

Principal Cycle Network Plan

Mackay Isaac Whitsunday



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1 Introduction

The *Mackay Isaac Whitsunday Principal Cycle Network Plan* (MIWPCNP or plan) provides a vision for the principal cycle network in the region to support, guide, and inform practitioners involved in the planning, design, and construction of the transport network.

The principal routes shown represent cycling desire lines. They indicate the most important routes and known missing links for cycling within the region. In most instances, further planning and design will be required to determine the precise route and design of cycle facility.

The plan should not be used for navigational purposes. The maps provided do not distinguish between existing and future cycle facilities. Rather, the maps flag the demand for, location, and function of cycle routes to inform planning, design, and construction of cycle facilities.

As shown in Figure 1, the plan covers the Mackay, Isaac, and Whitsunday local government areas.

2 What is a principal cycle network?

A principal cycle network is comprised of core routes designed to make it easy to use the bicycle as an everyday form of transport.

2.1 Types of journeys

The MIWPCNP identifies routes primarily for cyclists within urban areas, with a particular focus on the 5 km radius around trip destinations. Most urban areas in the region are within a 5 km radius of a regional activity centre. At these distances, cycling is a viable mode of travel for many trip types.

The plan focuses on journeys to work, school, and social/utility trips. The principal cycle network connects residential areas with employment nodes such as suburban centres, industrial precincts, education facilities, and shopping and entertainment destinations.

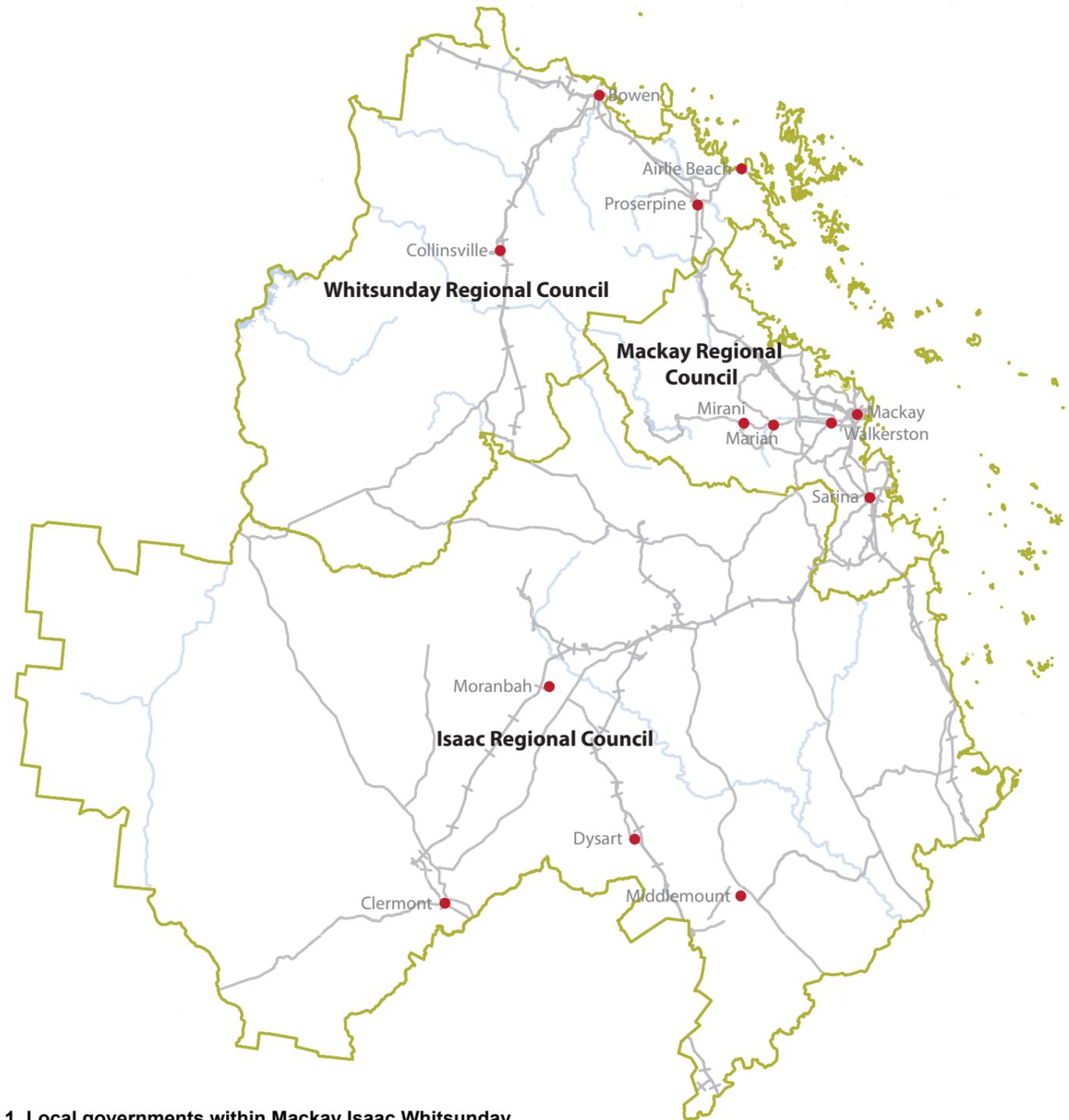


Figure 1. Local governments within Mackay Isaac Whitsunday.

2.2 Types of routes

The MIWPCNP identifies the following types of principal cycle network routes:

Principal routes form the spine from which local cycle networks are built. Principal routes connect residential areas to major trip attractors such as public transport nodes, universities, schools, shopping and commercial centres, industrial areas, and regional recreational facilities. At the regional scale, they provide key connections between activity centres or outlying suburbs.

Future principal routes identify expansion opportunities for the principal cycle network in areas where significant urban growth has been identified but land use planning has not yet been undertaken or finalised. These routes are represented by an arrow in the broad direction of a future route.

Tourism routes cater for longer distance recreation and cycle touring, highlighting both coastal and hinterland scenic opportunities.

2.3 What is the purpose of the plan?

The purpose of the MIWPCNP is to present agreed desire lines for principal cycle routes in the region identified using the planning principles outlined in section 3.1. The routes shown are indicative and exist to guide further planning that will determine the precise routes and design of cycle facilities.

The plan draws on existing cycle planning, data on key origins, destinations and cycling demand, as well as knowledge from councils and bicycle groups. The plan provides for a principal cycle network that will connect residential areas to major trip attractors.

The plan represents the core cycle routes needed to achieve more cycling, more often, which is the vision of the Queensland Government's *Queensland Cycle Strategy 2011-2021*. As the network is delivered, Queenslanders will have increasing opportunities to cycle to work, school, shopping precincts, and other major destinations via safe, direct, and attractive routes.

Increasing levels of cycling will help contribute to Queenslanders' fitness and health, protect the environment, and manage traffic congestion. Encouraging people to replace some car trips with cycling can also extend the life of existing transport assets and reduce the need for road capacity upgrades.

3 How was the network identified?

3.1 Planning principles

The development of the MIWPCNP was guided by the following planning principles:

Principle 1

Connect key existing and future origin and destination points, such as town centres, major shopping and commercial facilities, employment nodes and educational institutions.

Principle 2

Focus on commuter, utility and education-related trips, with a supplementary focus on touring, recreation and sporting trips.

Principle 3

Establish a mesh width of no more than 1000 metres between principal routes in urban areas. The mesh width is the distance between parallel routes in a network and is only applicable within built up areas.

Principle 4

Identify a network that is connected, direct, coherent, legible and planned with safety in mind.

Principle 5

Ensure that the network is easily accessible from residential areas.

Principle 6

Identify the network predominantly within transport corridors, state-controlled roads, higher order local government roads and through open space areas.

Principle 7

Adopt a 'one network' approach and consider all transport corridors as potential cycling corridors, regardless of whether they are managed by state or local government.

The plan identifies principal routes at a strategic network level that will deliver good cycling outcomes, recognising that to achieve this, further planning and design will be required. Although planned with a realistic level of feasibility in mind, the aim of the plan is not to exclude routes from the principal cycle network based entirely on their current level of feasibility.

A principal route may be identified within a corridor that is currently considered not conducive to cycling such as a priority freight route or highway. Further planning and design will consider the feasibility of cycling within the corridor and design of cycle facilities. In some

instances, this may result in a separated cycle facility within the corridor and, in others, a cycle facility on an alternative alignment in the vicinity.

3.2 Workshops and consultation

To develop the principal cycle network, officers from the Department of Transport and Main Roads held workshops with stakeholders in the region's centres. These stakeholders represented local and state government agencies, local cyclists, bicycle interest groups, and some local community groups.

During the workshops, stakeholders nominated major origins and destinations on maps of each town in their local government area. They drew preference lines to connect the origins and destinations, often using the shortest most direct route. The preference lines were transferred to preferred routes along existing and disused transport corridors and through open spaces/recreation corridors. Additional consultation and refinement resulted in a network supported by all parties.

The placement of the preferred routes considered hazards, constraints, land tenure, topography, the seven planning principles, existing cycle planning, and local knowledge of current and desired cycling routes.

4 Implementation

The MIWPCNP reflects a 'one network' approach, meaning the principal cycle network contains routes on state-controlled roads, local government roads, and in open space corridors. While the department has direct control of cycle infrastructure delivered on state-controlled roads, its influence over local government roads and land is less direct.

4.1 Timing of delivery

The MIWPCNP does not dictate specific time frames for delivery of the principal cycle network. The Department of Transport and Main Roads will collaborate with local governments to complete a rigorous prioritisation process that will result in maps of priority routes that will be published as an addendum to the plan and will be reviewed regularly to ensure they remain an up-to-date representation of investment priorities. The maps of priority routes will guide state planning and investment decisions as well as the assessment of state grants to local governments for cycle infrastructure.

4.2 Principal cycle network infrastructure

The MIWPCNP does not identify specific infrastructure solutions as this would require consideration of a range of factors beyond the scope of

the plan such as available space, likely mix and volumes of users, surrounding land uses and trip attractors, traffic and crash data, physical constraints and hazards. Rather, the plan identifies the function of each route in general terms and leaves the detailed planning and design to those with a greater understanding of the local issues.

4.3 Planning and protection of cycling corridors

Further planning and design is needed to determine the precise routes and design of cycle facilities. On the state transport network, this planning will be undertaken as part of the Transport and Main Roads' Transport System Planning Program. Once completed, the future cycling corridors can be mapped and protected, and will be considered as part of the application process for any proposed developments on nearby land.

4.4 Delivery mechanisms

As shown in Figure 2, the MIWPCNP may be implemented through a variety of delivery mechanisms.

4.4.1 Queensland Government delivery

Transport and Main Roads' Cycling Infrastructure Policy (CIP) is a key delivery mechanism for the principal cycle network, requiring the department to consider the needs of cyclists in state-controlled transport projects. When on a principal route or a future principal route, the department is to include explicit cycle provision such as marked bicycle lanes, separated cycleways or signage in state-controlled transport projects.

When not on a principal route or future principal route, the department

is to include implicit cycle provision such as the widening of shoulders or elimination of squeeze points in state-controlled transport projects. Tourism routes are not principal cycle network routes for the purposes of the department's CIP. Tourism routes may be eligible for funding through other sources such as the Transport Infrastructure Development Scheme (TIDS) or tourism and recreation programs.

The demand for new cycle infrastructure will not always align with the delivery of other transport projects. In cases where benefits and priorities can be identified, stand-alone cycle infrastructure projects may be planned, designed, constructed, and funded through Transport and Main Roads' Queensland Transport and Roads Investment Program (QTRIP). Only the highest priority projects will be put forward as stand-alone projects.

4.4.2 Local government delivery

Local governments can apply for funding to deliver principal cycle network infrastructure through the Cycle Network Local Government Grant (CNLGG) program. Funding is matched by local governments (50/50). Grants are awarded to projects that contribute to transport network outcomes that improve access to major attractors including activity centres, employment nodes, schools, universities, and public transport facilities.

Regional Roads and Transport Groups (RRTGs) receive an annual allocation of Transport Infrastructure Development Scheme (TIDS) funding which can be used to fund cycling infrastructure. RRTGs are responsible for allocating TIDS funding received to the highest priority transport projects in their regions, including cycle infrastructure. Local governments can champion cycling within their respective RRTGs and prioritise investment into cycle infrastructure. Local governments can also allocate funding for cycle infrastructure in their own budgets to deliver projects independently.

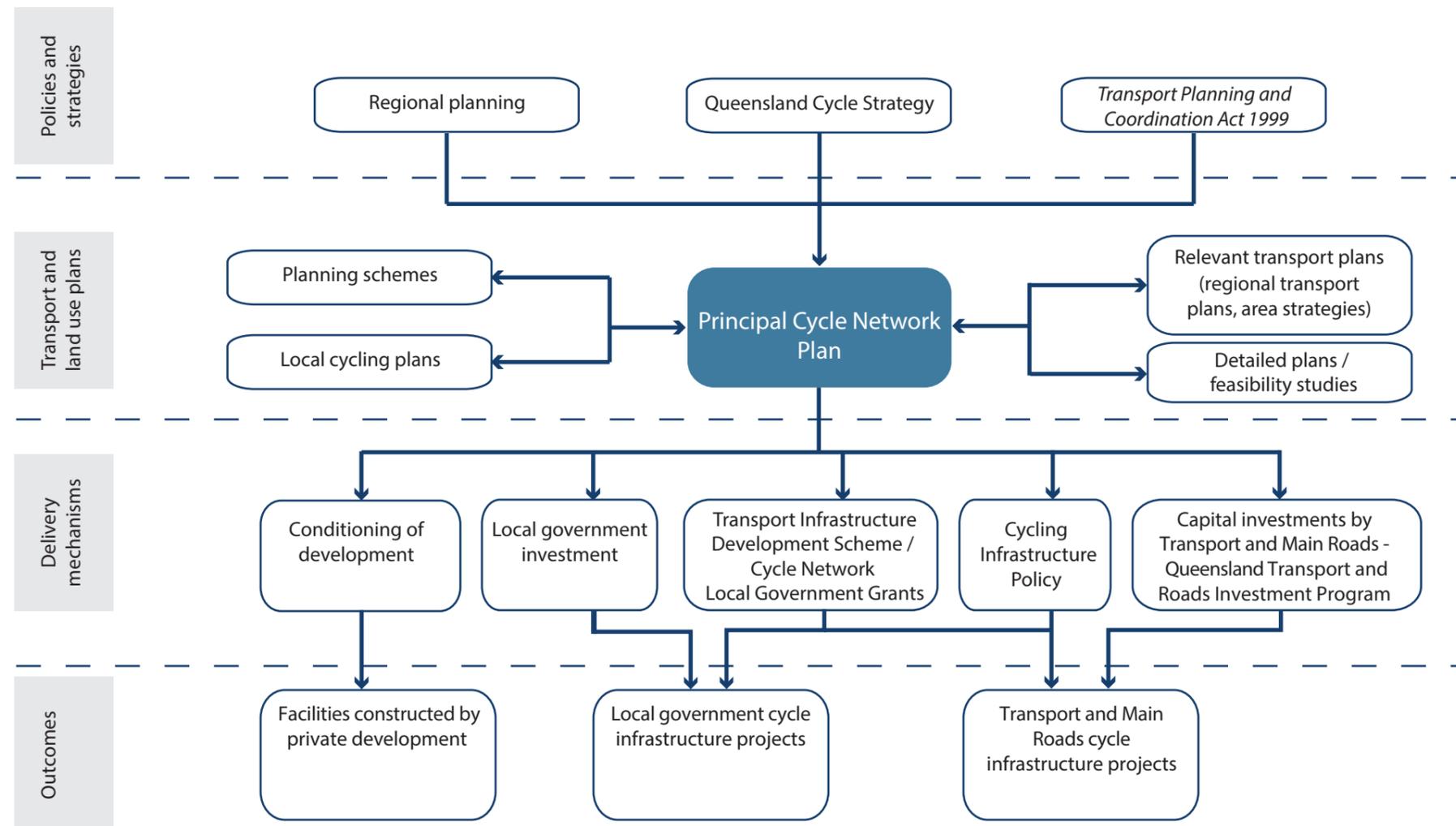


Figure 2. Policies and strategies influencing the principal cycle network.

