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Background

1 Introduction

The Central Queensland Principal Cycle Network Plan (PCNP) has been developed to guide and inform practitioners involved in the planning, design and construction of the region's transport network. It provides a vision for the cycle network in the central Queensland region.

The principal routes shown in this plan represent cycling desire lines. They indicate the most important routes and known missing links for cyclists within the region. In most instances, further corridor investigation work will be required to determine the precise route and desired standard of cycle facilities.

The PCNP is not a navigation aid, since the maps provided make no distinction between existing and future cycle infrastructure. Neither does it designate the form or timing of infrastructure delivery. Rather, the PCNP's role is to flag the demand, location and functional requirement of cycle routes and inform further planning and design of cycle infrastructure across the region.

An action plan based on a prioritisation of routes within the region will be developed and published separately to the PCNP. The plan will dictate the actions required in the short to medium term to progress the delivery of the highest priority routes identified in the Central Queensland PCNP.

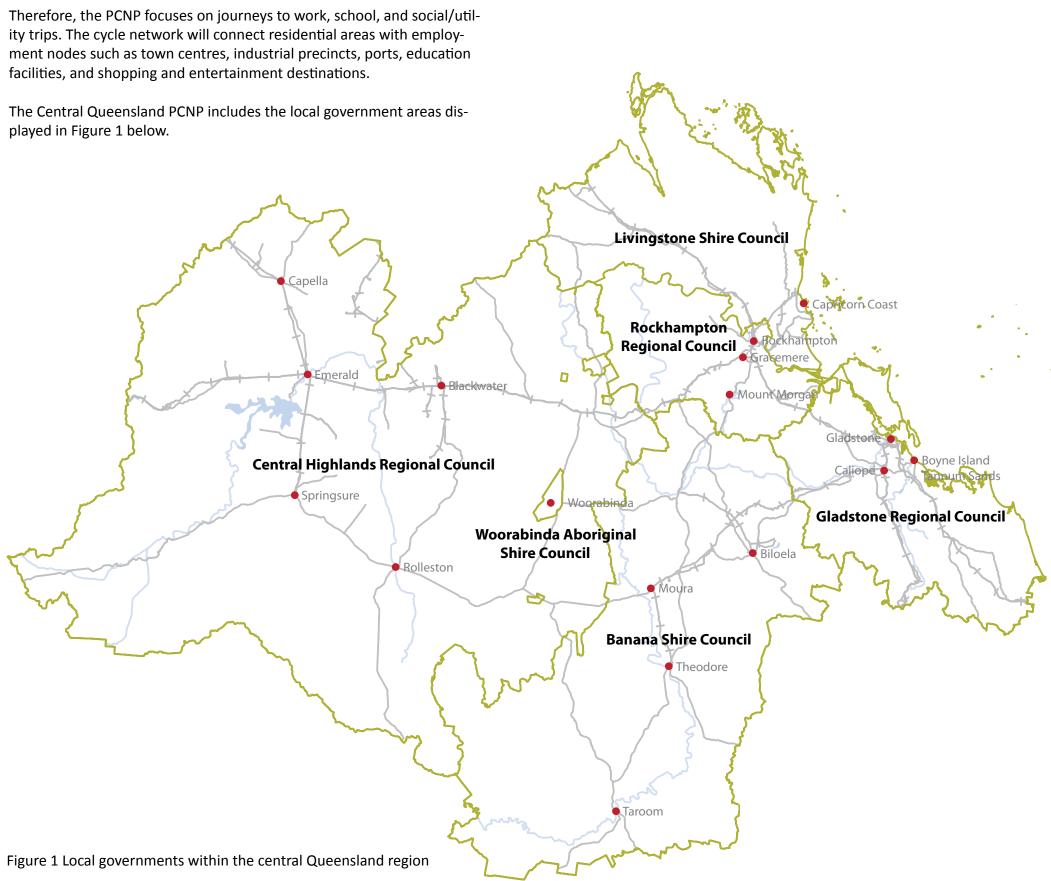
Section 4 clarifies the various implementation mechanisms associated with principal and regional recreational routes.

2 What is a principal cycle network?

A principal cycle network is comprised of core routes designed to maximise the community's use of the bicycle as an everyday form of transport. It is a functional network focussed on trips that can be easily cycled in the central Queensland region.

2.1 Types of journeys

The PCNP identifies routes primarily for cyclists within urban environments, with a particular focus on the 5km radius around trip destinations. Most of the urban areas in the central Queensland region are within a 5km radius of a town centre (sometimes 2.5km); at these distances, cycling becomes accessible for a range of trip types.



Background

2.2 Types of routes

The PCNP identifies the functional requirements for cycling in the region by highlighting the indicative locations of principal routes. This will influence the form of facilities and the priority given to implementing certain routes. The PCNP 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 towns.
- Future strategic 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.
- Regional recreation 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 PCNP is to present an agreed position on the desire lines for cycle routes in the region by applying the planning principles outlined in section 3. The routes shown are indicative, and exist to guide further planning which will ultimately determine exactly where the facility will be placed.

To achieve this, the PCNP consolidates existing cycle planning, data on key origins, destinations and cycling demand, as well as knowledge from regional councils and bicycle groups. This information has been used to formulate a principal network which will connect key activity centres, residential areas and local cycling networks.

This network then represents the core cycle routes needed to get more people cycling, more often, which is the vision of the Queensland Government's *Queensland Cycle Strategy 2011-2021*. When the network is delivered, residents will have the opportunity to view cycling to work, school, shopping precincts and other major destinations as a safe, efficient and attractive option.

Higher rates of cycling can reduce the overall vehicle demand on state and local government roads, particularly the proportion of single occupant vehicles. Moving enough of these trips to walking and cycling can reduce the need for road capacity upgrades, or extend the life of existing assets.

3 How was the network identified?

3.1 Planning principles

The following principles were used to guide the identification of the principal cycle network.

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 width¹ 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, statecontrolled 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.

A principal cycle route may meet the principles and still be identified within corridors that are, at the time, considered not conducive for

cycling (such as priority freight routes or highways). In this case, further detailed planning will consider the feasibility of cycling within the corridor, and investigate appropriate cycling treatments.

In some instances this may result in a separated cycle facility within the identified corridor and in others a facility on an adjacent alignment within the vicinity. The aim of the PCNP is to identify routes at a strategic network level that will deliver good cycling outcomes, recognising that to achieve this, more detailed planning, investigation and design will be required. Although planned with a realistic level of feasibility in mind, the aim of the plan is to not exclude routes from the principal network based entirely on their current level of cycling feasibility.

3.2 Workshop 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 and bicycle interest groups and some local community groups.

During the meetings, stakeholders applied the adaptive grid method² to highlight the core cycle network. This method required stakeholders to firstly nominate major origins and destinations on maps of each town in their local government area³. They then drew preference lines to connect the origins and destinations, often using the shortest most direct route or 'as the crow flies'. The preference lines were then transferred to preferred routes along existing and disused transport corridors and through open spaces/recreation corridors.

The placement of the preferred routes considered hazards, constraints, land tenure and topography. Other factors guiding the placement included the seven planning principles, existing bicycle plans where available and local knowledge of current and desired cycling routes.

After the stakeholder meetings, Transport and Main Roads officers analysed and refined the draft network using the planning principles along with knowledge of the physical conditions surrounding particular routes.

¹ Queensland Cycle Strategy 2011-2021

²CROW Design Manual for Bicycle Traffic (2007)

³ Not all towns within each local government area are included in the PCNP. A planning hierarchy was applied to determine the level of planning for towns.

Implementation

4 Implementation

4.1 Prioritisation

Transport and Main Roads will collaborate with local governments to identify a list of priority corridors. This prioritised list will be published as an addendum to the PCNP and will be reviewed regularly to ensure it remains an up-to-date representation of investment priorities. It will guide state planning and investment decisions as well as the assessment of grants to local government for cycling infrastructure. Involving local governments in the prioritisation process will ensure that principal cycle network facilities are developed where they will deliver the greatest benefit for the transport system.

4.1.1 Planning and protection of cycling corridors

Further planning and consultation is needed to determine the specific location and form of facilities on priority routes. On the state network, this planning will be undertaken as part of Transport and Main Roads' State Planning Program. Once the detailed planning has been completed, the highest priority corridors can be mapped and protected, and will be considered as part of the application process for any proposed developments on nearby land.

This planning and protection for future cycling corridors is particularly useful for greenfield development areas, where pre-emptive planning can avert the need for expensive retrofitting.

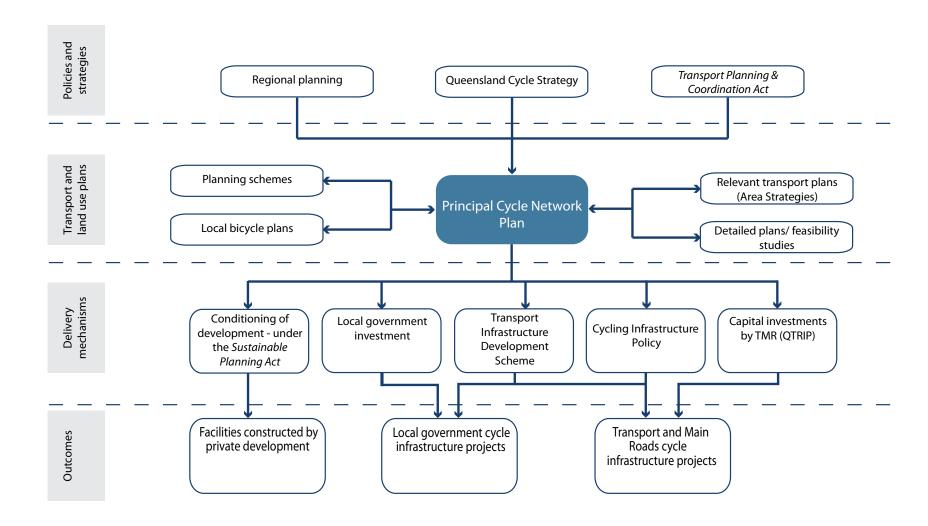


Figure 2 Policies and strategies influencing the principal cycle network.

4.2 Funding and process

Figure 2 illustrates the policies and strategies which influence the PCNP and the delivery mechanisms available for its construction. The principal cycle network has been developed using a 'one network' approach, meaning the network contains routes on both state-controlled and local government roads and open space networks. While Transport and Main Roads has direct control of cycle facilities delivered on state-controlled roads, its influence over local government roads and land is less direct.

4.2.1 Queensland Government delivery

The Cycling Infrastructure Policy requires that Transport and Main Roads considers the needs of cyclists in all state-controlled road and transport projects. When a state-controlled road or transport project coincides with an identified principal cycle network route the department seeks to integrate cycle infrastructure as part of the project.

Transport and Main Roads' Cycling Infrastructure Policy is one of the key delivery mechanisms for the principal cycle network, requiring cycle facilities to be funded by larger transport projects on the state-controlled network.

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

4.2.2 Local government delivery

Local governments in the central Queensland region can apply for funding to deliver cycle infrastructure through the Transport Infrastructure Development Scheme (TIDS). From 1 August 2013, the TIDS Policy allows for a single annual funding allocation to Regional Roads and Transport Groups (RRTGs), through consolidation of previous TIDS sub-programs.

RRTGs will be the decision-making authority on funding for a range of transport infrastructure including cycle infrastructure, thereby enabling councils themselves to champion cycling within the RRTG and prioritise investment into cycle infrastructure if desired.

Local governments can also allocate funding for cycling infrastructure in their own budgets, enabling them to deliver projects independently.

