$40,000	3
Murphy Street	Martin Street	Point Vernon	Pedestrian refuge	$40,000	3
Albert Street	Lennox Street	Maryborough	Pedestrian refuge	$40,000	4
Richmond Street	Alice Street	Maryborough	Pedestrian refuge	$40,000	4
Sussex Street	Ferry Street	Maryborough	Pedestrian refuge	$40,000	3
Tooley Street	Alice Street	Maryborough	Pedestrian refuge	$40,000	3
Pallas Street	Alice Street	Maryborough	Pedestrian refuge	$40,000	3
Ellena Street	bazaar Street	Maryborough	Pedestrian refuge	$40,000	3
Ann Street	Ferry Street	Maryborough	traffic signals	*	3
Woongool Road	Gympie Road	Tinana	traffic signals	*	3
Teddington Road	Gympie Road	Tinana	traffic signals	*	3
Iindah Road East	Gympie Road	Tinana	Pedestrian refuge	$40,000	3
Central Road	Gympie Road	Tinana	Pedestrian refuge	$40,000	2
Neptune Street	Walker Street	Maryborough	Pedestrian refuge	$40,000	2
Yaralla Street	Walker Street	Maryborough	Pedestrian refuge	$40,000	2
Russell Street	Alice Street	Maryborough	Pedestrian refuge	$40,000	2
Russell Street	Railway	Maryborough	Pedestrian Ramp	$100,000	3

* funded as part of future road intersection signalisation works

Table 15 – Potential Redundant Pathway Links

Road Name	Suburb	Length (m)	Type
Ann Street	Torquay	57	Local
Beach Road	Pialba	50	Local
Boat Harbour Drive	Scarness	131	Local
Cambridge Street	Urraween	150	Local
Cupania Way	Kawungan	110	Local
Cypress Avenue	Maryborough	84	Local
Cypress Street	Torquay	110	Local
Deeds Court	Dundowran Beach	120	Local
Elizabeth Street	Urangan	79	Local
Ferry Street	Maryborough	31	Local
George Street	Pialba	91	Local
Gossner Street	Scarness	20	Local
Hervey Street	Scarness	42	Local
Jack Street	Pialba	62	Local
King Street	Urangan	112	Local
Layde Courtt	Urangan	101	Local
Lido Parade	Urangan	29	Local
Lincolnfield Street	Torquay	20	Local
Long Street	Point Vernon	41	Local
Moonlight Avenue	Torquay	29	Local
Neptune Street	Maryborough	187	Local
New Street	Urangan	56	Local
Pallas Street	Maryborough	102	Local
Pine Street	Torquay	67	Local
Queens Road	Scarness	19	Local
Rocky Street	Maryborough	20	Local
Sandy Street	Urangan	51	Local
Stephenson Street	Scarness	39	Local
Thomas Street	Pialba	115	Local
Tooley Street	Maryborough	23	Local
Totness Street	Scarness	23	Local
Truro Street	Urangan	95	Local
Zephyr Street	Scarness	42	Local