5 Network maps

This section presents the principal cycle network maps by local government area, as shown in Figure 3. This section also contains an analysis of routes, with an explanation of the rationale for most routes in each local government area.

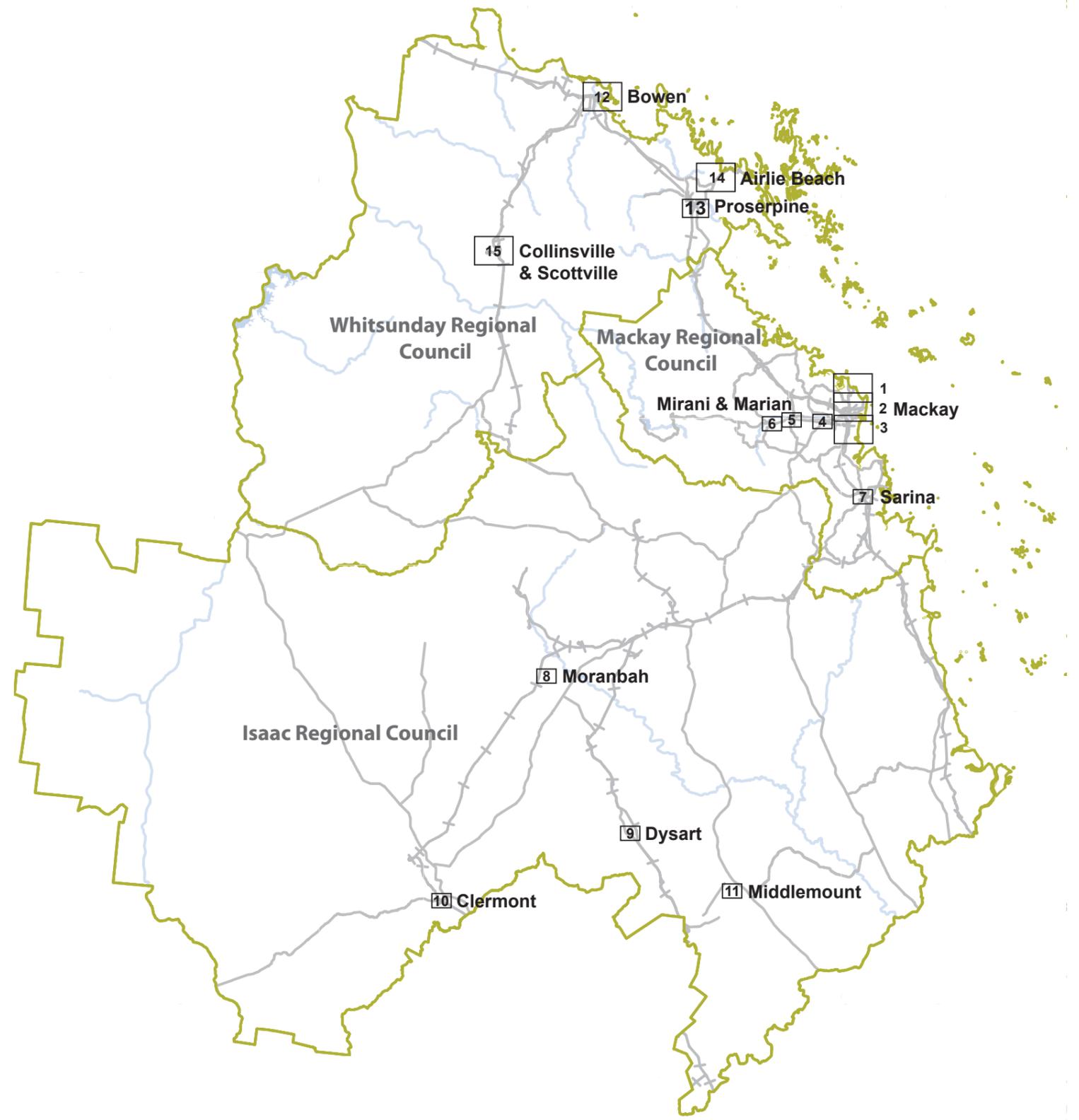


Figure 3. Index of principal cycle network maps.

Mackay Subregion

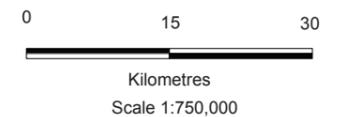
Mackay Isaac Whitsunday Principal Cycle Network

The routes shown are indicative and exist to guide further planning that will determine the precise routes and design of cycle facilities.

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LEGEND

-  Principal Route
 -  Future Principal Route
 -  Tourism Route
 -  Subset Map
- Map Items
-  State Controlled Road
 -  Railway Line
 -  Waterway/Waterbody
 -  Local Government Boundary



Map 1

Mackay Isaac Whitsunday Principal Cycle Network

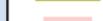
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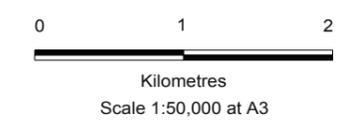
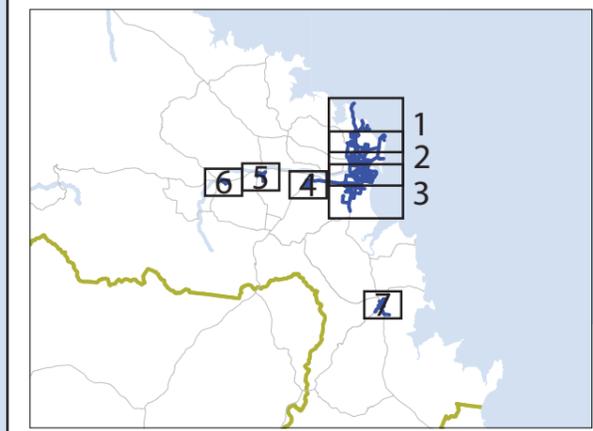
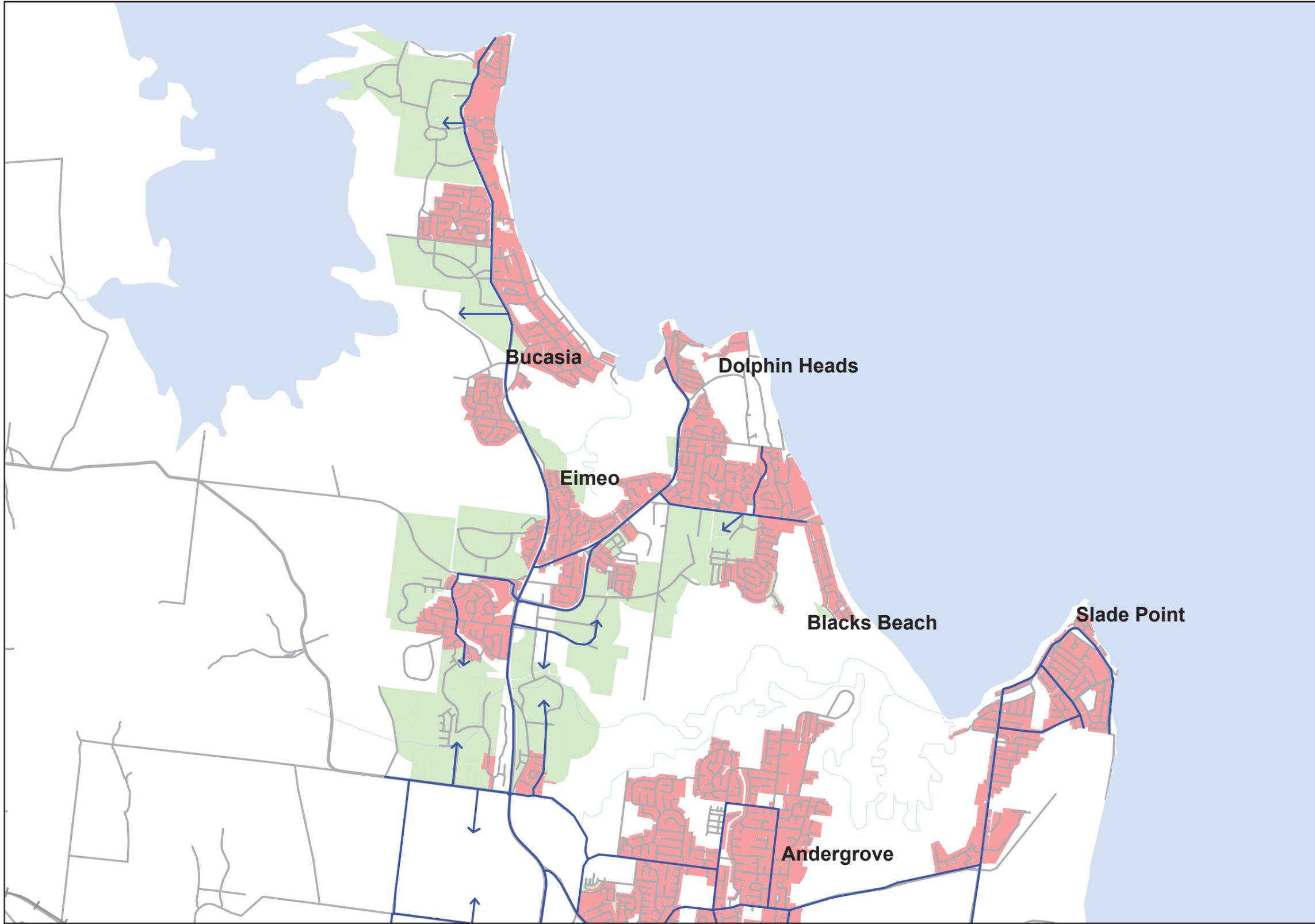
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LEGEND

-  Principal Route
-  Future Principal Route
-  Tourism Route

Map Items

-  Major Road
-  Railway Line
-  Passenger Railway Station
-  Waterway/Waterbody
-  Local Government Boundary
-  Urban Area
-  Growth Area
-  Airport
-  Port



Map 2

Mackay Isaac Whitsunday Principal Cycle Network

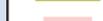
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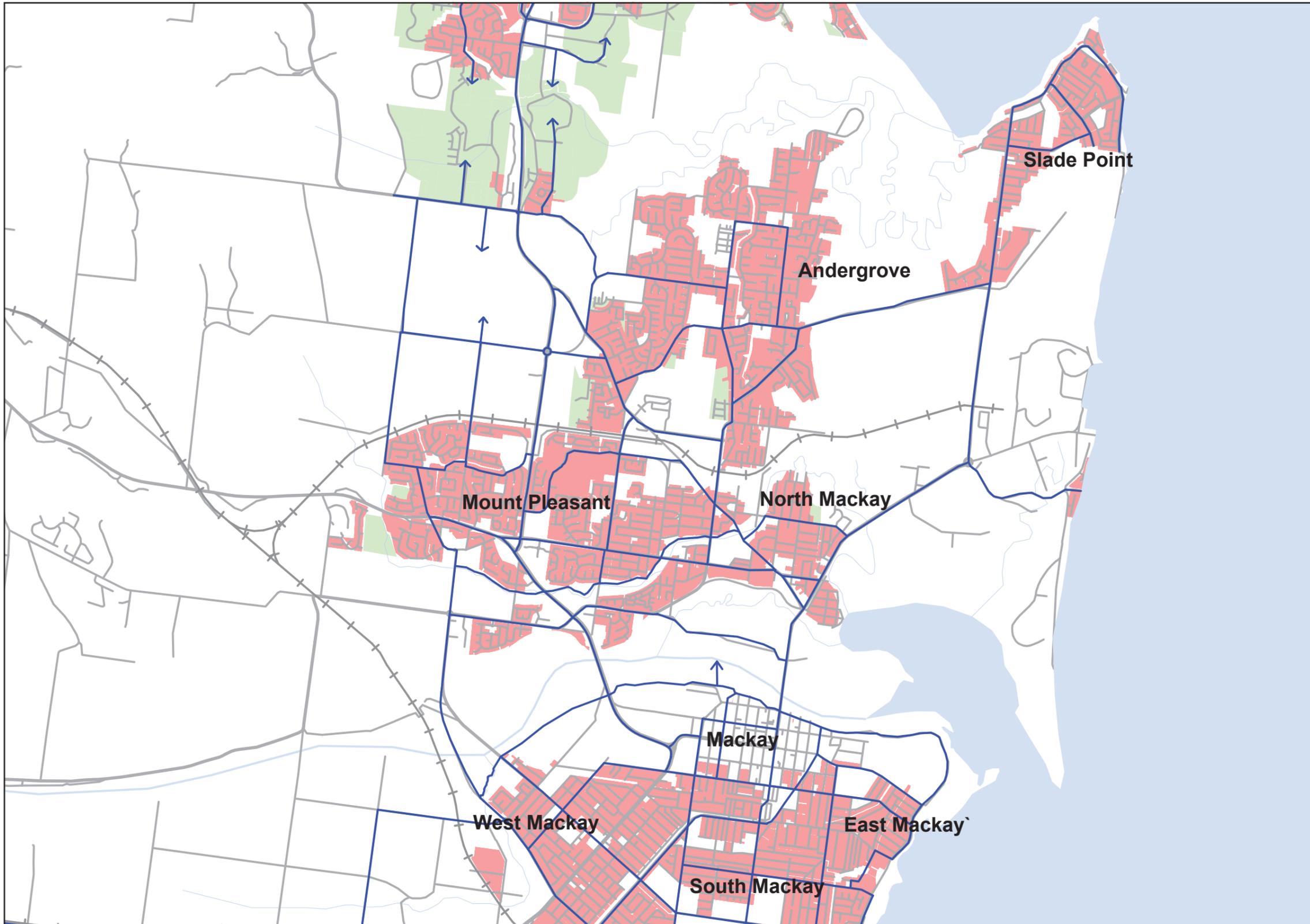
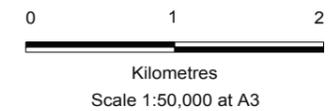
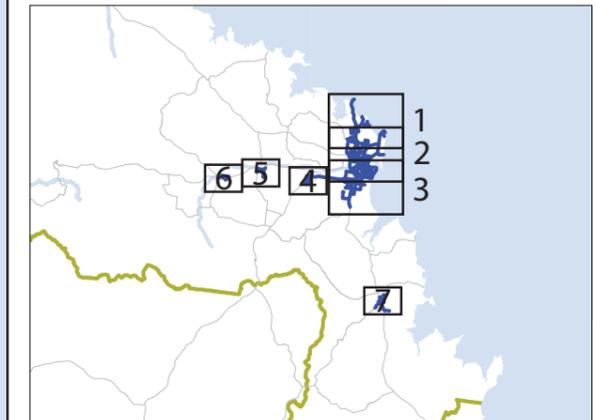
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LEGEND