Implementation

4.2.3 Regional recreation routes

Principal and future strategic routes along state controlled transport corridors will trigger explicit provision for cyclists as defined by the department's Cycling Infrastructure Policy.

Regional recreation routes are not considered to be part of the principal network as it applies to this policy. These routes generally correspond either with touring and training routes in rural areas, or with proposed rail-trail routes along disused rail lines. Their identification in this plan, is intended to increase safety and focus delivery in the areas where the highest level of recreational cycling is likely to occur.

As an example, as part of an upgrade to an existing state-controlled road where a regional recreation route is identified, improvements to the road might include implicit cycle provisions such as sealing or widening of shoulders, safety signage, and squeeze point treatments.

These routes may also be eligible for funding through other sources such as TIDS or tourism and recreation programs.

4.3 Infrastructure associated with the principal cycle network

The PCNP does not identify specific infrastructure solutions in relation to routes shown as part of the network. Rather, it identifies the function of each route in general terms and leaves the detailed planning and design to others with a greater understanding of the local issues.

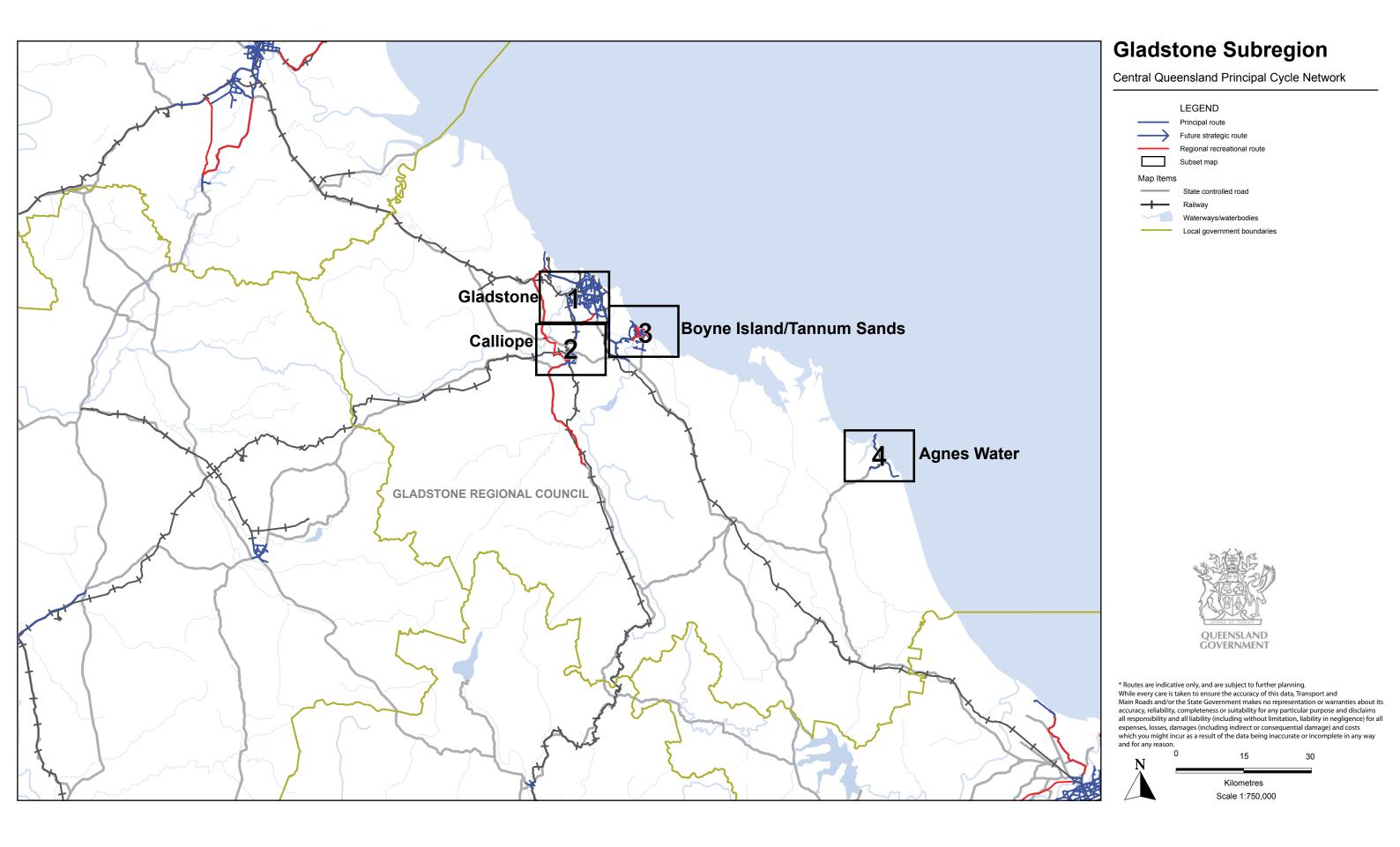
This is because determining the appropriate facility type requires consideration of a range of factors beyond the scope of this network plan. These factors include:

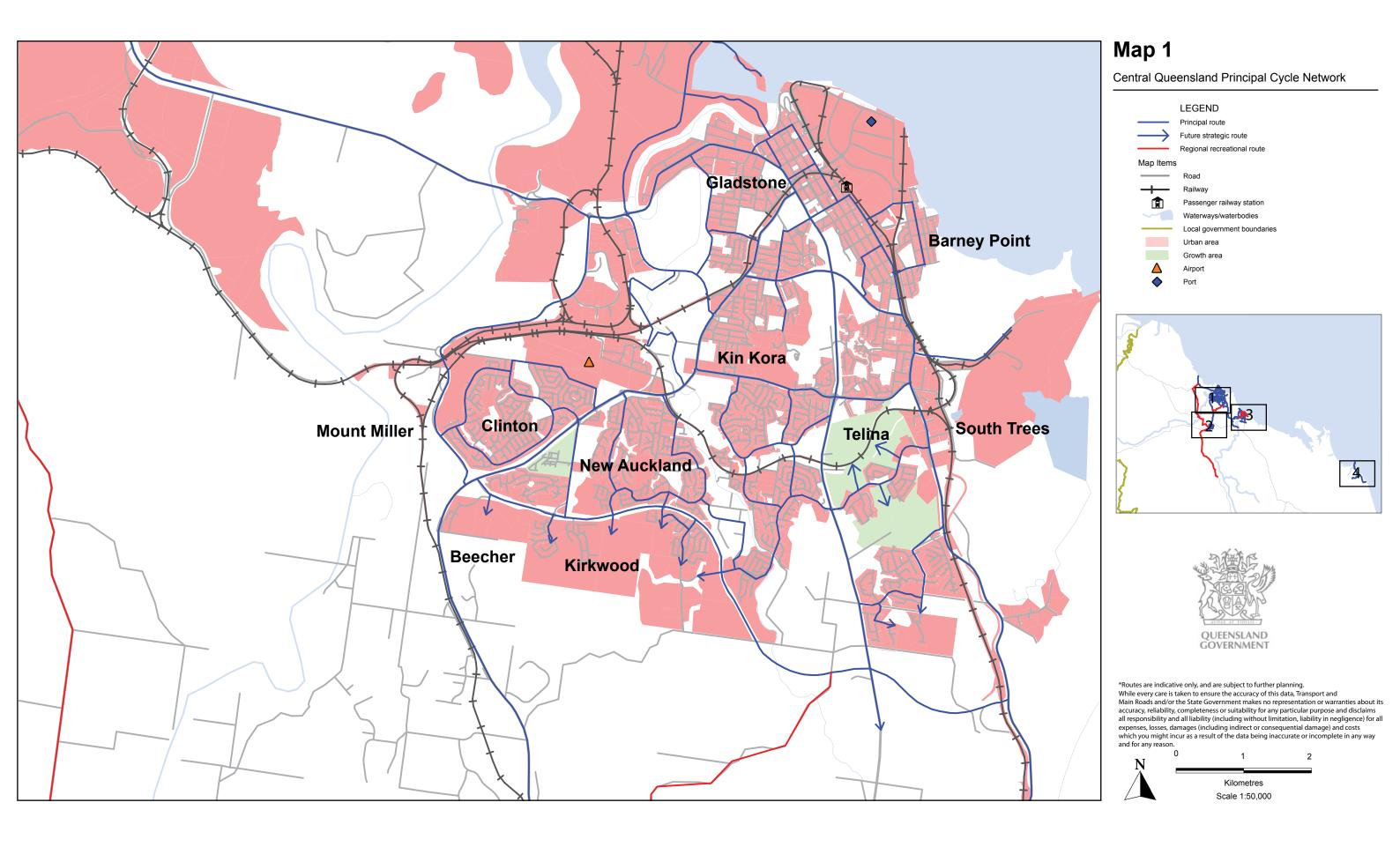
- available space
- type and likely mix of users
- surrounding land uses and trip attractors
- likely volumes of cyclists
- likely volumes of pedestrians
- average traffic volumes
- cyclist crash history
- physical constraints and hazards.

Not all future cycle infrastructure requires a segregated off-road facility; it is possible to design on-road cycle paths with a reasonably high level of safety. There is also the potential for significant cost savings if the road can safely accommodate both vehicles and cyclists. An example of this would be a road corridor with reasonably wide shoulders.

Network maps

Network maps 5 This section presents principal cycle network maps for the central Queensland region divided into the four local government areas. This section also contains an analysis of routes, with an explanation of the rationale for most routes in each local government area. Note that some inter-regional recreation routes may only Livingstone Shire Council appear on the local government subregional maps. 13 Capella Farnborough 9 Rockhampton 10 Yeppoon Regional Council 11 Èmu Park Rockhampton 5 Gracemere 6 12 Emerald 7 Bouldercombe 14 Blackwater 8 Mt Morgan Gladstone Boyne Island/ **Central Highlands Regional Council** Tannum Sands Calliope 2 15 Springsure 21 Woorabinda Agnes Water 4 Woorabinda Aboriginal Shire Council Gladstone Regional Council 17 Biloela 16 Rolleston 18 Moura 19 Theodore Banana Shire Council 20 Taroom Figure 3 Map index











Gladstone Regional Council analysis of routes

Map 1 - Gladstone

Opportunities and constraints

Gladstone's hilly topography has influenced development of the town's urban form and road network. As a result, the street layout does not follow a grid pattern and relies on main roads, such as the Dawson Highway, to connect various residential pockets with destination points.

The street layout, combined with typical cul-de-sac residential development, has created a disjointed active transport network with missing links. The principal cycle network aims to improve connectivity and permeability through the town, using existing road and active transport networks along with open spaces/waterways. The mesh width principle of providing cycle routes no more than 1000 metres apart was difficult to apply in Gladstone due to the topography. While there are varying distances between some cycle routes, every attempt was made to space the network consistently.

Gladstone's roads carry high volumes of heavy vehicles due to the extensive industrial and port activity in the area. There are opportunities in the future for freight routes to be diverted around the town's urban area, which could free up space for cyclists on some main roads. A number of roundabouts in Gladstone, which service major activity centres such as Kin Kora, can prove difficult for cyclists to navigate safely. Future solutions could be to remove the roundabouts or improve specific treatments to assist cyclists to move through them safely.

Urban and regional network

Future residential growth in Gladstone will be a combination of infill development and new residential areas, known as 'greenfield' development. Infill development will be concentrated in south and west Gladstone (i.e. to the north of Phillip Street), while greenfield development is planned for south of Kirkwood Road and two Priority Development Areas (PDA) declared in Clinton and Toolooa. These developments will be serviced by principal routes identified along existing road corridors, such as Harvey Road, Kirkwood Road and Dalrymple Drive. Future principal routes have been identified for the Toolooa PDA site, through open space to the north of the existing railway (i.e. north of Dalrymple Drive).