Appendix B - Local Pathway Network

Figure 14 – Future Local Walk & Cycle Network - Hervey Bay

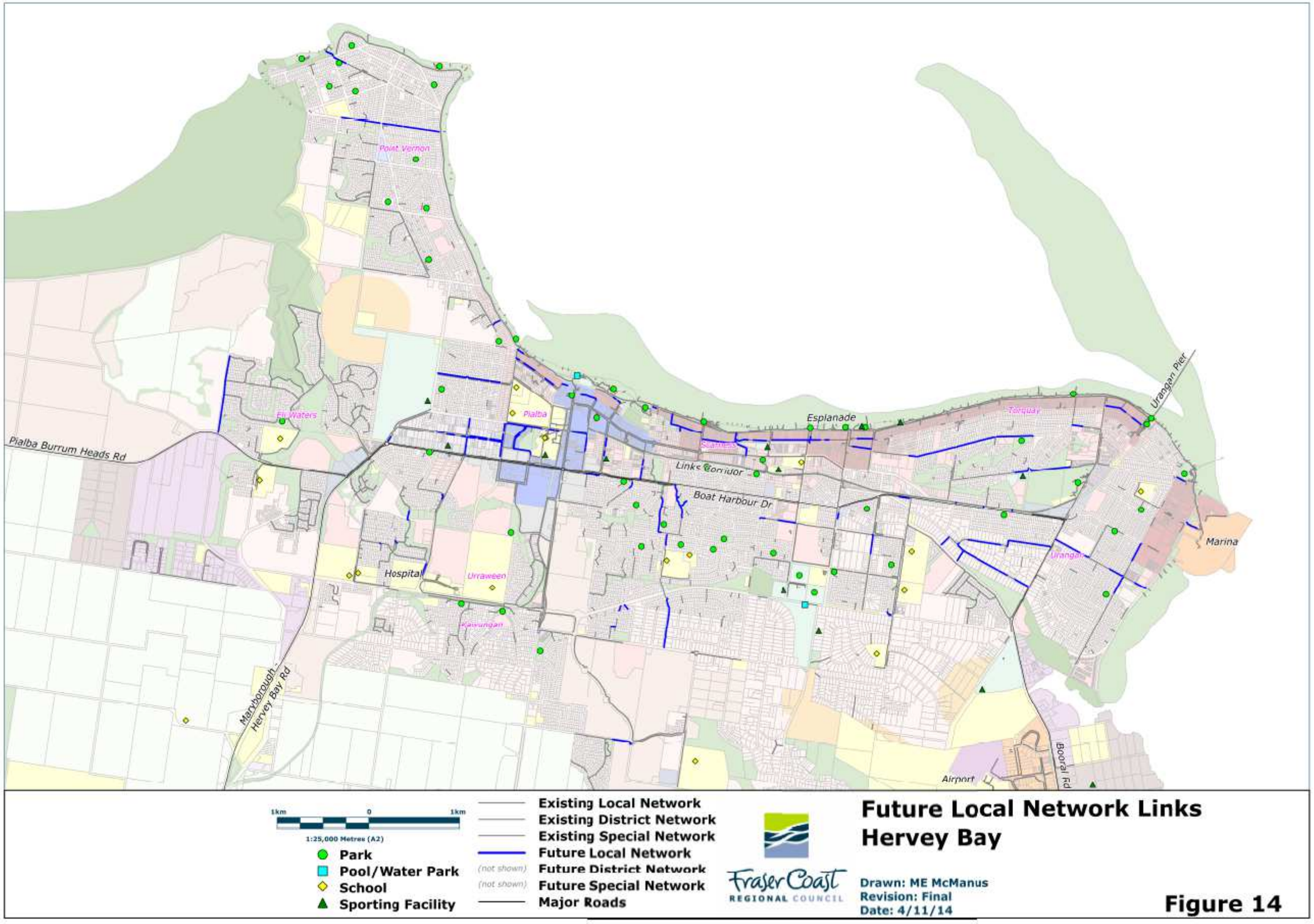


Figure 15 – Future Local Walk & Cycle Network - Maryborough

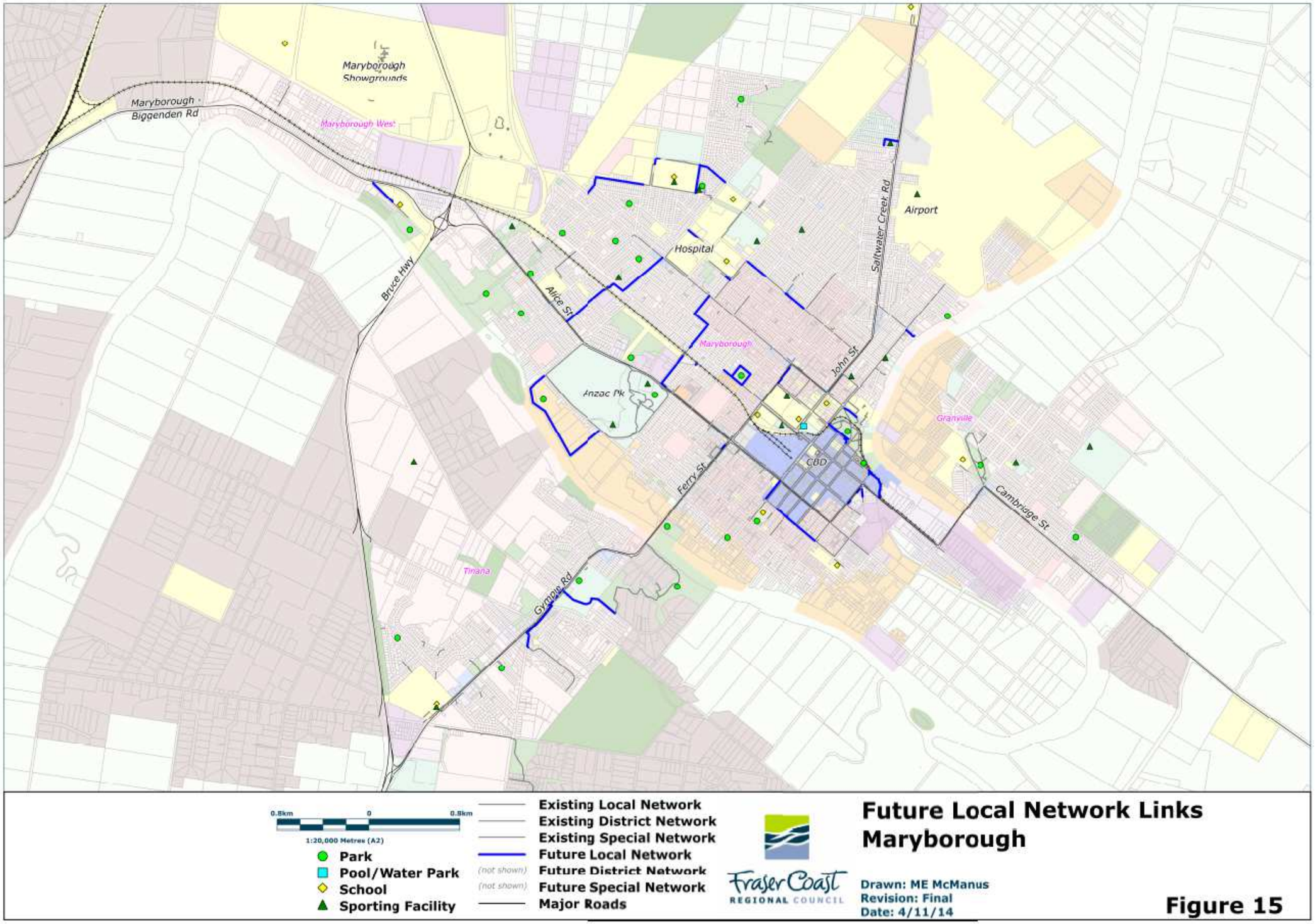


Figure 16 – Future Local Walk & Cycle Network - Burrum Heads and River Heads