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-  Future Principal Route
-  Tourism Route

Map Items

-  Major Road
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-  Growth Area
-  Airport
-  Port



Map 3

Mackay Isaac Whitsunday Principal Cycle Network

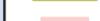
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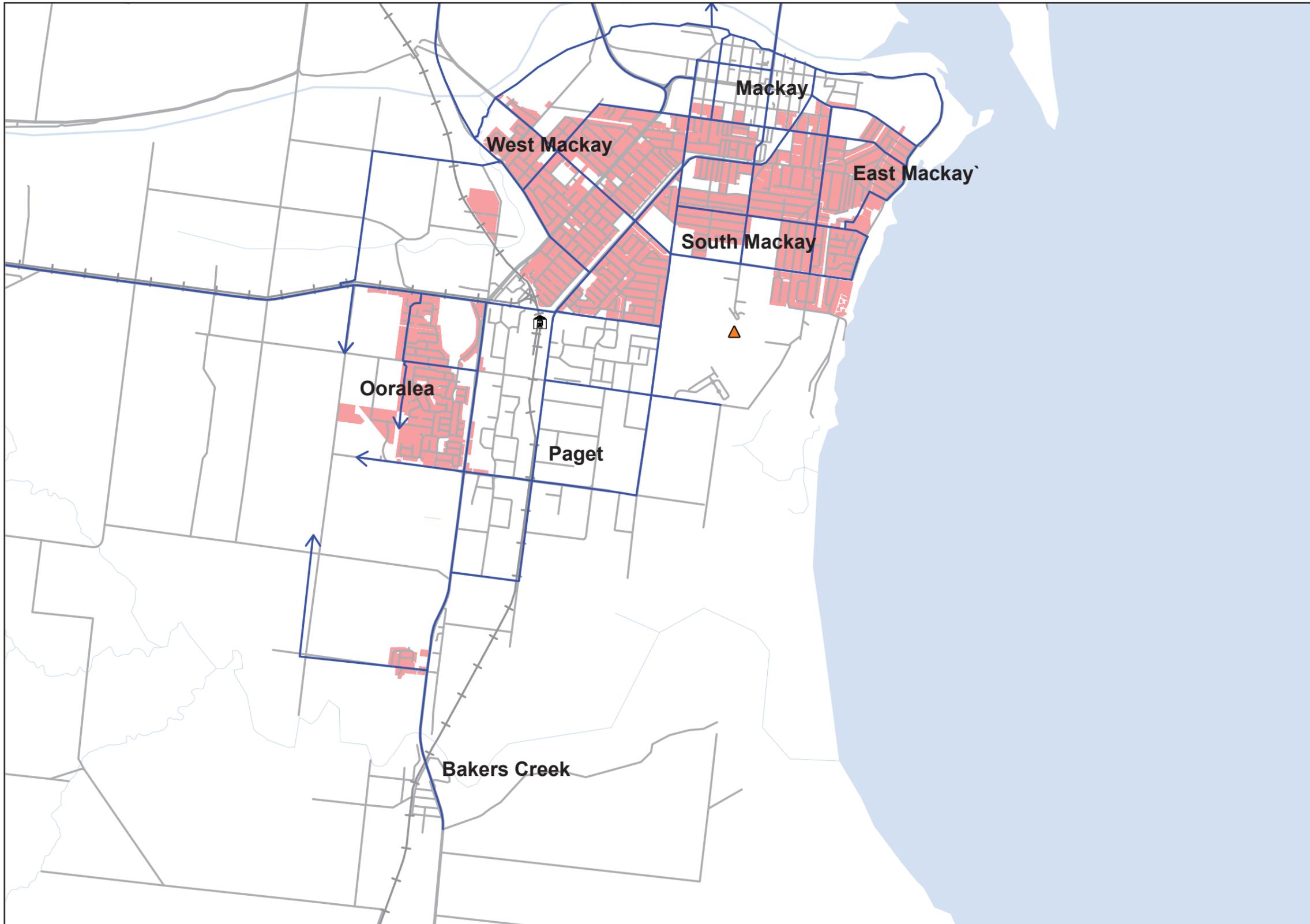
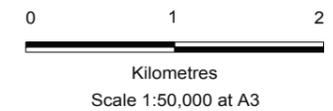
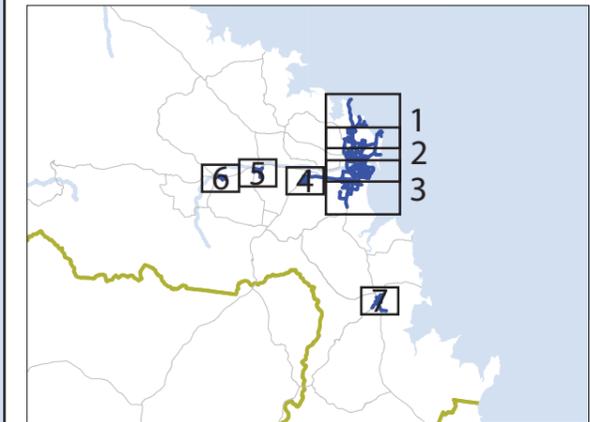
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LEGEND

-  Principal Route
-  Future Principal Route
-  Tourism Route

Map Items

-  Major Road
-  Railway Line
-  Passenger Railway Station
-  Waterway/Waterbody
-  Local Government Boundary
-  Urban Area
-  Growth Area
-  Airport
-  Port



Map 4

Mackay Isaac Whitsunday Principal Cycle Network

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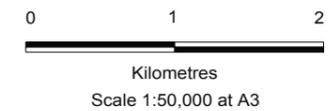
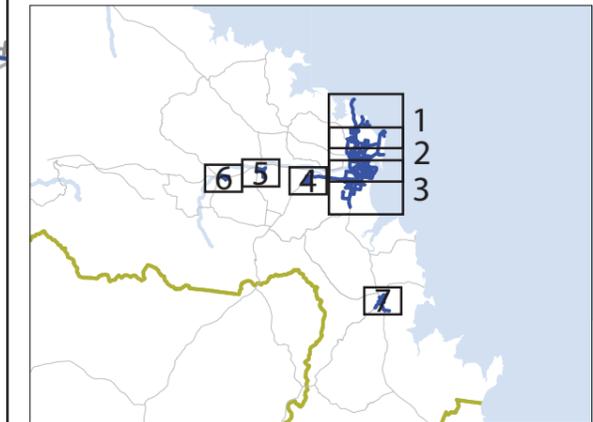
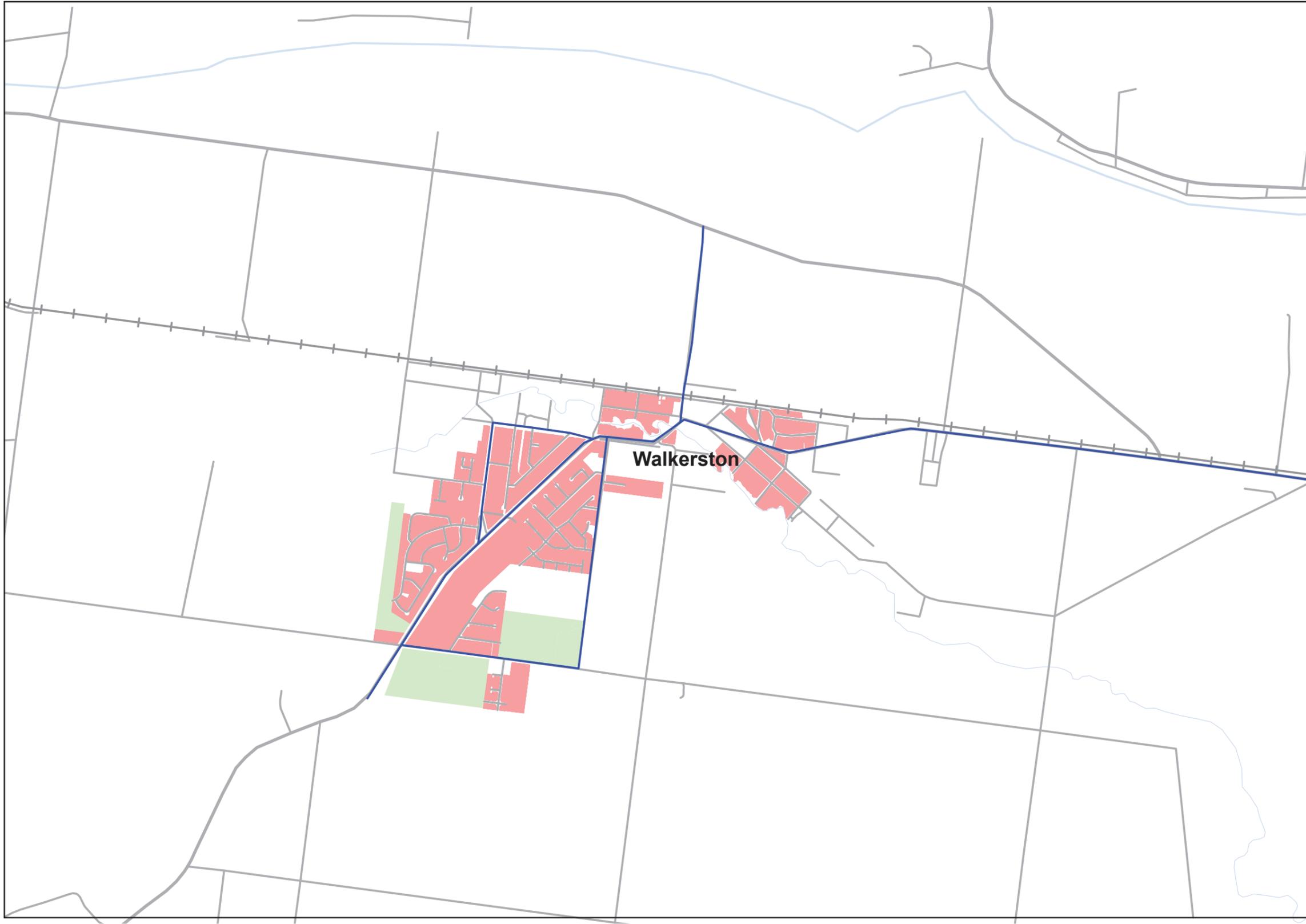
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LEGEND

-  Principal Route
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-  Tourism Route

Map Items

-  Major Road
-  Railway Line
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-  Urban Area
-  Growth Area
-  Airport
-  Port



Map 5

Mackay Isaac Whitsunday Principal Cycle Network

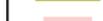
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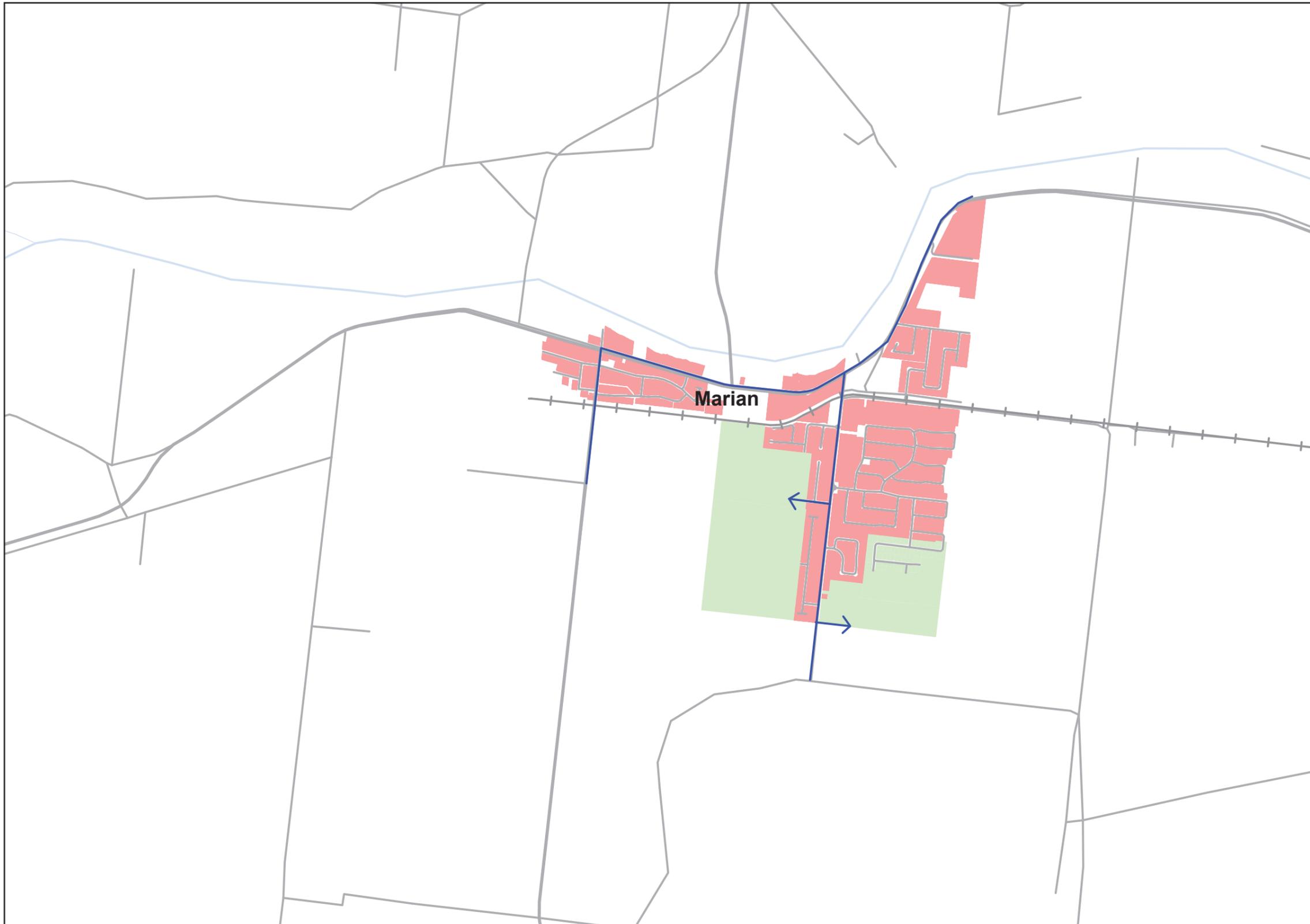
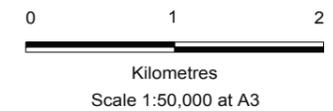
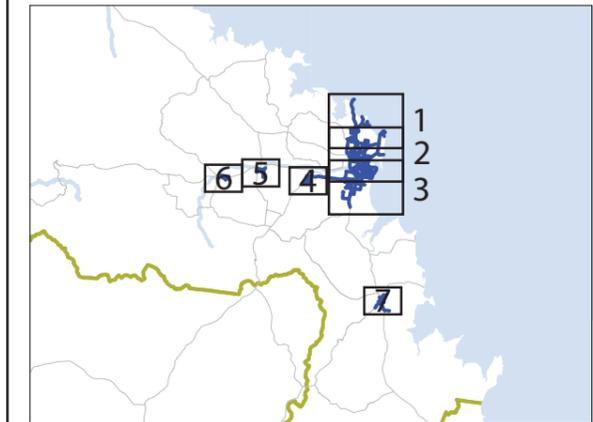
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LEGEND