Existing residential areas will be served by a number of main cycling spines, generally following the major road corridors. These spines offer

the most convenient and direct route to destinations throughout Gladstone.

Philip Street is identified as a major east-west corridor through Gladstone, servicing the schools and shops in this area. The Dawson Highway and Glenlyon Road corridors provide the north-south connection that links the southern suburbs with activity areas towards the CBD.

The key industrial areas around Gladstone are important employment attractors and a focal point for the principal cycle network. The industrial areas close to the CBD are serviced by road corridors as well as the open space network. For example, the cycle network through the open space around Lake Callemondah services the Gladstone Powerstation, Callemondah Aurizon Depot and surrounding industry along Blain Drive, while Harbour Road is included to service Queensland Alumina.

Further out of Gladstone along Port Curtis Way, the principal cycle network connects to Yarwun and continues along to Fisherman's Landing, which is the launching point for Curtis Island. There is currently demand to cater for cyclists heading to Yarwun, with employers already providing end of trip facilities. A safer connection to Yarwun is a priority and is likely to attract more cyclists to the route.

The principal cycle network outside of Gladstone includes the Dawson Highway, Calliope River Road and Gladstone-Benaraby Road corridors. These routes are intended to provide inter-regional connections between Gladstone, Calliope, and Boyne Island/Tannum Sands. Currently there are safety issues with the link connecting Gladstone and Calliope, particularly crossing the Bruce Highway, however it is expected that this will improve with future upgrades to the Bruce Highway heading in to Calliope.

The inter-regional routes are primarily included for sport and recreation, although there may be some commuter trips to the Boyne Island smelter between Gladstone and Boyne Island/Tannum Sands, and Benaraby and Boyne Island/Tannum Sands. As the Gladstone-Benaraby Road is a constrained corridor, an alternative route to Boyne Island could be investigated. Additionally providing for cyclists along the Bruce Highway through the Benaraby township will need to be planned appropriately, with off-road alternatives investigated, particularly connecting Benaraby to the future development Riverstone Rise.

Map 2 - Calliope

The network in Calliope is mostly identified as future principal routes to

service the anticipated growth. Future routes are identified on both the eastern and western sides of the Dawson Highway and will be determined when the road layout for new development is formed. Ensuring safe crossings over the Dawson Highway is a priority, as Calliope's only school is located on the eastern side of the highway and a significant proportion of residents live on the western/north-western side. The school can be accessed via the Dawson Highway underpass. The highway is identified as a principal cycle route and approaches on both sides of the highway (directly to the primary school and to the underpass) should be investigated.

Yarwun is an important industrial hub, so a connection from Calliope is identified along Stowe Road-Schilling Lane (Old Bruce Highway) to meet with the Bruce Highway at River Ranch. The network was initially envisaged along the Bruce Highway to River Ranch, but the alternative along the Old Bruce Highway was deemed more suitable. Calliope River Road is likely to be identified as a route for transporting dangerous goods and other major industrial materials between the Gladstone State Development Area and the Bruce Highway. Any upgrades to this road should consider the potential conflict with cyclists, with facilities designed accordingly.

Map 3 - Boyne Island/Tannum Sands

The key principal cycle route into the Boyne Island/Tannum Sands area is along Boyne Island Road, connecting to Gladstone-Benaraby Road. Many sections of Boyne Island Road have non-compliant shoulders for cyclists. This, combined with the 80km/hr speed limit and high traffic volumes, provides a challenging environment for cyclists. The principal cycle network includes the 'Turtleway Bikeway' which follows along the Boyne River foreshore to link schools, shopping centres and community facilities.

The residential areas within Tannum Sands and Boyne Island are linked by a number of cycle networks. A PDA declared on the southern edge of Tannum Sands will be home to more than 3000 residents in the coming years. To service this growing residential area, principal cycle routes are proposed along Coronation Drive to the north of the site providing direct connections to Tannum Sands State School and Tannum Sands Activity Centre. A route is also proposed along Dahl Road on the southern boundary linking residents to Tannum Sands Road and Tannum Sands Activity Centre.

An additional river crossing is planned at Boyne Island, which will link Pioneer Drive on the northern side of the river with Tannum Sands Road

Gladstone Regional Council analysis of routes

on the southern side. The intended river crossing is shown as a future principal route along Pioneer Drive and along Tannum Sands Sewerage Treatment Plant Road.

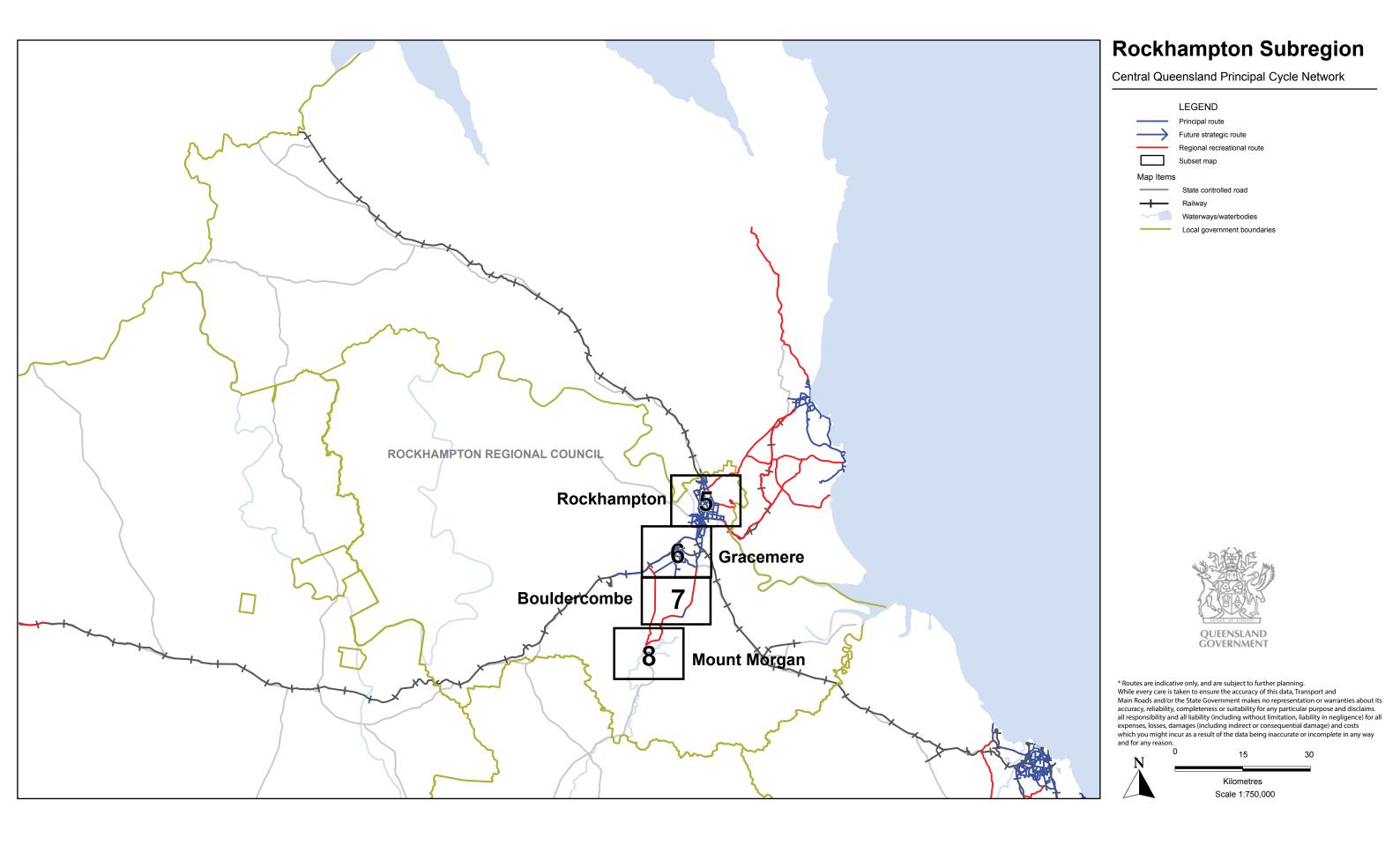
Routes for future consideration

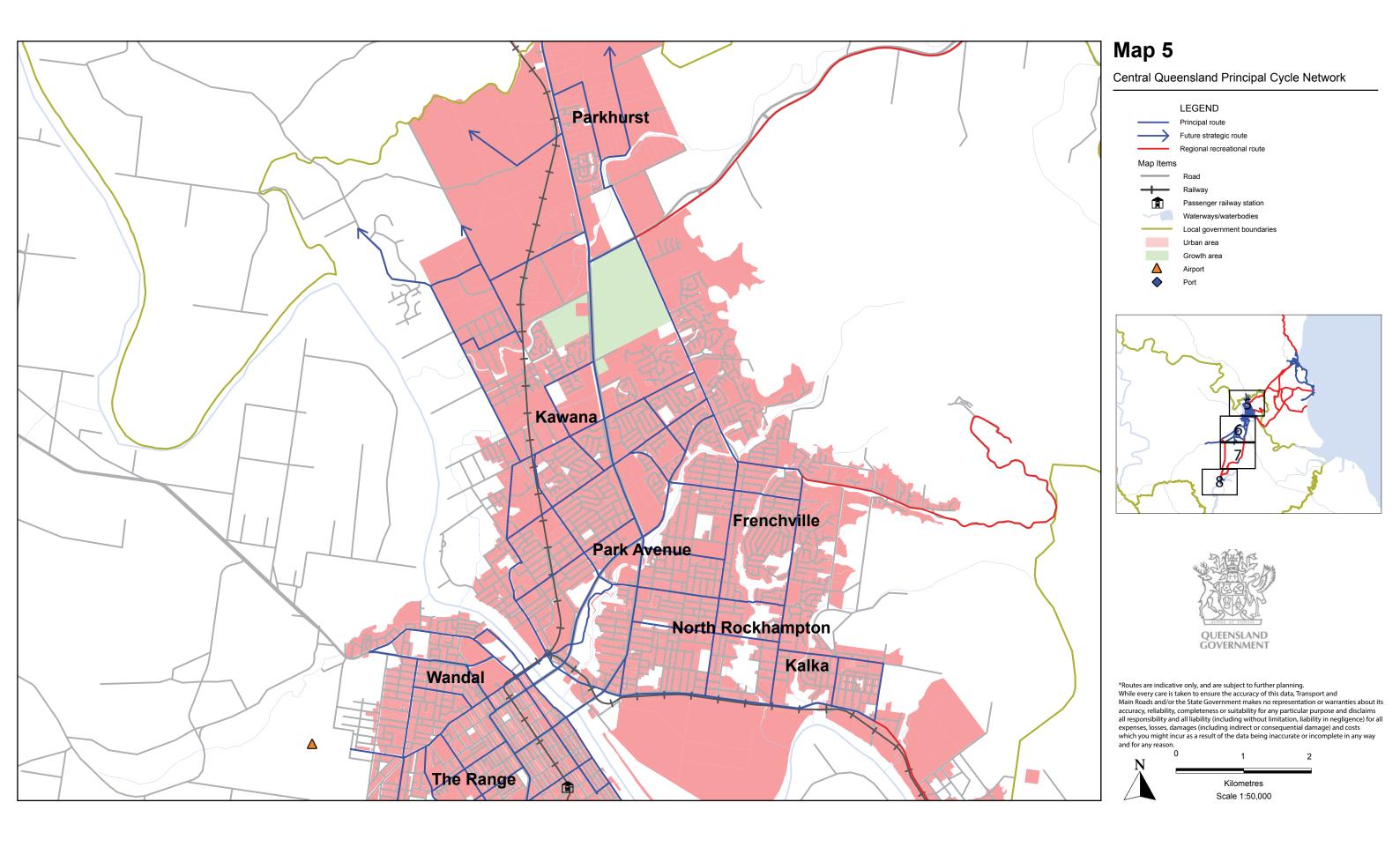
The following routes will be considered for inclusion on the principal cycle network plan at the five year review period:

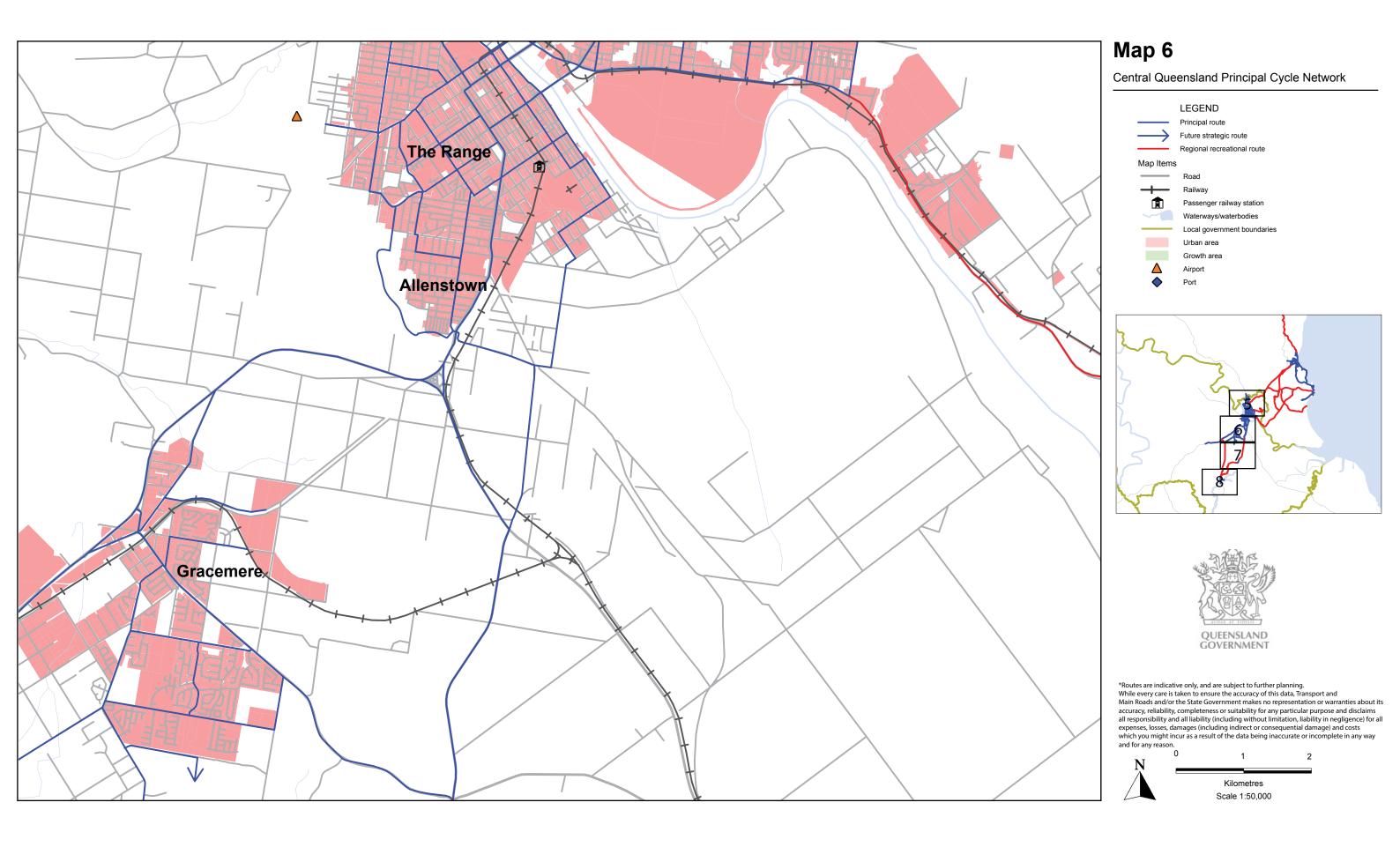
- Extension of the principal route along Tannum Sands Road, from The Sands Boulevard to the Bruce Highway.
- Connection north along the Bruce Highway from Tannum Sands Road intersection to the Benaraby Township.
- Connection from the Gladstone rail line south-west to Mount Stowe Road utilising the power easement corridor.
- A principal route from Bunting Park to Morcom Street following Lexip Creek.

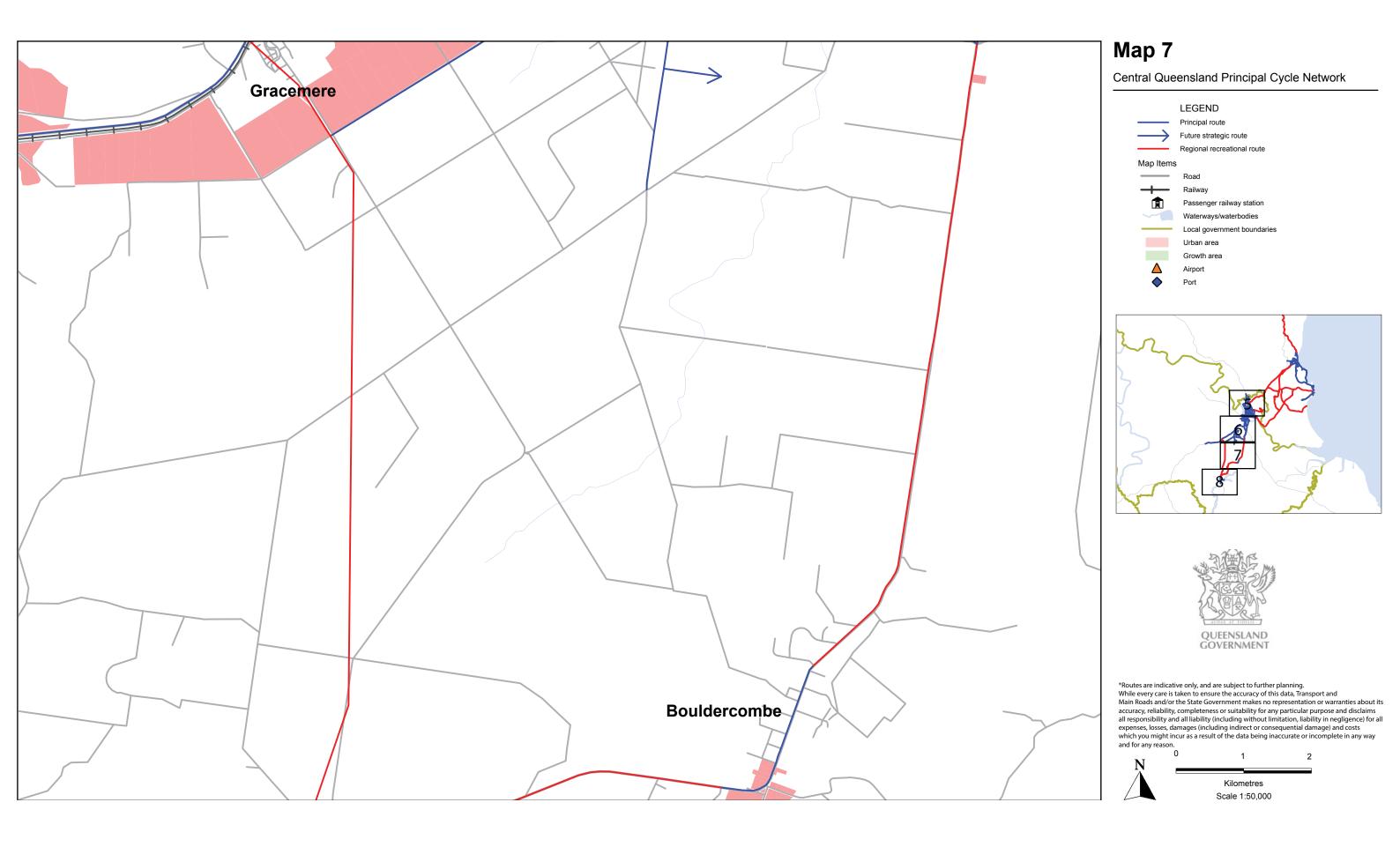
Map 4 - Agnes Water

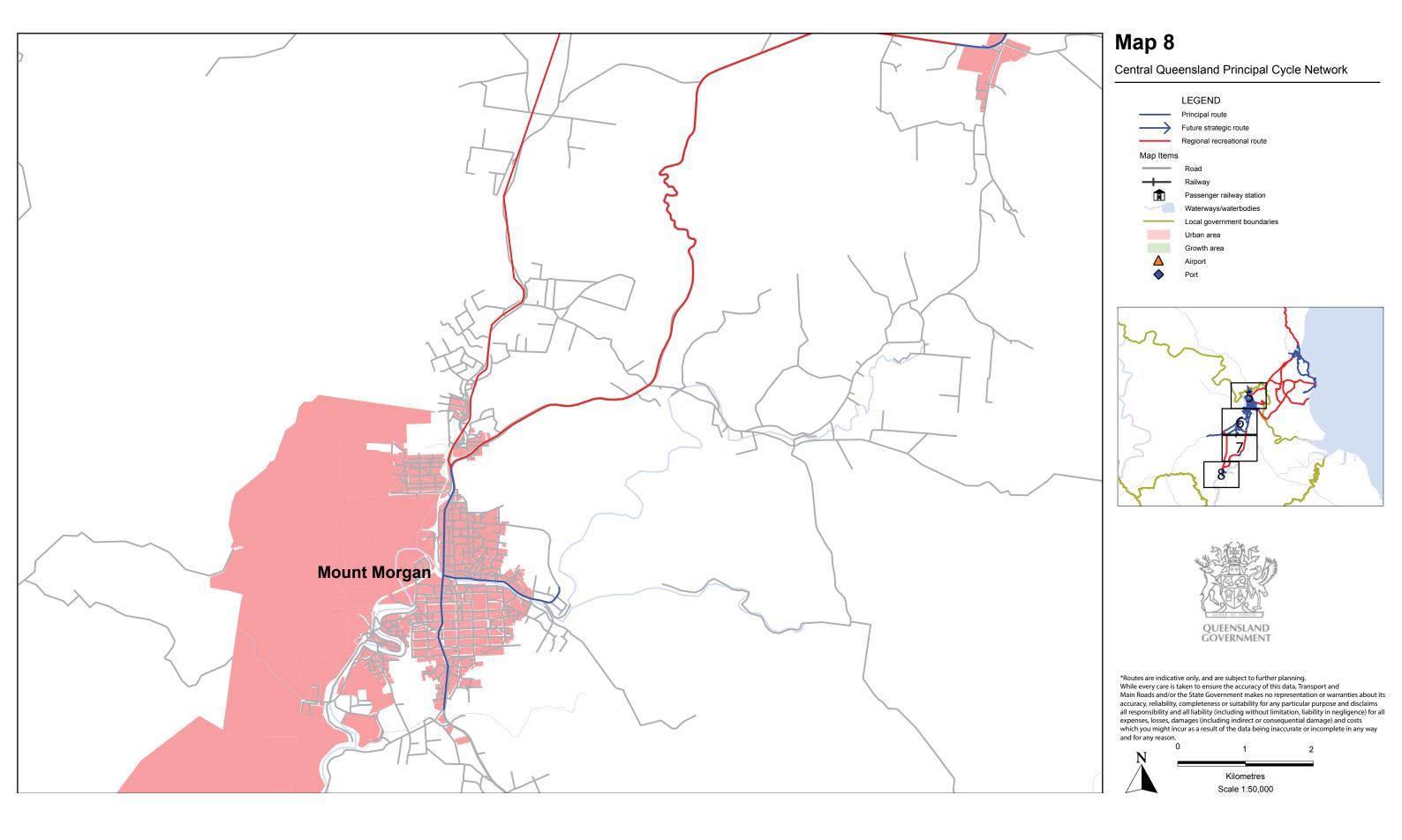
The principal cycle network for Agnes Water reflects the cycling network in Council's planning scheme. It focuses on connecting residents in Agnes Water to common destinations, as well as providing a link from, town to Seventeen Seventy.