-  Principal Route
-  Future Principal Route
-  Tourism Route

Map Items

-  Major Road
-  Railway Line
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-  Airport
-  Port



Map 6

Mackay Isaac Whitsunday Principal Cycle Network

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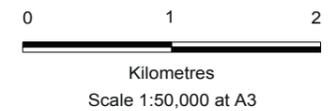
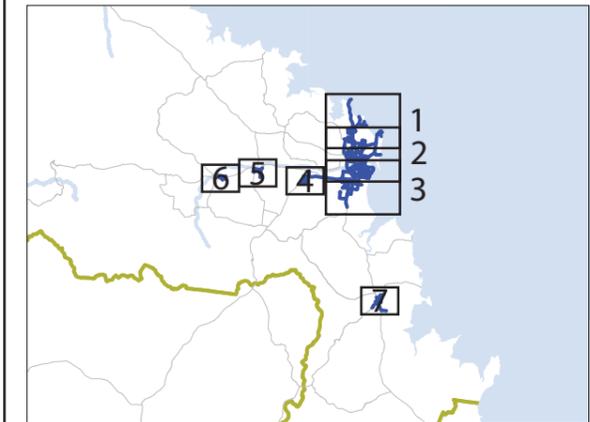
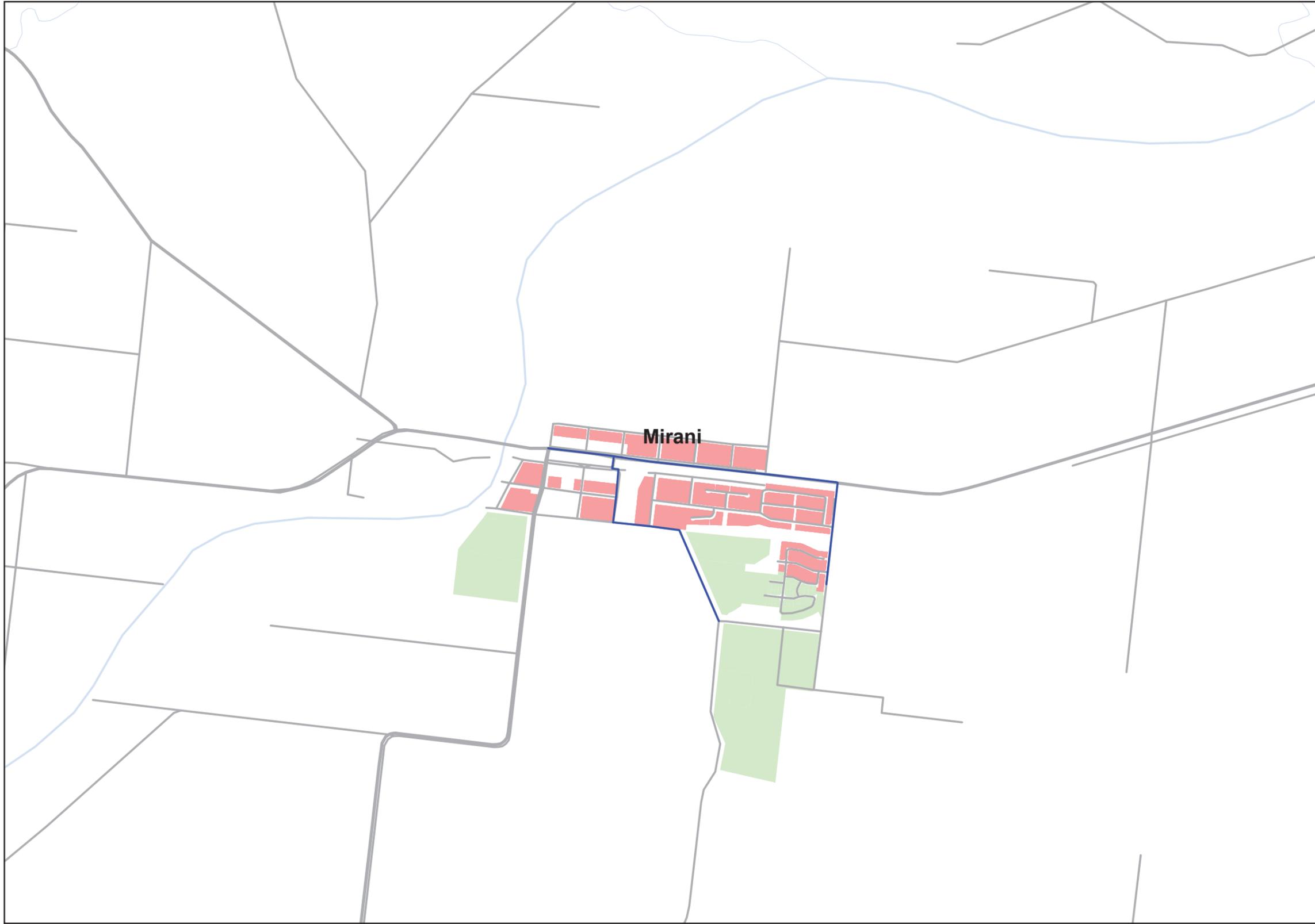
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-  Tourism Route

Map Items

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-  Port



Map 7

Mackay Isaac Whitsunday Principal Cycle Network

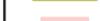
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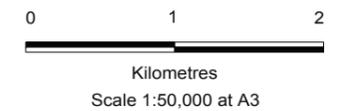
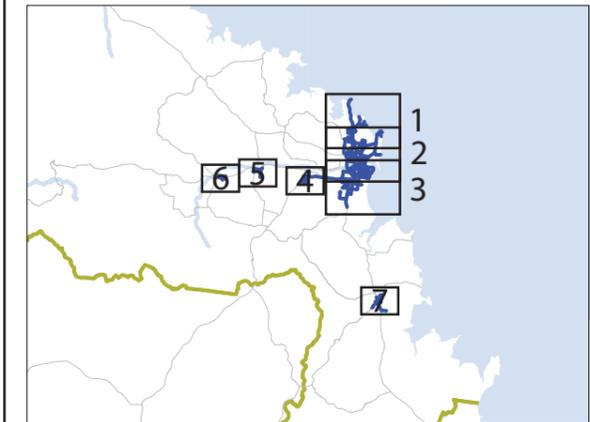
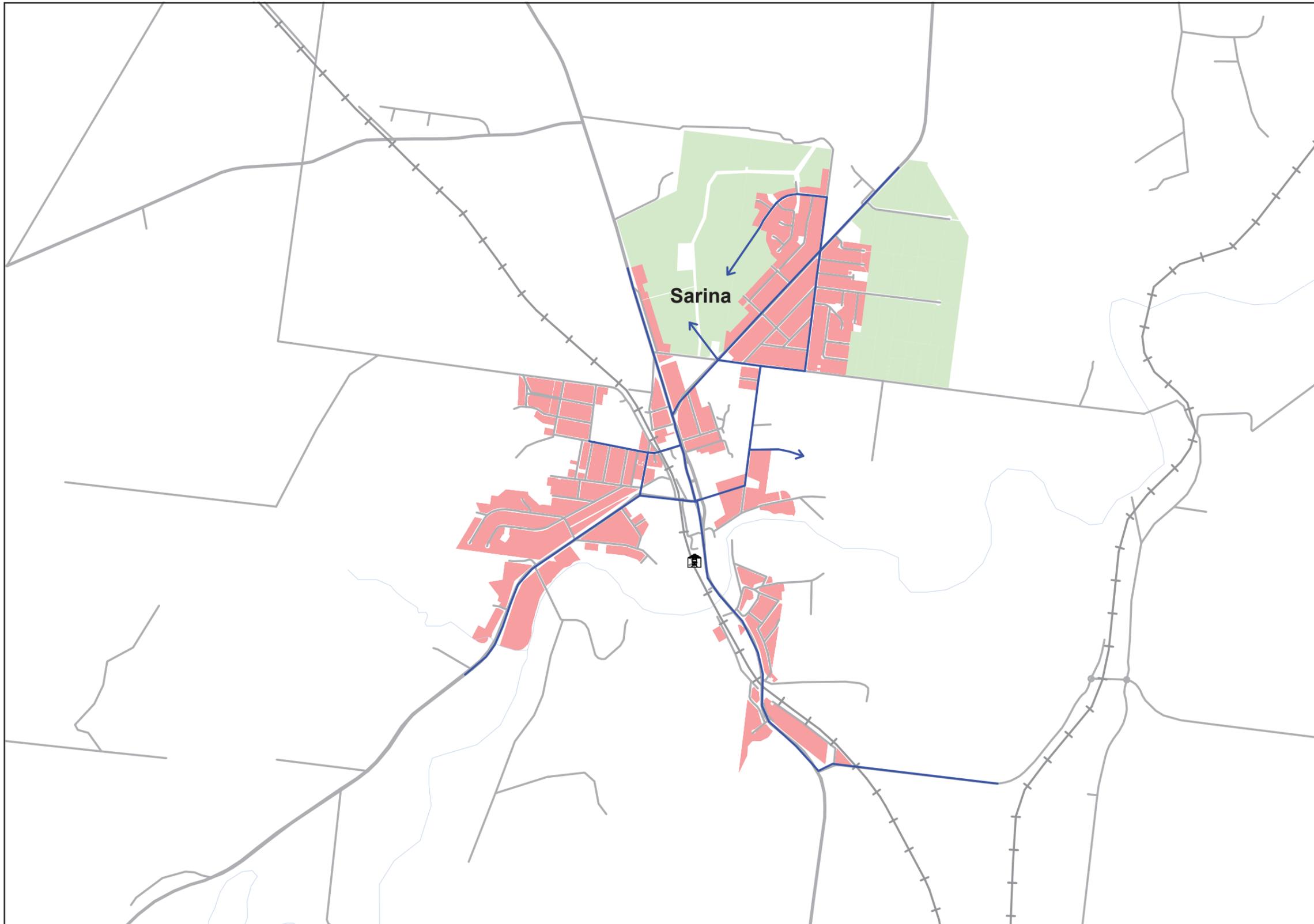
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LEGEND

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-  Tourism Route

Map Items

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Mackay Regional Council analysis of routes

Previous planning by council

In 2011, Mackay Regional Council (MRC) completed its Bicycle and Pedestrian Strategy, an update and review of the Mackay City Bicycle Strategy adopted in 1999. The strategy includes cycle network planning for the region, including planning for Mackay, Walkerston, Mirani, Marian and Sarina.

The focus of MRC's Bicycle Strategy is to complete the missing links in the existing cycling network and create a cycling 'spine' to build on through future extensions to the network. The 'spine' in the strategy runs north-south to connect the northern suburbs of Mackay with the southern suburbs over the Pioneer River. A number of east-west links radiate out from the spine, connecting to destinations including Blacks Beach, Slade Point, Mackay Port, East Mackay and Eungella.

The principal cycle network reflects the spine identified in the Mackay Bicycle Strategy, in keeping with the 'one network' approach to consider all transport corridors as potential cycling corridors, regardless of whether they are owned by state or local government.

The MRC Bicycle Strategy applies a route hierarchy to the desired cycle routes through the region comprising:

- trunk routes (e.g. Milton St, Mackay-Bucasia Rd)
- district routes (e.g. Field St, Dolphin Heads Rd)
- neighbourhood routes (e.g. Scott St, McKenney St) and
- recreational routes (e.g. Bluewater Trail and off-road pathway through the Gooseponds).

The principal cycle network maps depict the higher order cycle network in Mackay, matching closely to the identified trunk routes and some recreational routes in the MRC strategy. Lower order neighbourhood and local networks (shown as district and neighbourhood routes in the MRC Bicycle Strategy) feed into this higher order network. The principal cycle network reflects an ideal network and capitalises on MRC's excellent planning to address current and future transport issues for the region.

Maps 1, 2 and 3 - Mackay

Analysis of routes – north of the Pioneer River

Most of the future residential growth in Mackay is expected to be concentrated in the northern suburbs (e.g. Richmond, Rural View, Eimeo, Andergrove and Shoal Point). This emerging growth will be serviced by a number of routes on the principal cycle network, which will also provide parallel east-side and west-side alternatives to Mackay-Bucasia Road and connect to attractors like Mt Pleasant. Mackay-Bucasia Road is included as a principal cycle route in recognition of its current role as a key north-south spine for residents on the north side of the Pioneer. It connects to Mt Pleasant Shopping Centre, Mackay

Harbour, Mackay Harbour Beach and a number of schools including Mackay Secondary School and Pioneer State School. Important east-west cycling connections are identified within the Malcolmson Street and Keeleys Road corridors.

There is potential for development at East Point near the Mackay Harbour. However, a connection to East Point has not been included in the principal cycle network due to uncertainty around whether the development will proceed.

A connection to Mackay Harbour was investigated along the rail corridor from Glenpark Street to Mackay-Slade Point Road. However, this route was not included in the principal cycle network as it was deemed unfeasible due to heavy freight traffic accessing the Mackay Port. Mackay-Slade Point Road is instead the identified connector to the Harbour.

Analysis of routes – south of the Pioneer River

The principal cycle network south of the Pioneer River capitalises on Mackay's traditional grid street pattern, and proposes a network that in most cases has a mesh width of no more than 1000 metres apart.

The network focuses on connections to the main employment destinations such as the CBD, Paget industrial area, Central Queensland University at Ooralea and the Mackay Base Hospital.

Connors-Paradise Road, Bruce Highway-Nebo Road and Milton Street corridors are key to facilitating north-south cycle movement from residential areas to the CBD and Paget industrial area. The Milton Street corridor will also cater for shopping and utility trips by connecting to Caneland Central, the main shopping precinct on the south side of Mackay.

Bridge Road provides an east-west corridor for cycling as it connects residential areas south-east of the Mackay CBD to the Mackay Base Hospital and other significant attractors such as the Mackay Stadium. It also forms part of the Bluewater Trail.

A principal route is identified along Gordon Street west from the Milton Street intersection. This section of Gordon Street has been identified as it provides a connection to the Ron Camm Bridge.

Ooralea is a significant future residential growth area for the south side of Mackay, as highlighted in Mackay Regional Council's Ooralea local area plan. There are also plans for a mining camp at Ooralea. The future principal routes identified on Cowleys Road, Bernborough Avenue, Schmidtkes Road and Temples Lane are intended to service this future growth.