Rockhampton Regional Council analysis of routes

Map 5 - Rockhampton

South of the Fitzroy River

Rockhampton's urban form is separated by the Fitzroy River, creating a divide between the old centre of town south of the river and new residential and commercial development to the north of the river. The existing bridges (Neville Hewitt Bridge and Fitzroy Bridge) have some off-road pathways, but these are narrow and/or shared facilities. Principal routes are identified on the existing crossings. Any future river crossings in Rockhampton should consider facilities for cyclists to ensure maximum permeability across town.

In the old town centre, the traditional street layout enabled the cycle network to be applied in a uniform grid with a fairly consistent meshwidth. South of the Fitzroy River, four major north-east spines through the CBD have been identified including, North Street, the Bruce Highway, Fitzroy Street and Derby Street. North Street, the Bruce Highway and Fitzroy Street connect to the existing bridge crossings enabling connection between the suburbs in south Rockhampton to destinations on the northern side of the Fitzroy River.

At present the Fitzroy Street corridor is a busy corridor that will likely be difficult to provide adequately for cyclists. When the opportunity arises for delivery of a principal cycle route on Fitzroy Street, the alternative parallel corridors of Archer Street and Denham Street should be investigated. Rockhampton Regional Council has identified these parallel corridors as more appropriate corridors to cater for cyclists in the future.

Including the Bruce Highway, the other important corridors perpendicular to the north-east corridors are Bolsover Street and Quay Street, as well as Canning Street and Agnes Street. Denison Street was originally considered as a principal cycle route through the CBD, however given the active rail within this corridor it is currently not conducive to cycling. This route should be reviewed in the future, particularly if the rail becomes inactive as it would provide a good connection to the existing rail bridge crossing. Bolsover Street was identified as a more appropriate route, it provides connection through to Lions Creek Road and the existing pathways within the Victoria Park area.

Stakeholders suggested the lane ways through Rockhampton's older CBD be used as cycling routes, given they are quieter and lower speed environments. While using lane ways raises some concerns regarding crossing points and local delivery vehicles, lane ways should be investigated

wherever they run parallel to the identified principal route (e.g. where the Bruce Highway enters the CBD). Parallel lane ways could be an alternative to the Bruce Highway on the principal cycle network.

The hilly topography was a constraint around The Range and in connecting to the hospital. An existing route from the southern section of Ann Street linking through the Botanic Gardens following the Yeppen Yeppen Lagoon has been included as a principal cycle route. This route provides for commuter cyclists and recreational cyclists in south Rockhampton connecting to schools and the Hospital in The Range.

North of the Fitzroy River

Towards the north side of the Fitzroy River, the network was applied in a grid in two separate sections on the north and south sides of Moores Creek. Despite some constraints such as the railway and creek crossings, the cycle network within both of these sections is mostly uniform and evenly spaced.

Future development is planned along Rockhampton's northern corridor, on the eastern and western sides of the Bruce Highway. This new development will be serviced by future principal routes along William Palfre Road and north off McMillan Avenue.

The Central Queensland University site has been declared a Priority Development Area, so a number of principal routes, including Norman Road and the Bruce Highway, have been included on the principal cycle network to cater for the future development.

Training and Recreation Routes

TMR recognise that there are a number of training and sporting loops and routes throughout the Rockhampton Regional Council area. The routes were initially considered for inclusion on the plan, but were removed due to their primary training/sporting function. A number of recreation routes were retained such as the Rockhampton to Yeppoon Rail Trail given its future potential attraction as a tourist route.

The training routes not included on the plan have been noted and will be kept on record by Transport and Main Roads regional operations staff to provide further information on where cyclists are riding throughout the region. Known training routes that were considered for inclusion include the route through Alton Downs using Canoona Road, Ridgeland Road, Nicholson Road and Fairy Bower Road, and a route along Port Curtis Road, Roope Road and Gracemere-Gavial Road.

A recreation route is identified along the Burnett Highway to connect Rockhampton to Mount Morgan, providing a longer sporting/training route for cyclists.

Consideration was given to a principal route along the Bruce Highway to the north connecting to The Caves. This route has not been included in the current plan due to the high volume of heavy vehicles on the Bruce Highway. Re-evaluation of the appropriateness of a route along the Bruce Highway will be undertaken during future reviews of the network.

A recreation route between Rockhampton and Gladstone, along the Bruce Highway, was investigated but was not included due to a perceived lack of demand for the connection. Some sections of the Bruce Highway between Rockhampton and Gladstone already have shoulders wide enough for cyclists to ride on road.

The recreation route between Rockhampton and Gladstone was investigated as a recreation route continuing beyond Gladstone to Miriam Vale along the Bruce Highway, then east to Agnes Water. The route to Miriam Vale was not included due to a lack of identified demand, however it could be a tourism route in the future if driven by the local government or an agency like Tourism Queensland.

Map 6 and 7 - Gracemere and Bouldercombe

Gracemere generates substantial commuter traffic into Rockhampton, resulting in increasing congestion and travel times along the Capricorn Highway and into Rockhampton's CBD. For this reason, a principal route is envisaged along the Capricorn Highway between Rockhampton and Gracemere. A principal route is also identified along the Capricorn Highway to the Stanwell Power Station, recognising its status as an important employment attractor.

Gracemere's urban footprint is predominantly situated on the southern side of the Capricorn Highway, with future residential development likely to remain within this footprint. This means that crossing the Capricorn Highway is not a significant issue in Gracemere. The principal cycle network in Gracemere consists of a main spine along Gavial-Gracemere Road with a number of connectors, such as Johnson Road-Ranger Street, servicing the Waraburra Primary School and local shops.

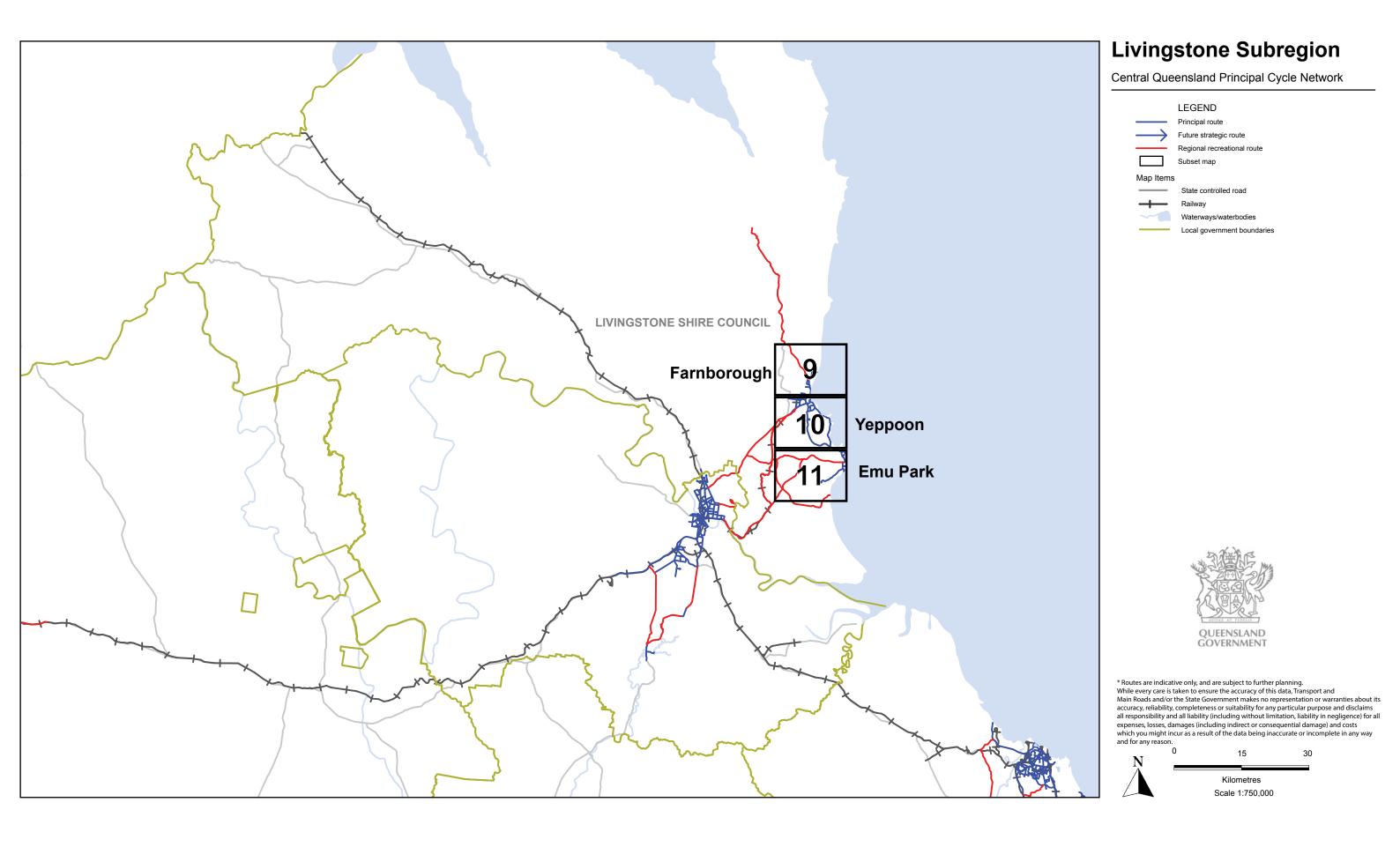
Future principal routes are identified east of Cherryfield Road and along Johnson Road to cater for future residential development.