A future industrial precinct is planned for Rosella, south of Bakers Creek. Accessing Rosella requires crossing Bakers Creek and the railway along the Bruce Highway. These crossings are currently constrained and do not have provisions for cyclists. If a connection to Rosella was included in the principal cycle network, it would mean adding cyclist facilities to future upgrades of the creek crossings. Therefore, the Rosella connection was analysed closely given the potential substantial costs involved.

One of the guiding principles of the *Queensland Cycle Strategy 2011-2021* is to provide a principal cycle network within 5 km of key centres, and Rosella falls within this radius of the Mackay CBD. For this reason, a route along the Bruce Highway over Bakers Creek to Rosella was included in the principal cycle network.

The Bruce Highway/Nebo Road corridor between Archibald and Shakespeare Streets was not included in the principal cycle network even though it is closer to the Mackay CBD. This section of Nebo Road is an identified freight route and carries significant traffic. It is also physically constrained and unlikely to be able to cater for on-road cycle infrastructure. MRC has identified Field Street (approximately 200 m east of Nebo Road) as an alternative district level route, while the principal cycle network has Paradise Street as an alternative to Nebo Road. The disused railway along Paradise Street is being investigated by MRC and the department for a dedicated active transport corridor.

Cycling along this corridor would mean residents to the east of Nebo Road could travel along Bridge Road to a dedicated cycling corridor in Paradise Street, and then travel south towards Archibald Street and the University, or north into the CBD.

MRC's Bluewater Trail is identified on the principal cycle network, connecting six key sites including the Mackay Regional Botanic Gardens and Bluewater Lagoon swimming facility. A few sections of the trail are yet to be completed, with work continuing on pathways along Bridge Road and the final section of the Pioneer Promenade from the Bluewater Lagoon to Caneland Central.

Training routes

In response to requests from local cyclists, the Department of Transport and Main Roads has erected signage along an identified training/sporting loop that includes Mackay-Bucasia Road, Marajaku-Yakapari Road, and Mackay-Habana Road. This route is not identified on the principal cycle network as there are no plans for further provisions on this route.

The Department of Transport and Main Roads recognises that there are a number of training and sporting loops throughout the MRC area. These routes have been noted and will be kept on record by Transport

Mackay Regional Council analysis of routes

and Main Roads staff in Mackay to provide further information on where cyclists are riding throughout the region. These routes have not been included on the principal cycle network due to their primary training/sporting function.

Opportunities and constraints

The major constraint for cyclists in Mackay is a safe crossing over the Pioneer River. Residential growth will continue to be concentrated mostly within the northern suburbs, with the CBD and Paget remaining the dominant employment areas.

Of the three existing river crossings, the Ron Camm Bridge is the least ideal, with no facilities for cyclists. The Forgan Bridge has a 4 m shared pathway on one side. The Edmund Casey Bridge offers an opportunity to improve the western river crossing, as it has the head-stock already in place for supporting a pathway for cyclists and pedestrians. If this facility were completed, it would provide convenient connection from the northern suburbs onto the Bluewater Trail around the waterfront, as well as to routes connecting to the airport and Paget. The Edmund Casey Bridge is identified on the principal cycle network for this reason.

There is also potential to improve the approach to the Edmund Casey Bridge. With the current plans for a western deviation of Glenella Connection Road to connect to Sugarshed Road, through traffic could be contained to the western deviation and Glenella Connection Road could then be prioritised for active transport. This option, combined with the potential improvement to cycling across the Edmund Casey Bridge, would create an amenable western cycling corridor in Mackay.

Indicated on the principal cycle network is also a fourth river crossing to the west of the Forgan Bridge for consideration as a 'green bridge'. This crossing could provide an alternative to retrofitting cycling facilities on the existing bridges. Further investigation into a green bridge is recommended when more detailed planning is undertaken for improving the current river crossings.

Maps 4, 5, 6 and 7 – Walkerston, Mirani, Marian and Sarina

A principal route from Mackay to Walkerston is identified along the Peak Downs Highway. In recent times, Walkerston has experienced residential growth as a result of its close proximity to the mines in the hinterland region. The connection between Walkerston and Mackay serves a recreation function and also enables journeys to work for residents travelling into Mackay. Planning is underway for a Walkerston bypass as a dedicated freight route, when completed this bypass may free up capacity on the Peak Downs Highway for cyclists.

In Marian, future principal routes are planned off Kennys Road to cater

for future residential growth. In Mirani, a planned route along Eungella Road would provide an east-west connection through town from residential areas to the local shops and school

Sarina services Mackay's cane industry and is a major commercial and community service centre. The principal routes aim to enable safe and convenient connection from residential areas to local attractors and destinations. A principal route along the Armstrong Beach Road corridor connects to the Jilalan Aurizon Depot, a significant employment attractor in Sarina.

Isaac Subregion

Mackay Isaac Whitsunday Principal Cycle Network

The routes shown are indicative and exist to guide further planning that will determine the precise routes and design of cycle facilities.

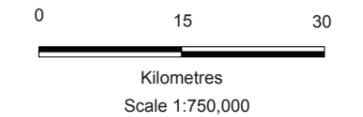
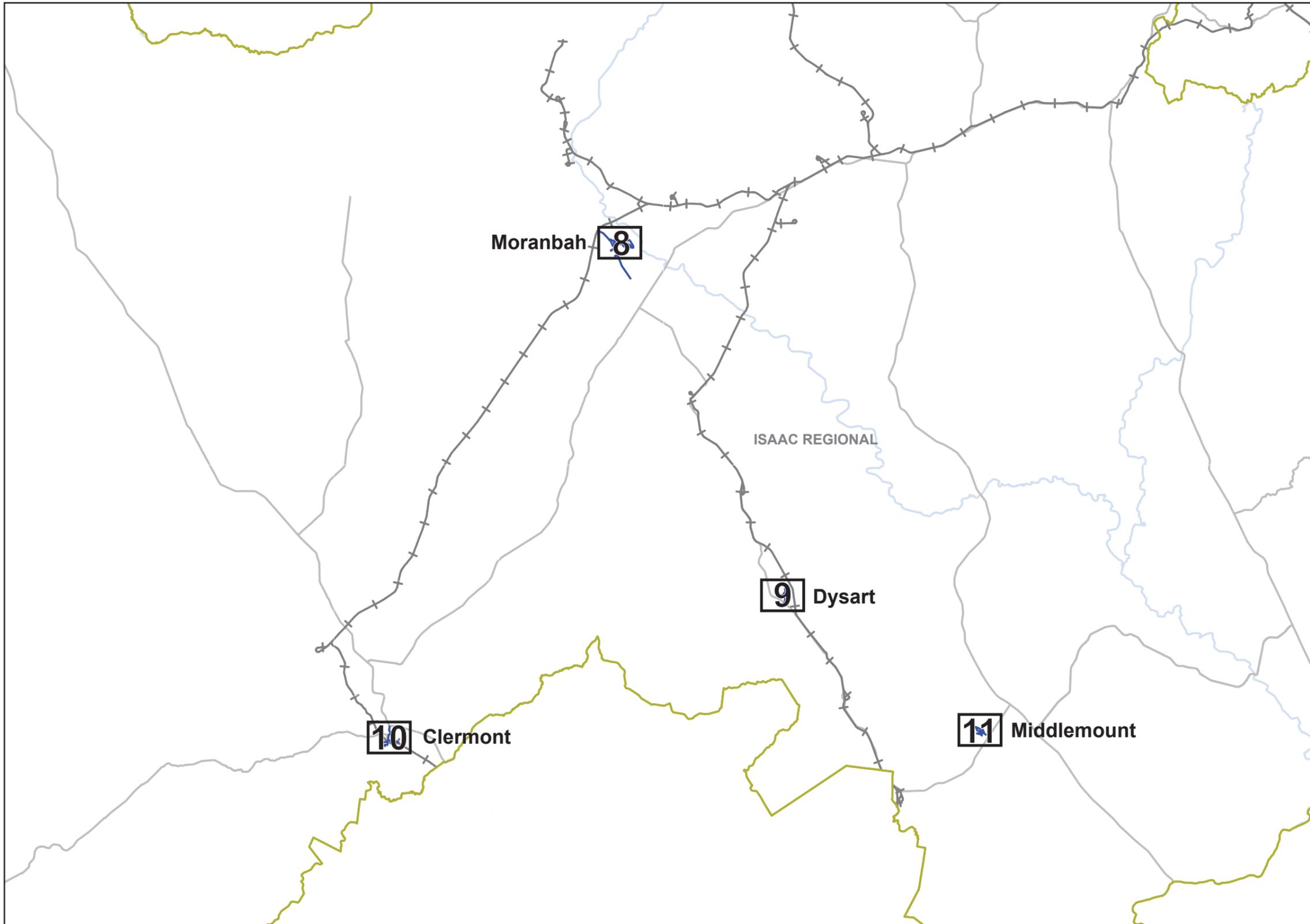
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LEGEND

-  Principal Route
-  Future Principal Route
-  Tourism Route
-  Subset Map

Map Items

-  State Controlled Road
-  Railway Line
-  Waterway/Waterbody
-  Local Government Boundary



Map 8

Mackay Isaac Whitsunday Principal Cycle Network

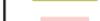
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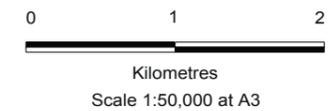
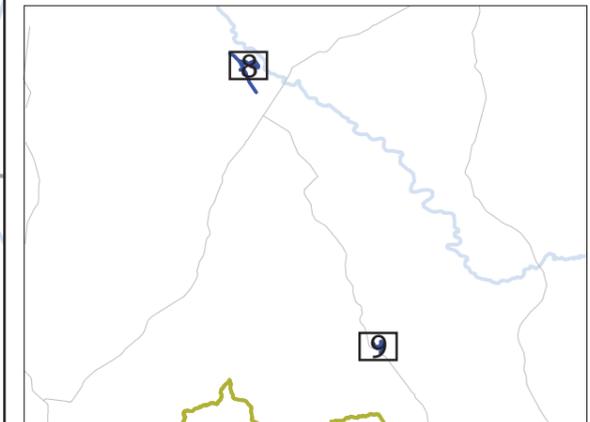
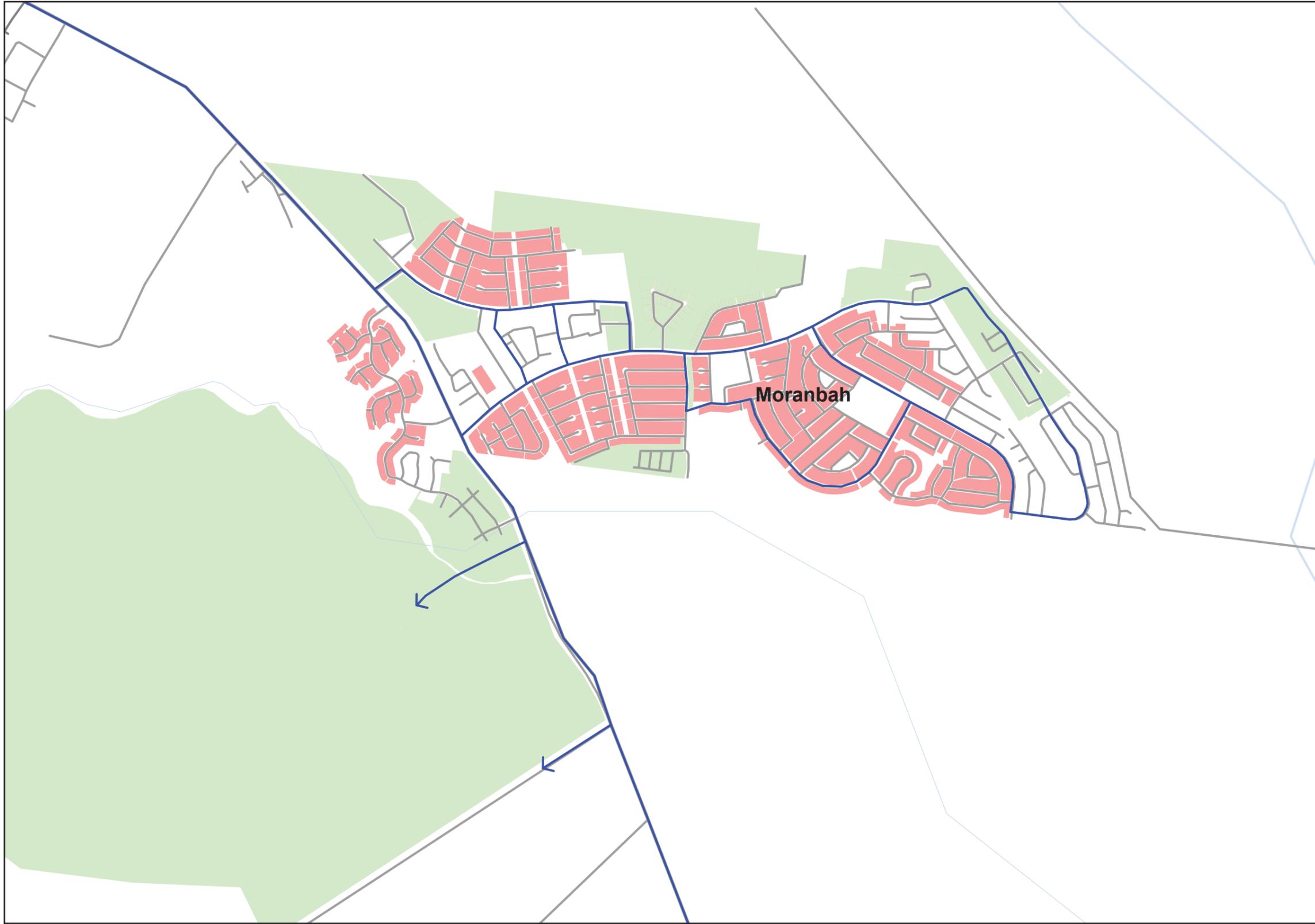
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LEGEND

-  Principal Route
-  Future Principal Route
-  Tourism Route

Map Items

-  Major Road
-  Railway Line
-  Passenger Railway Station
-  Waterway/Waterbody
-  Local Government Boundary
-  Urban Area
-  Growth Area
-  Airport
-  Port



Map 9

Mackay Isaac Whitsunday Principal Cycle Network

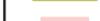
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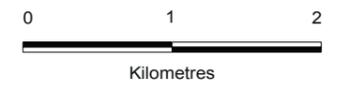
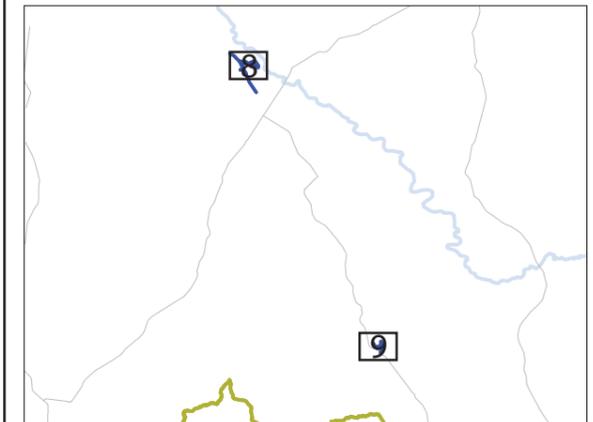
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LEGEND