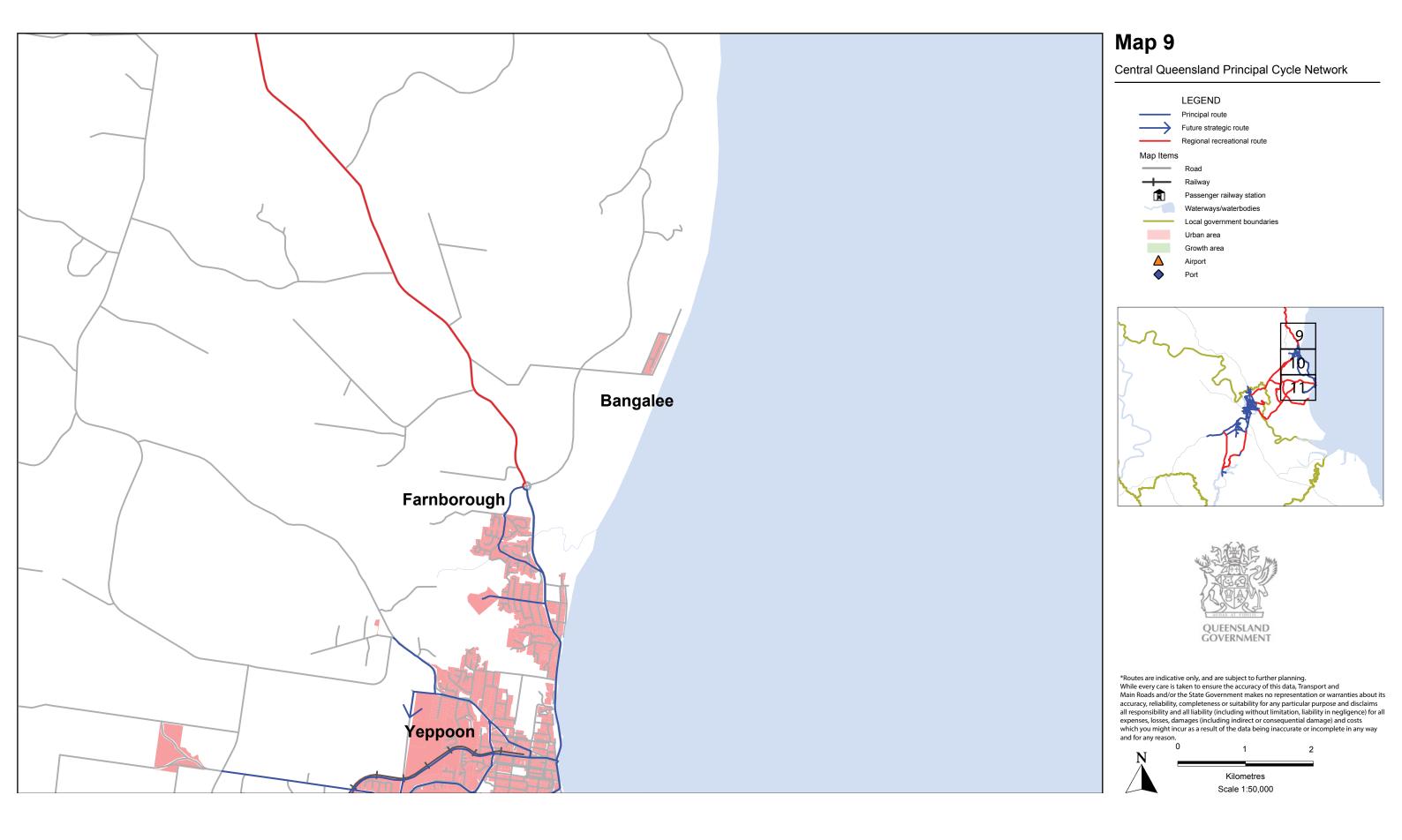
Rockhampton Regional Council analysis of routes

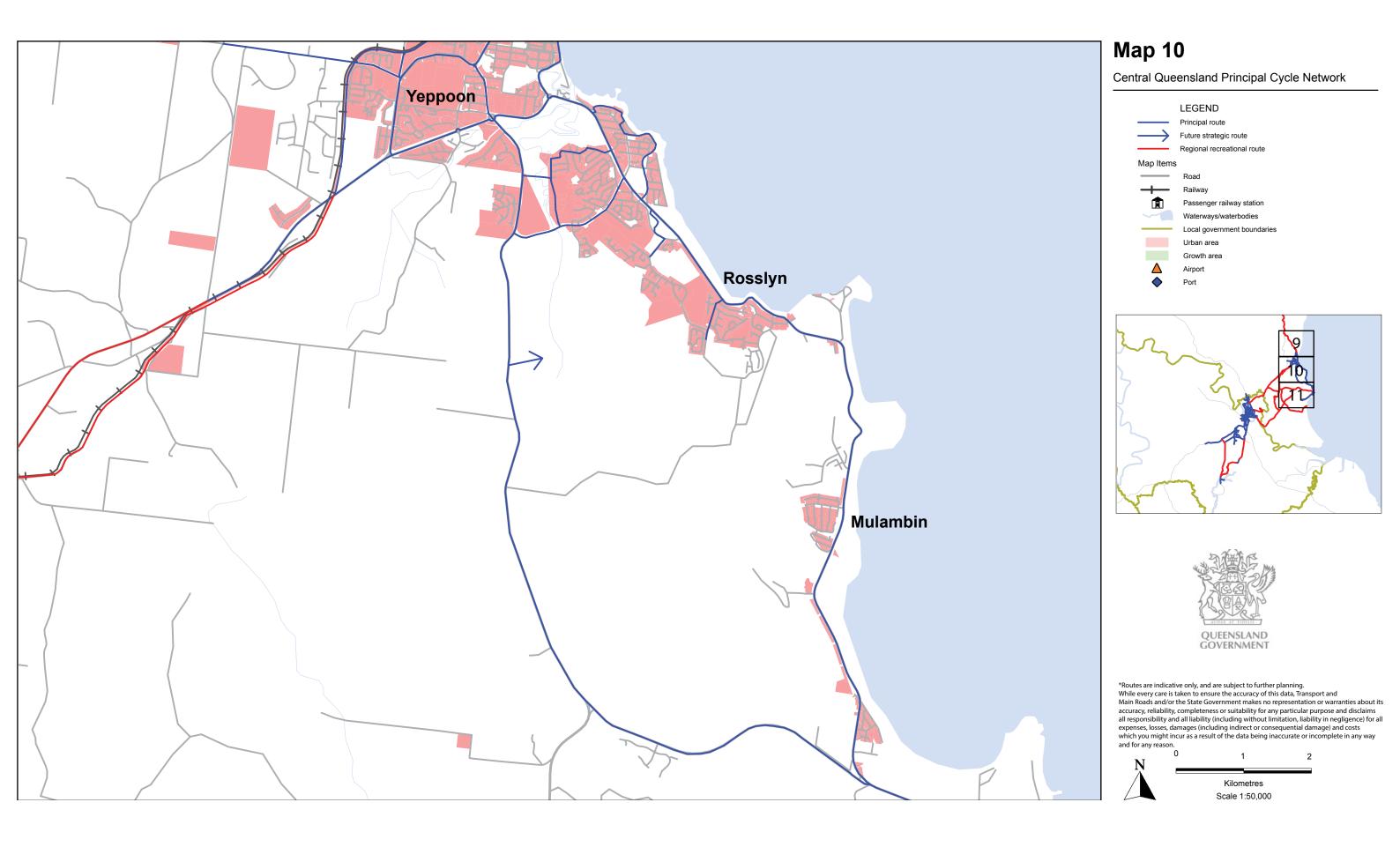
Map 8 - Mount Morgan

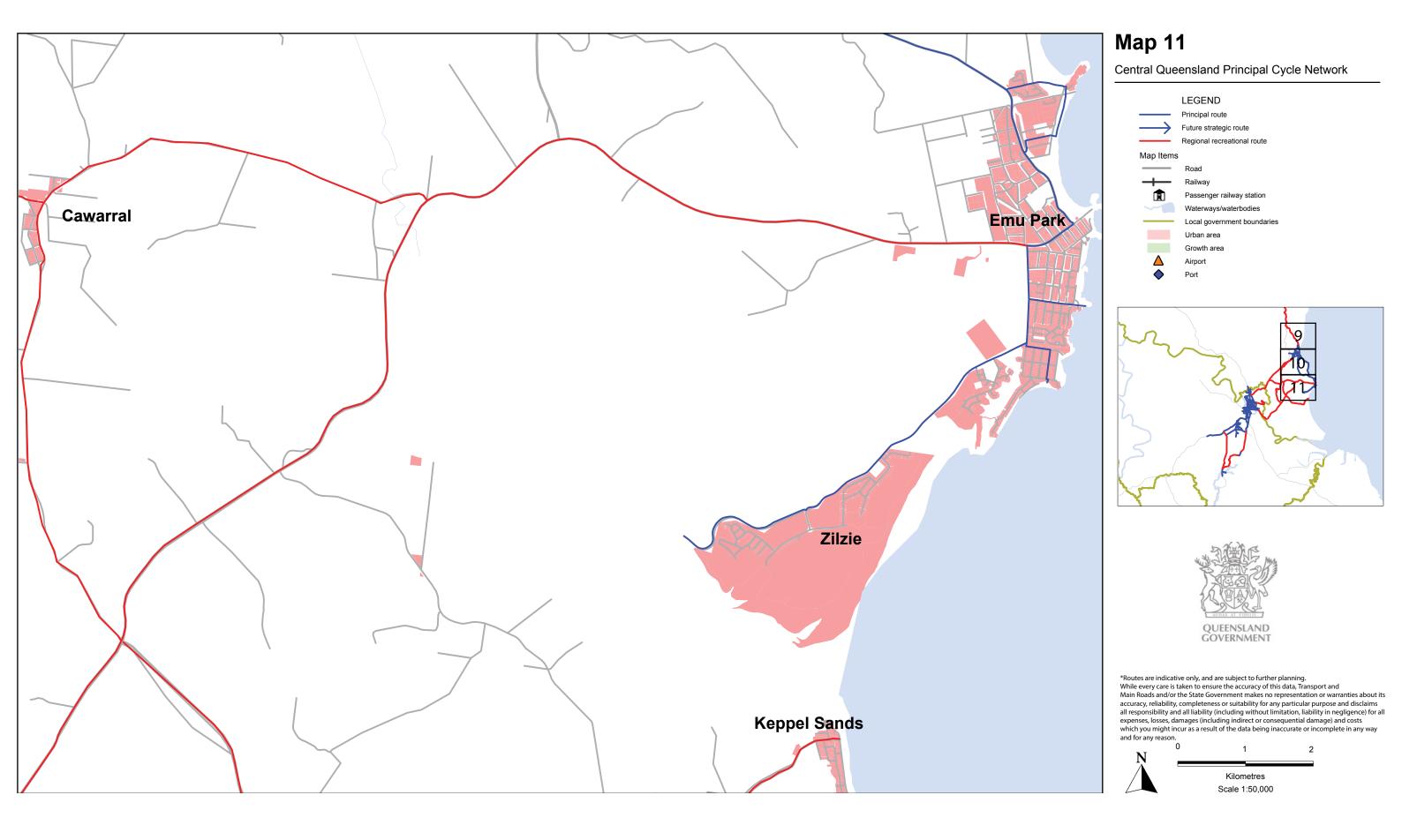
The principal cycle network in Mount Morgan consists mostly of recreation routes connecting to Rockhampton along the Burnett Highway. A rail trail is also identified, connecting Mount Morgan with Gracemere.

The Burnett Highway is identified as a main cycling spine through town to its southern outskirts. The route along Byrnes Parade is a lower level connector to the Burnett Highway spine and also provides a recreation function to the Dee River.









Livingstone Shire Council analysis of routes

Maps 9, 10 and 11 - Yeppoon, Cawarral, Emu Park, and Keppel Sands

The principal cycle network on the Capricorn Coast focuses on connecting the four centres of Yeppoon, Rosslyn Bay, Emu Park and Zilzie. The Scenic Highway and Tanby Road are both identified as principal routes connecting to the coastal communities. Tanby Road is an alternative to the Scenic Highway and a shorter route for residents travelling from Emu Park and Zilzie to Yeppoon.

Within each centre, the principal cycle network focuses on connecting residential areas with the main destinations of schools, shops and recreation areas. A principal route along Barmaryee Road provides a connection to the Capricorn Coast Regional Sports Complex currently under construction.

A future principal route is identified to the east of Tanby Road, indicating a connection to the southern end of Lammermoor (north of Mulambin). This route is intended to service future development and could also provide an alternative to the Scenic Highway.