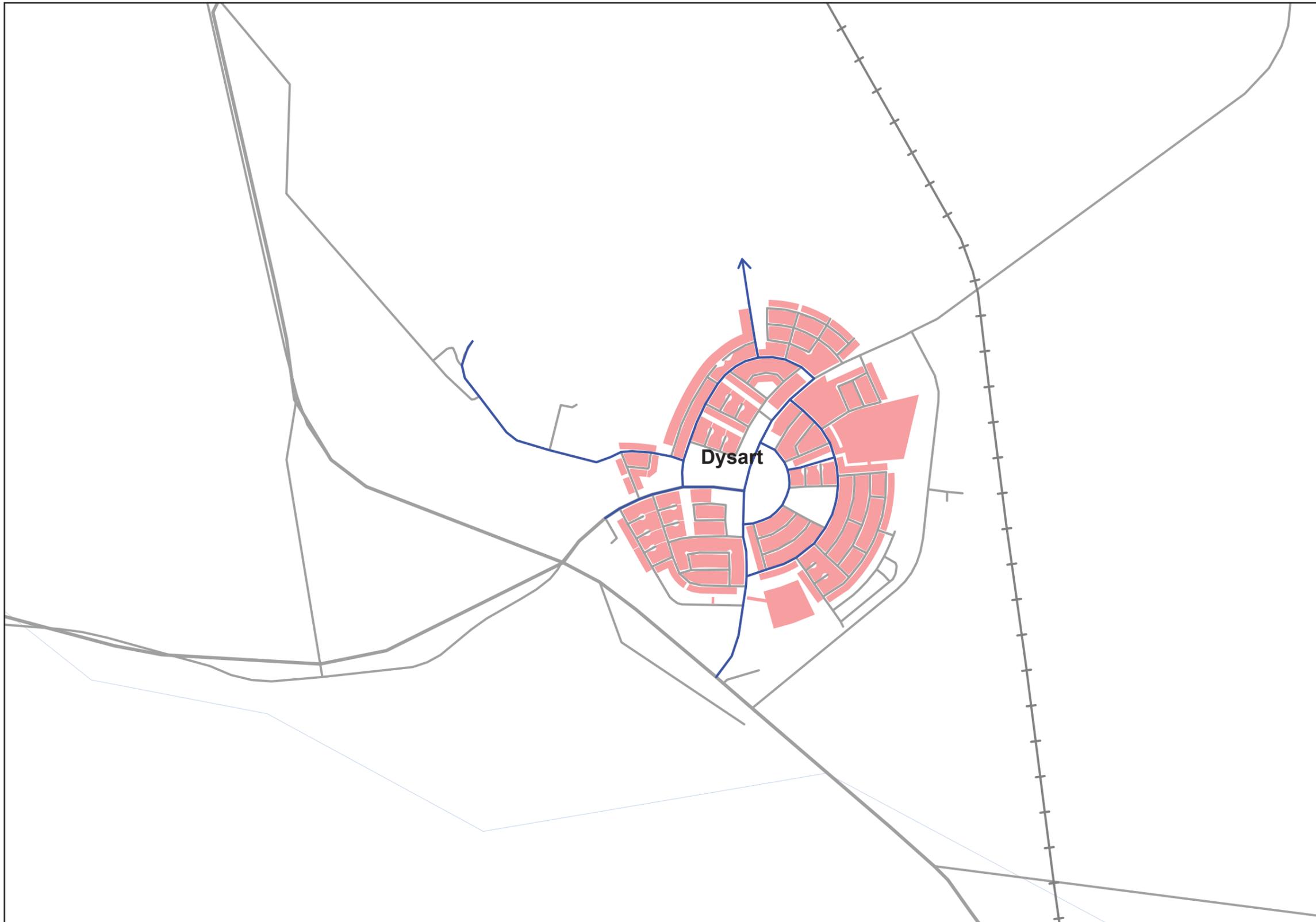
-  Principal Route
-  Future Principal Route
-  Tourism Route

Map Items

-  Major Road
-  Railway Line
-  Passenger Railway Station
-  Waterway/Waterbody
-  Local Government Boundary
-  Urban Area
-  Growth Area
-  Airport
-  Port



Scale 1:50,000 at A3



Map 10

Mackay Isaac Whitsunday Principal Cycle Network

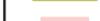
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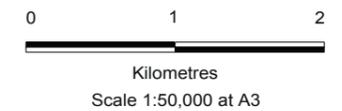
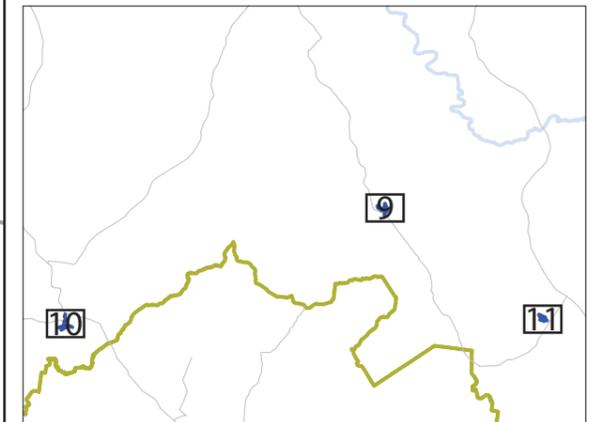
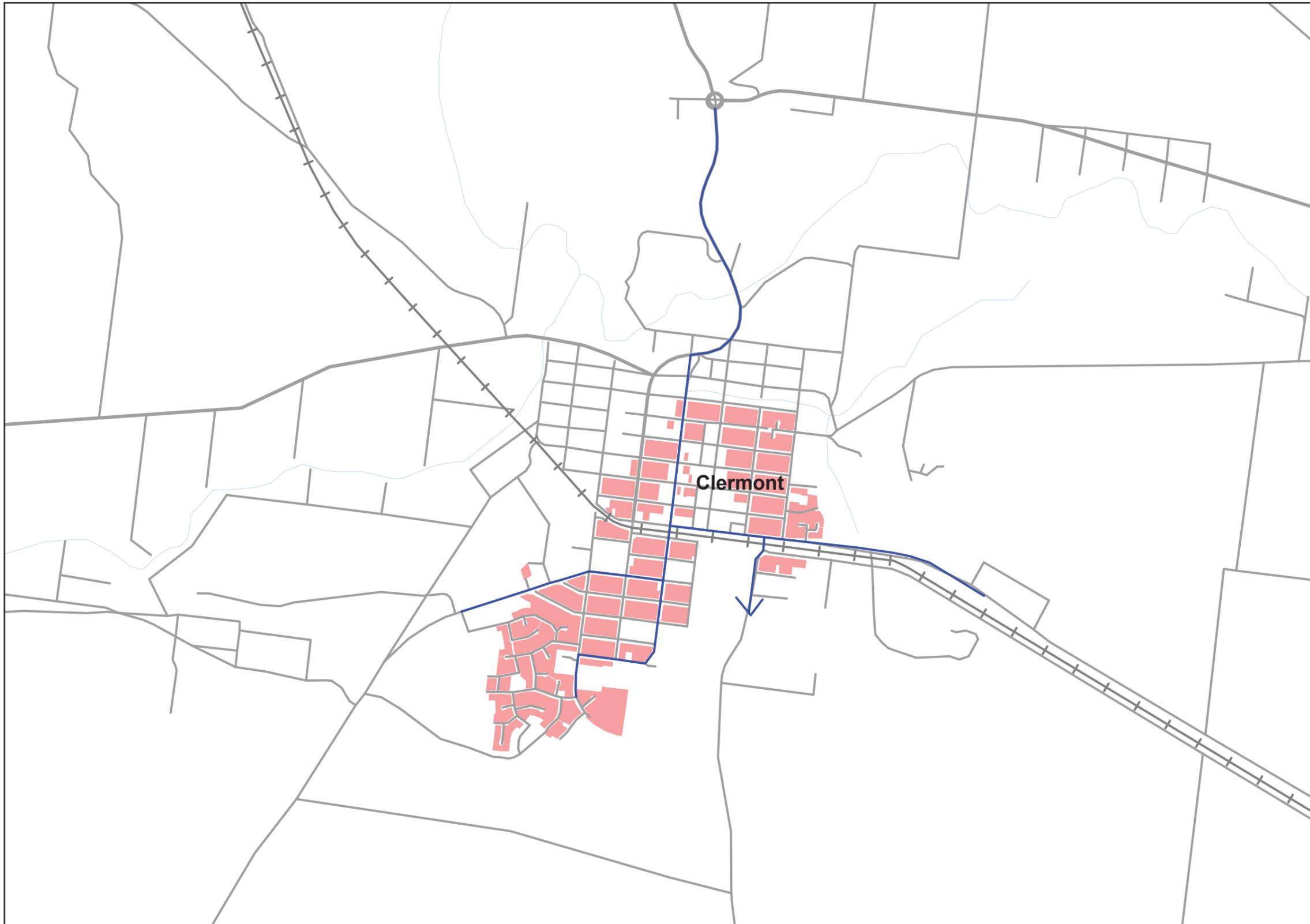
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LEGEND

-  Principal Route
-  Future Principal Route
-  Tourism Route

Map Items

-  Major Road
-  Railway Line
-  Passenger Railway Station
-  Waterway/Waterbody
-  Local Government Boundary
-  Urban Area
-  Growth Area
-  Airport
-  Port



Map 11

Mackay Isaac Whitsunday Principal Cycle Network

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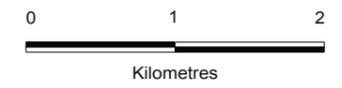
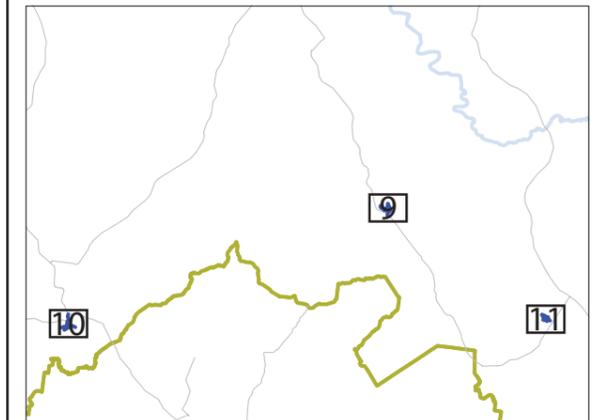
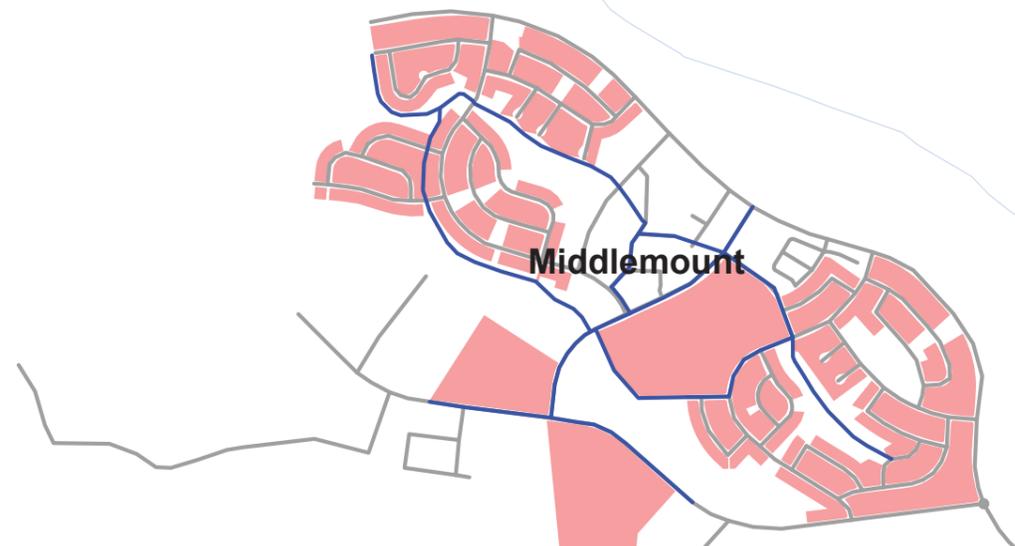
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LEGEND

-  Principal Route
-  Future Principal Route
-  Tourism Route

Map Items

-  Major Road
-  Railway Line
-  Passenger Railway Station
-  Waterway/Waterbody
-  Local Government Boundary
-  Urban Area
-  Growth Area
-  Airport
-  Port



Scale 1:50,000 at A3

Isaac Regional Council analysis of routes

Map 8 - Moranbah

The mining boom in Moranbah has brought increased heavy vehicle movements and a growing fly in/fly out workforce. The principal cycle network must therefore consider safe cycling connections, particularly to primary and high schools.

Parts of Moranbah, as well as a large site west of Goonyella Road, have been declared as Priority Development Areas (PDA) in recognition of the planning challenges presented by the mining boom. The PDA development scheme states that development in Moranbah must reinforce the town centre as the heart of retail and administrative activity. Therefore, the principal cycle network identifies Mills Avenue as the main east-west corridor through Moranbah, enabling residents to connect to the town centre and important destinations like the hospital, high school and golf club.

Future principal routes are identified west of Goonyella Road to service the PDA precinct, and to align with the local cycling and walking facilities of this future residential precinct.

The principal cycle network identifies the need for a safe connection across Goonyella Road from the western residential areas to the main attractors on the eastern side of town. This connection should be a priority for delivery.

A principal route is identified along the Goonyella Road corridor from the southern edge of town to Moranbah Airport. The airport recently underwent a \$46 million upgrade to cater for the increasing mining activity in the area. Cycling connections to the airport will encourage employees to cycle to work.

A cycle connection was investigated along Goonyella Road to the Moranbah North, Goonyella and BHP Coal Mines, which are approximately 16 km north of Moranbah. However, this connection was not included due to the nature of mining work and the number of heavy vehicles expected on this road.

Map 9 - Dysart

In Dysart, the principal cycle network identifies routes along Garnham Drive and Queen Elizabeth Drive to facilitate access in the town centre to local shops, the school and hospital. Principal routes along Hannan and Beardmore Crescents will service neighbouring residential areas. The principal route envisaged for Fisher Street heading north-west from town will connect to the mining camp and the golf course.

Map 10 - Clermont

Clermont is an agricultural town that services the surrounding mining industry. As its urban footprint is contained within a 2 km radius of the town centre, the cycle network consists of a small number of north-south and east-west connections that provide a mesh width of no more than 1000 metres apart.

Industrial areas to the north of Clermont will be serviced by principal routes planned along the Clermont Connection Road. Closer to town, principal routes along on Spoonbill Street heading east from the town will service the council depot and an emerging industrial area.

The principal route along Capella Street will service Clermont's main street and commercial area. Clermont Primary School is located on the southern end of town, creating some difficulty for residential areas on the north of town. Access to the primary school from the north side of town is proposed through a principal route on Francis, Lavarack and Capricorn Streets.

Map 11 - Middlemount

Middlemount will continue to provide commercial and administrative services as well as social and entertainment facilities to the surrounding mines.

Principal routes are planned for James Randell Drive and Leichhardt Drive to service the town centre where the commercial services are located. The James Randell Drive route will also service Middlemount Community School.

Routes planned for Rolfes Court and through the open space area south of Alfred Quinn Drive will provide connections from residential areas to the town centre. The industrial area south of town will be serviced by routes planned for Centenary Drive.

Whitsunday Subregion

Mackay Isaac Whitsunday Principal Cycle Network

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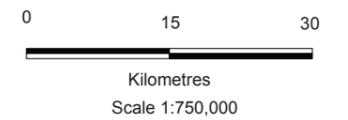
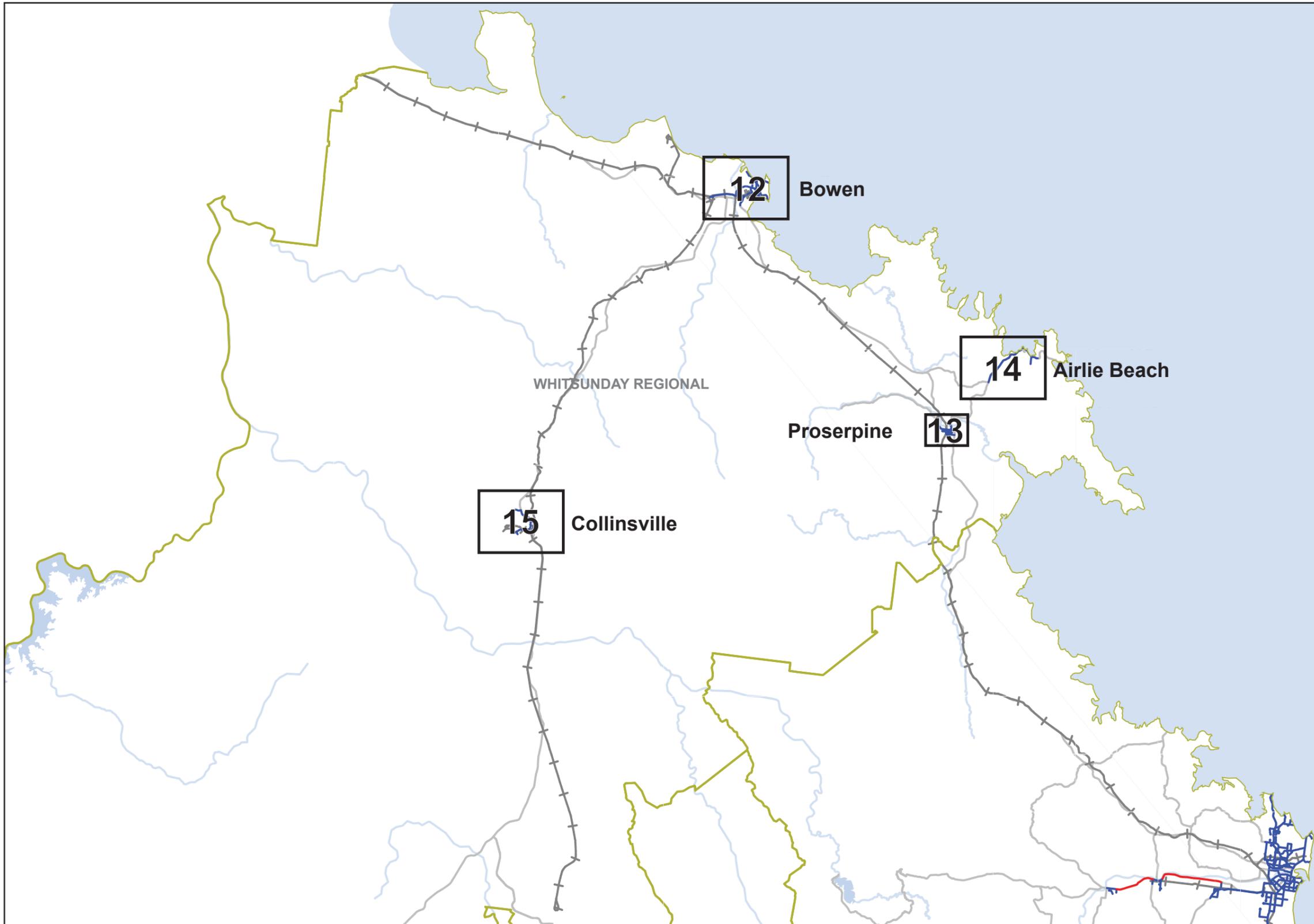
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LEGEND

-  Principal Route
-  Future Principal Route
-  Tourism Route
-  Subset Map

Map Items

-  State Controlled Road
-  Railway Line
-  Waterway/Waterbody
-  Local Government Boundary



Map 12

Mackay Isaac Whitsunday Principal Cycle Network

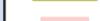
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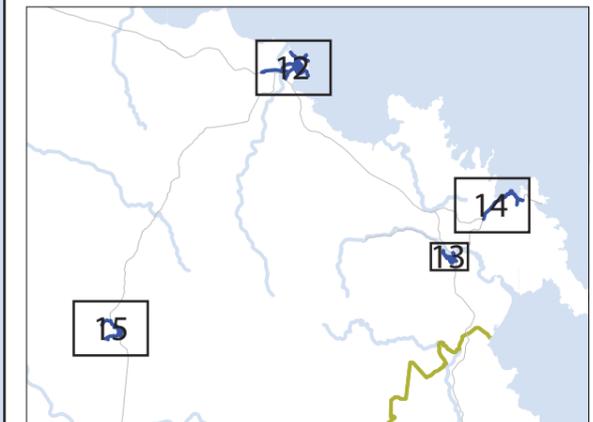
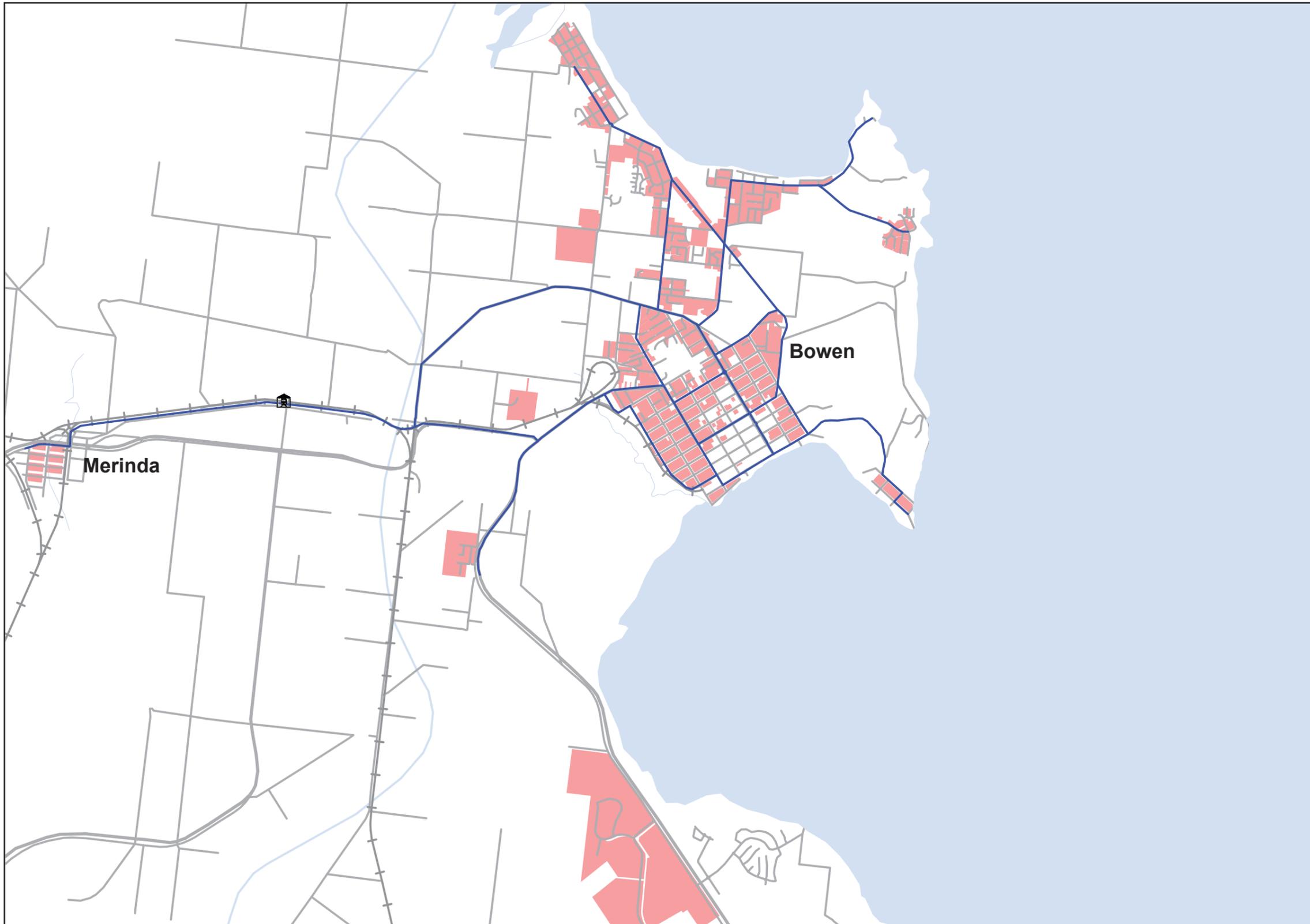
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LEGEND

-  Principal Route
-  Future Principal Route
-  Tourism Route

Map Items

-  Major Road
-  Railway Line
-  Passenger Railway Station
-  Waterway/Waterbody
-  Local Government Boundary
-  Urban Area
-  Growth Area
-  Airport
-  Port



Kilometres
Scale 1:50,000 at A3

Map 13

Mackay Isaac Whitsunday Principal Cycle Network

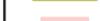
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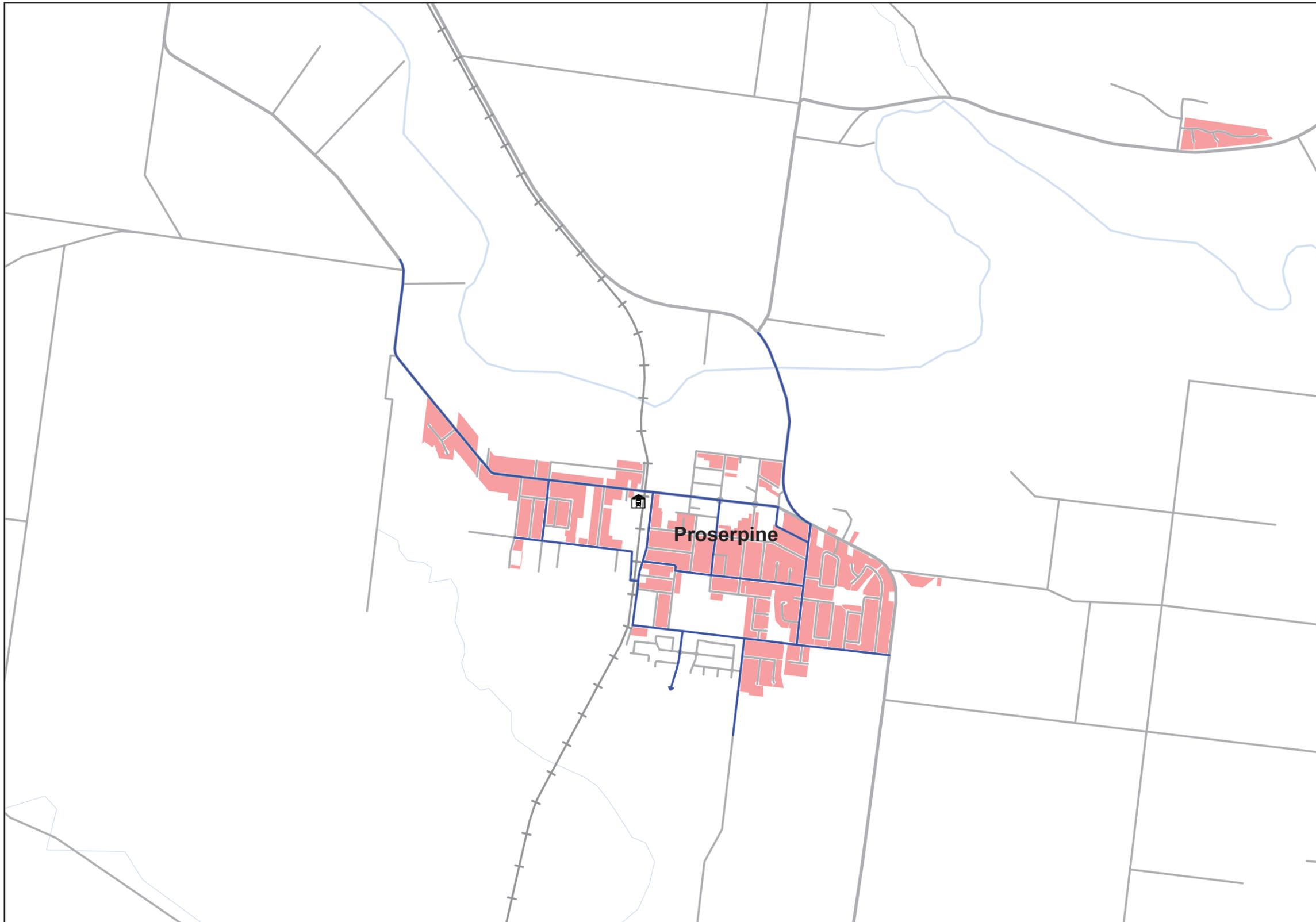
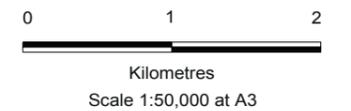
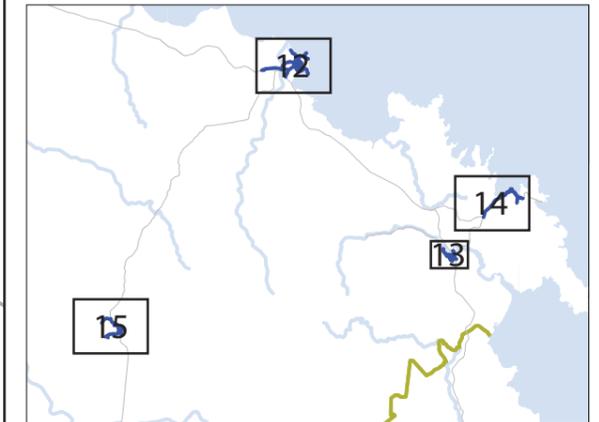
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LEGEND

-  Principal Route
-  Future Principal Route
-  Tourism Route

Map Items

-  Major Road
-  Railway Line
-  Passenger Railway Station
-  Waterway/Waterbody
-  Local Government Boundary
-  Urban Area
-  Growth Area
-  Airport
-  Port