The Rockhampton to Yeppoon Rail Trail is a significant recreation route. Construction has already started on some sections, and its completion is a priority as there is significant demand for the trail. It is anticipated that the rail trail will be used by touring and recreation cyclists and to a lesser extent commuters. A principal route has also been identified along Yeppoon Road to provide a more direct route between Rockhampton and Yeppoon.

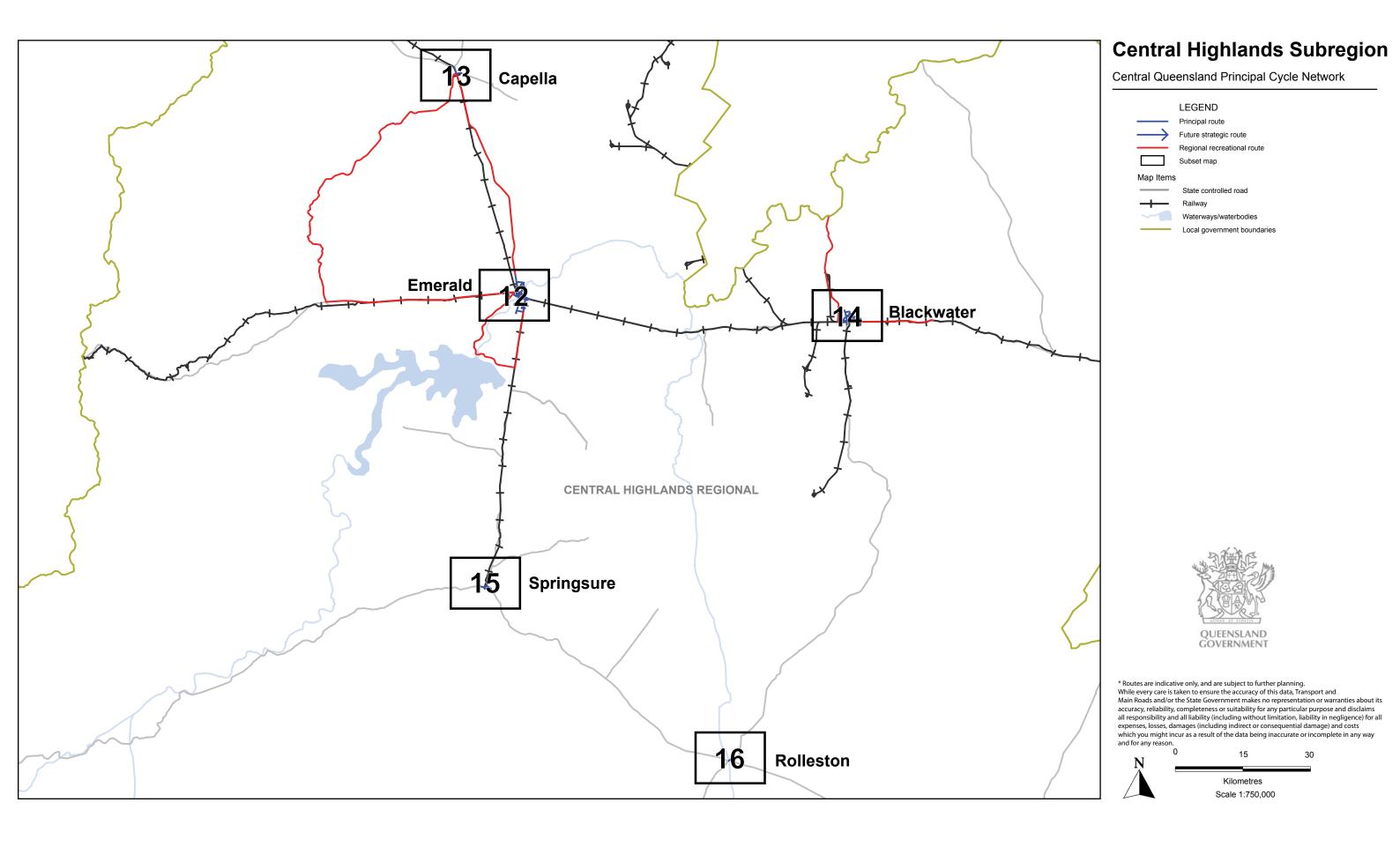
In addition to the recreation routes along Yeppoon Road and the Yeppoon Rail Trail, there is a regional recreation route along Farnborough/Yeppoon-Byfield Road connecting Yeppoon to Byfield State Forest, a popular recreation and camping destination. Recreation routes along Dairy Inn Road and Coorooman Creek Road provide cycling opportunities for residents in Cawarral.

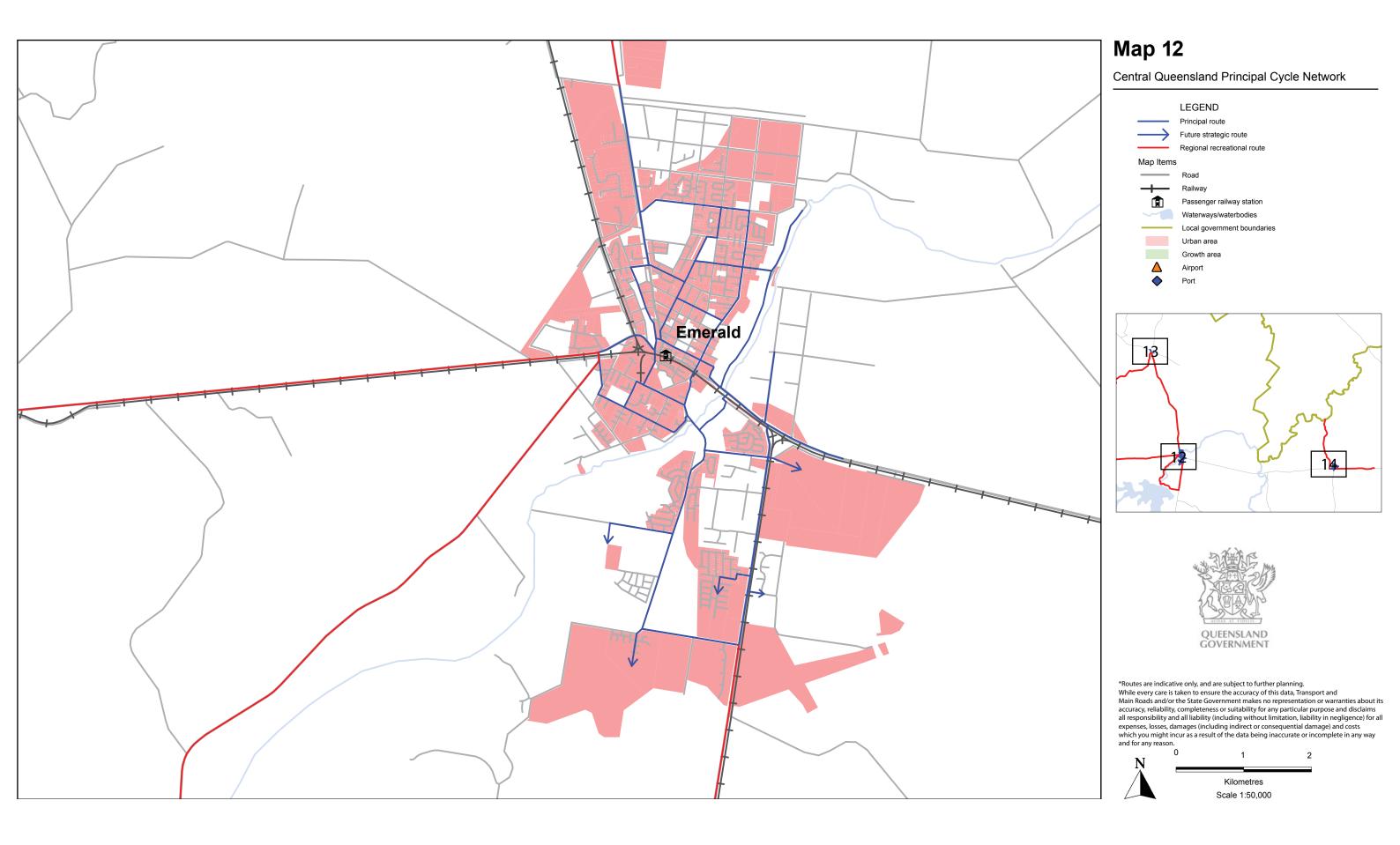
A recreation route is also identified along the Keppel Sands Road corridor from the intersection with Rockhampton-Emu Park Road. Via this route Keppel Sands is provided a connection to Rockhampton and Emu Park.

Consideration was given to a route along Neils Road in Yeppoon, however this route was deemed inappropriate for inclusion as Neils Road provides a bypass for heavy vehicles accessing Byfield. Routes closer to the coast have been identified as more conducive to cycling though Yeppoon. Re-evaluation of the appropriateness of a route along Neils Road will be undertaken during future reviews of the network.

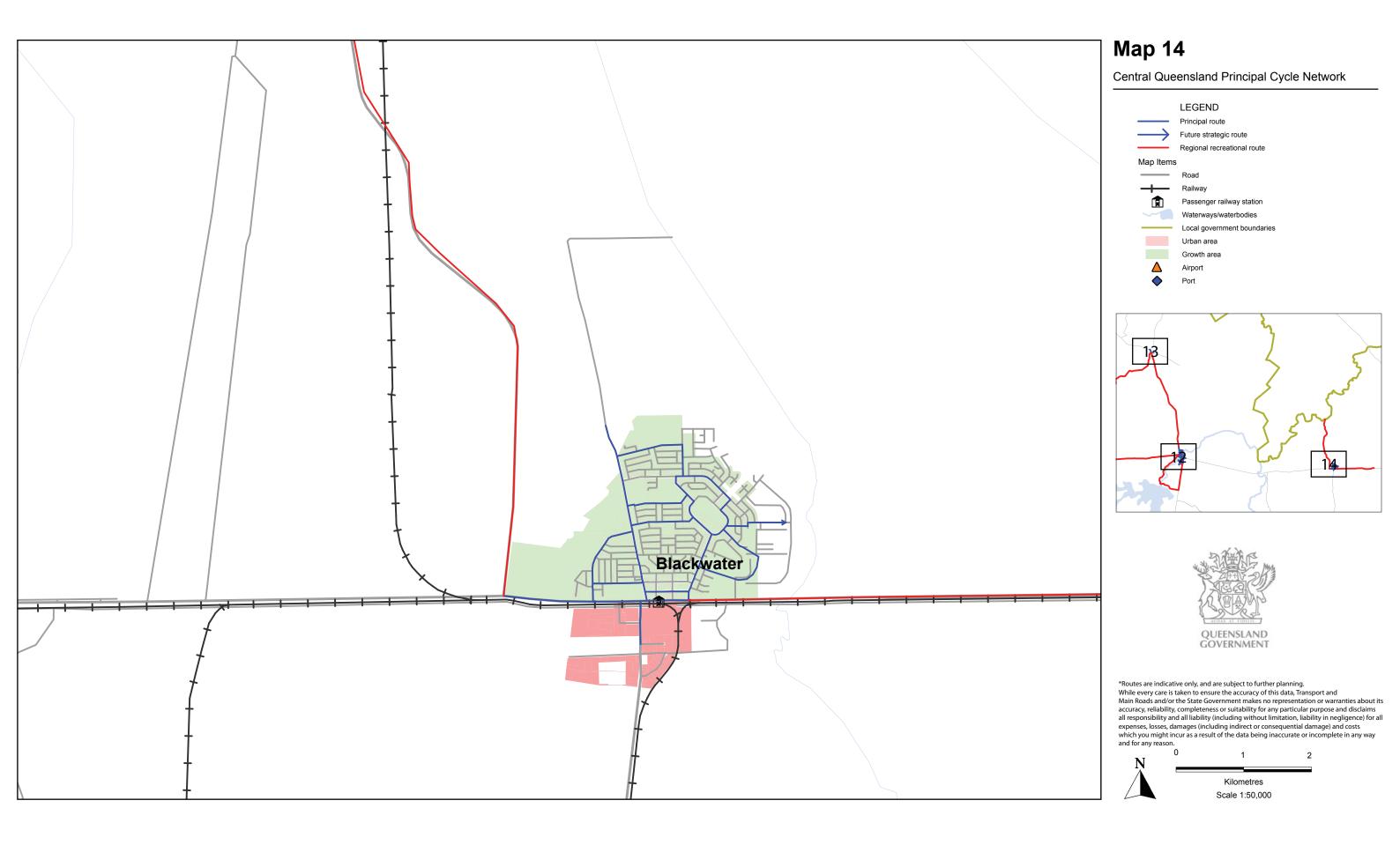
A route along Rydges Access Road will also be re-evaluated when the principal cycle network undergoes review. Stakeholders identified a principal route along Rydges Access Road north of Yeppoon for a sporting and commuter funciton. The route would provide the community of Bangalee with access to southern destinations. It was also acknowledging the road for it's current training and sporting function.