Map 14

Mackay Isaac Whitsunday Principal Cycle Network

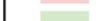
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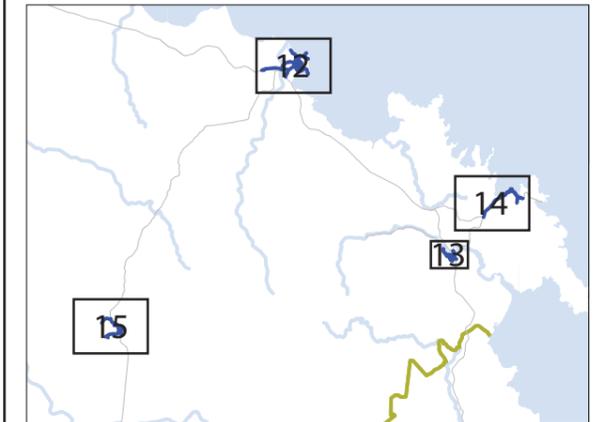
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LEGEND

-  Principal Route
-  Future Principal Route
-  Tourism Route

Map Items

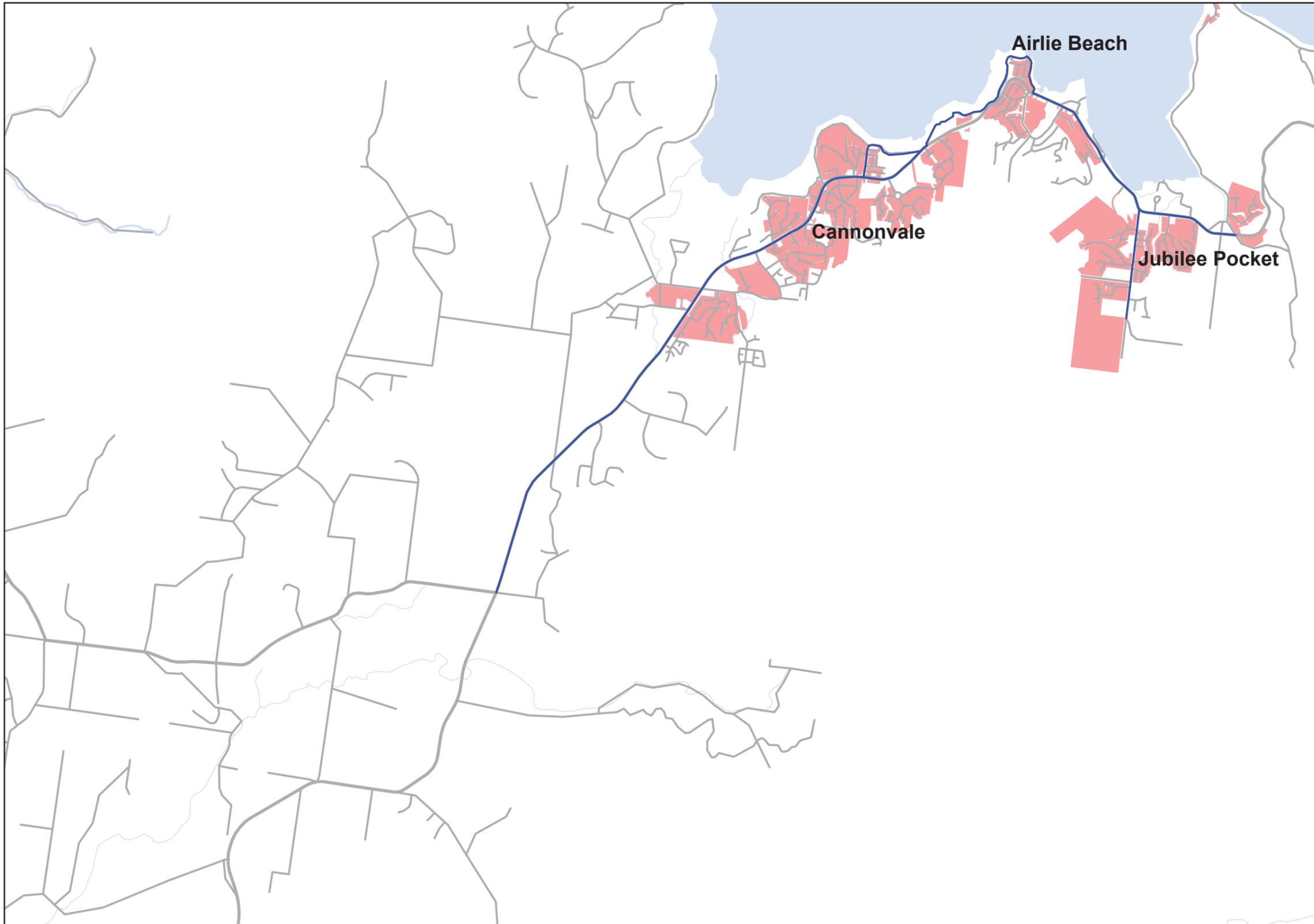
-  Major Road
-  Railway Line
-  Passenger Railway Station
-  Waterway/Waterbody
-  Local Government Boundary
-  Urban Area
-  Growth Area
-  Airport
-  Port



0 1 2

Kilometres

Scale 1:50,000 at A3



Map 15

Mackay Isaac Whitsunday Principal Cycle Network

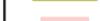
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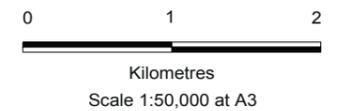
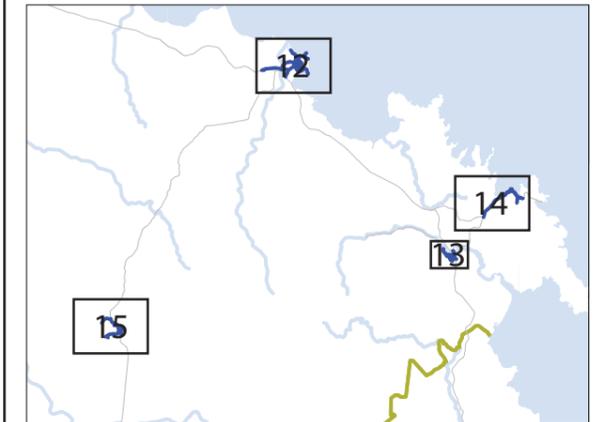
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LEGEND

-  Principal Route
-  Future Principal Route
-  Tourism Route

Map Items

-  Major Road
-  Railway Line
-  Passenger Railway Station
-  Waterway/Waterbody
-  Local Government Boundary
-  Urban Area
-  Growth Area
-  Airport
-  Port



Whitsunday Regional Council analysis of routes

Map 12 - Bowen

The Abbott Point State Development Area (SDA) will increase freight and port activity, impacting the surrounding Whitsunday region including Bowen. The SDA is around 20 km from Bowen, so is not likely to be a significant cycling destination. However, with the SDA and associated growth expected to impact the local road capacity, improved cycling infrastructure could encourage more people to cycle, freeing up road space and increasing the longevity of the road system.

The grid street pattern in the main urban area of Bowen has resulted in a straightforward network that connects residents with the main services in town.

A number of isolated residential developments and hotels located near the beaches/waterfront (for example, Horseshoe Bay) have developed outside of the main urban centre in Bowen. Golf Links Road, Horseshoe Bay Road and Peter Wyche Drive are identified as future principal routes to link these areas into the town centre.

Residents living in Merinda currently travel via the Bruce Highway into Bowen (approximately 10 km) and to Abbot Point. To provide an alternative to the Bruce Highway into Bowen, a principal route is identified parallel to the rail network north of the Bruce Highway, then continuing along Lower Dons Road and the Bowen Connection Road into town.

Heading south from Bowen, a principal route is identified along the Bruce Highway to connect to the numerous caravan parks and tourist accommodation. This route would also service a small amount of industry.

A principal route was considered from Bowen to the Whitsunday Shores development (approximately 8 km), along the Bruce Highway. Although Whitsunday Shores is an emerging residential area, this route was not included in the principal cycle network because the development was not extensive enough to warrant cycling routes along the Bruce Highway. The Bruce Highway is also constrained through this section, so future cycling infrastructure is likely to be cost prohibitive and would not achieve significant outcomes. An alternative route to Whitsunday Shores has not yet been identified, but could be considered in future updates of this principal cycle network plan.

Map 13 - Proserpine

The majority of Proserpine residents live within 1.5 km of the town centre, which is likely to continue to be the case for the foreseeable future. New residential development is planned to the south of Renwick Road, and the new St Catherine's Renwick Senior School is being

developed with access off Renwick Road. Future principal routes are identified south of Renwick Road to service this development.

A principal route is proposed to cross the railway along Anzac Road heading toward the intersection with Hinschen Street. This rail crossing is important as it will allow a safe connection between the residential area to the west of Hinschen Street with the schools and commercial centre to the east of Hinschen Street. Other routes planned for Proserpine are identified to connect residential areas with key attractors such as schools and the commercial centre.

A principal route is identified along Crystal Brook Road to the intersection with Kelsey Creek Road to serve the nearby sports fields. A principal route was investigated along the length of Crystal Brook Road to Lake Proserpine, however analysis showed the demand for this connection was not high enough to warrant inclusion in the principal cycle network. A cycling connection to Proserpine Airport was also considered but the airport is too small an employment attractor to warrant a principal route. It is also outside the 5 km radius from the centre of Proserpine.

Training routes

The Department of Transport and Main Roads has erected signage along an identified training/sporting loop that includes the Bruce Highway, Gregory-Cannon Valley Road and Shute Harbour Road. This route is not identified on the principal cycle network as there are no plans for further provisions on this route. This route has not been included on the principal cycle network due to its primary training/sporting function. A record of the route will be kept by Transport and Main Roads staff in Mackay as further information on where cyclists are riding throughout the region.

Map 14 - Cannonvale and Airlie Beach

Cannonvale is a commercial, retail and industrial services hub within the Whitsundays, while Airlie Beach is the recreation and tourist hub. Cannonvale and Airlie Beach are close to each other (around 4 km from centre to centre) but are separated by hilly topography. They are connected by Shute Harbour Road, but this connection is constrained by the hill on its southern side.

This hill poses some challenges to providing a cycling connection between the two urban centres. Therefore, a principal route is envisaged on Shute Harbour Road in Cannonvale, then on Beach Road to connect to the esplanade that leads around Able Point Marina. This will provide a safe connection between Cannonvale and Airlie Beach.

In Cannonvale, the principal route along Shute Harbour Road enables access to Centro Whitsundays, the principal commercial and recreation

centre in Cannonvale. It also enables access to schools and the Barrier Reef Institute of TAFE Cannonvale campus.

Residential growth in Airlie Beach is expected to be concentrated around Jubilee Pocket, which is just over 2 km south of the main activity areas. Safe connections from this residential area into Airlie Beach will be provided by the principal routes on Jubilee Pocket Road and Shute Harbour Road.

The principal route on Shute Harbour Road leading from Jubilee Pocket also provides a connection to the PCYC on the eastern side of Shute Harbour Road, a major recreation attractor for the community.

Map 15 - Collinsville and Scotville

The principal route on Sonoma Street-Bowen Development Road connects residential areas with the Collinsville commercial centre and Collinsville District Hospital on the northern edge of town.

The principal route envisaged for Scotville Road picks up the southern residential areas in Collinsville, and also enables connection from Scotville to Collinsville.

The principal route on PowerHouse Road connects Collinsville to the Collinsville Power Station, around 4.5 km north of town.

6 Review of the plan

As shown in Figure 4, the MIWPCNP will be regularly reviewed. On an annual basis, Transport and Main Roads will send an update form to all local governments and departmental regional offices seeking details on proposed planning-led alterations to the principal cycle network and details on routes that have been delivered in the past year. Information received will be included as input in future reviews of the plan.

Information requested will include:

- description of affected route(s)
- type and description of, change (alteration, removal, addition or delivery)
- description of basis for change (planning document or construction project)
- detailed justification for change against the planning principles outlined in section 3
- description of delivered cycle infrastructure and adherence to applicable standards
- maps and photos of change
- contact officer for required additional information.

7 More resources

There are a number of resources and guides covering the development of cycle networks in Queensland, ranging from statewide target setting to technical specifications for infrastructure. Practitioners are encouraged to review the following:

- *Queensland Cycle Strategy 2011-2021*
- AUSTROADS Guides
- *Traffic and Road Use Management Manual*
- Transport and Main Roads' *A Guide to Signing Cycle Networks*, July 2009
- *Manual of Uniform Traffic Control Devices*
- Transport and Main Roads' *Cycling Infrastructure Policy*
- Transport and Main Roads' *Technical Note 128, Selection and Design of Cycle Tracks*, May 2015
- *Queensland Development Code*.

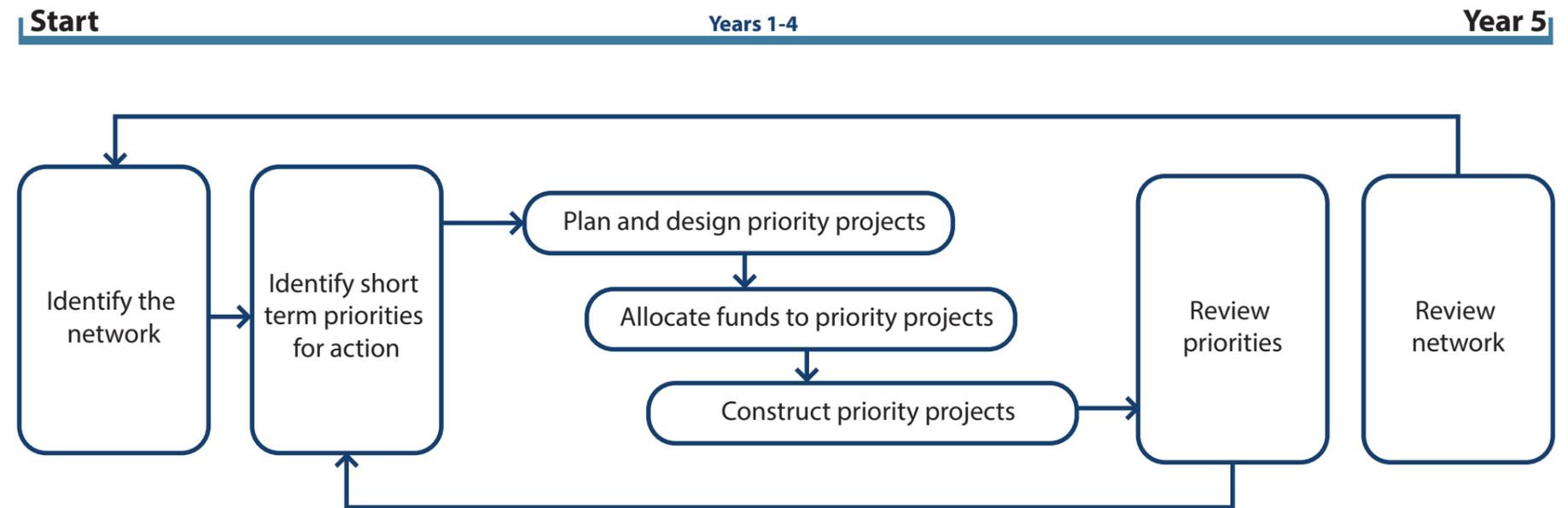


Figure 4. Indicative planning and prioritisation cycle for Transport and Main Roads.