Rydges Access Road is a privately owned road and as such is not able to be identified on the network and has been removed. Consultation with the owners could be undertaken as part of future reviews if it is identified as a high demand route with a dominant commuter function.

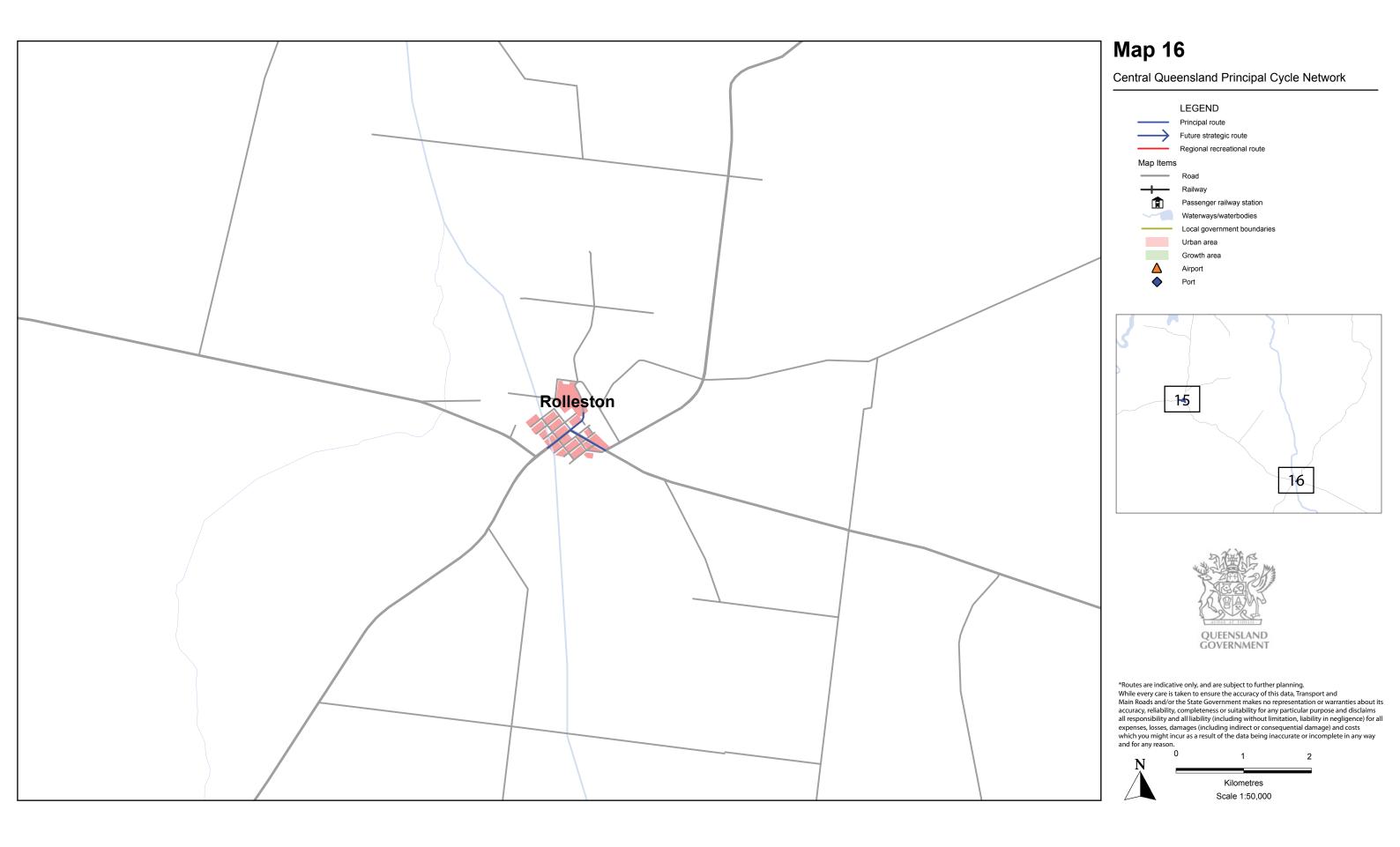












Central Highlands Regional Council analysis of routes

Map 12 - Emerald

Two discrete centres are emerging in Emerald. The traditional heart of Emerald is located north-west of the Nogoa River, while new residential and commercial development is taking place south-east of the river.

The principal cycle network in Emerald focuses on capitalising on the opportunities provided by the open space areas, and connecting the two emerging centres. This connection will rely on safe access across the Capricorn Highway, with principal routes identified along King Street, the underpass connecting Sullivan Street with the Capricorn Highway, Opal Street, and the rail bridge underpass east of the Nogoa River.

Future principal routes along Mayfair Drive, Edgewood Drive, Pressler Road and Rifle Range Road will provide for future development and cater to Marist College, Emerald Christian College, Harvey Norman shopping centre and an industrial estate.

A principal route planned along the Capricorn Highway will service the TAFE and university campuses, located about 3km east of the town centre. The principal route continues along the Capricorn Highway into Emerald until Opal Street where it is diverted along Egerton Street (between Opal Street and the Gregory Highway). Egerton Street provides an alternative to the Capricorn Highway through town.

Two regional recreation loops are identified on the principal cycle net work around Emerald. A recreation route is highlighted along Selma Road, looping past Lake Maraboon and back along the Gregory Highway. The second loop links Emerald with Capella to the north along Gregory High way and heads south-west along Rubyvale-Capella Road to the gemfields (a popular tourist destination).

Map 13 - Capella

Capella will experience moderate growth in the future as a result of the mining activity in the area. The principal route along Yan Yan Road aims to service existing residential areas and future residential development between Yan Yan Road and Bakers Crossing Road to the east. The principal cycle route continues along Gregory Highway to the industrial area north of the town centre.

Map 14 - Blackwater

Blackwater has been declared a Priority Development Area (PDA) in response to housing pressures resulting from recent growth in the resourc

es sector. The principal cycle network includes a number of the cycling routes identified in the PDA Development Scheme for Blackwater, as well as other connections to enhance the permeability and accessibility of the network. The principal routes focus on connecting residents with the commercial areas on Blain Street and the Capricorn Highway, and the schools and local attractors around town.

A future principal route along Cordingly Street will service proposed development on the eastern edge of town. A regional recreational route is planned along Blackwater—Cooroorah Road (off the Capricorn Highway) connecting to the Bedford Weir, which is a significant recreation destination for Blackwater. A regional recreation route is also identified along the Capricorn Highway to Bluff.

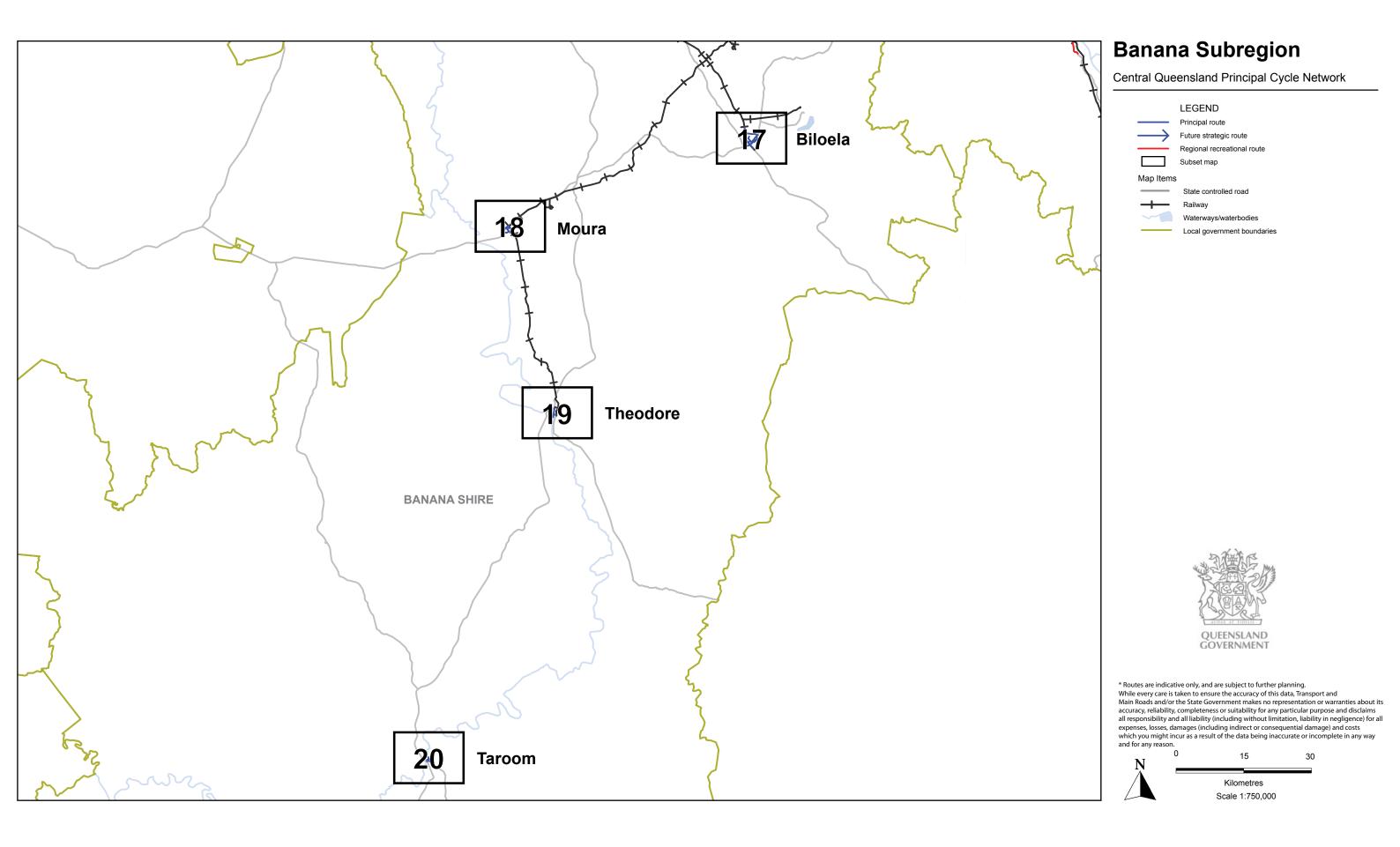
Maps 15 and 16 - Springsure and Rolleston

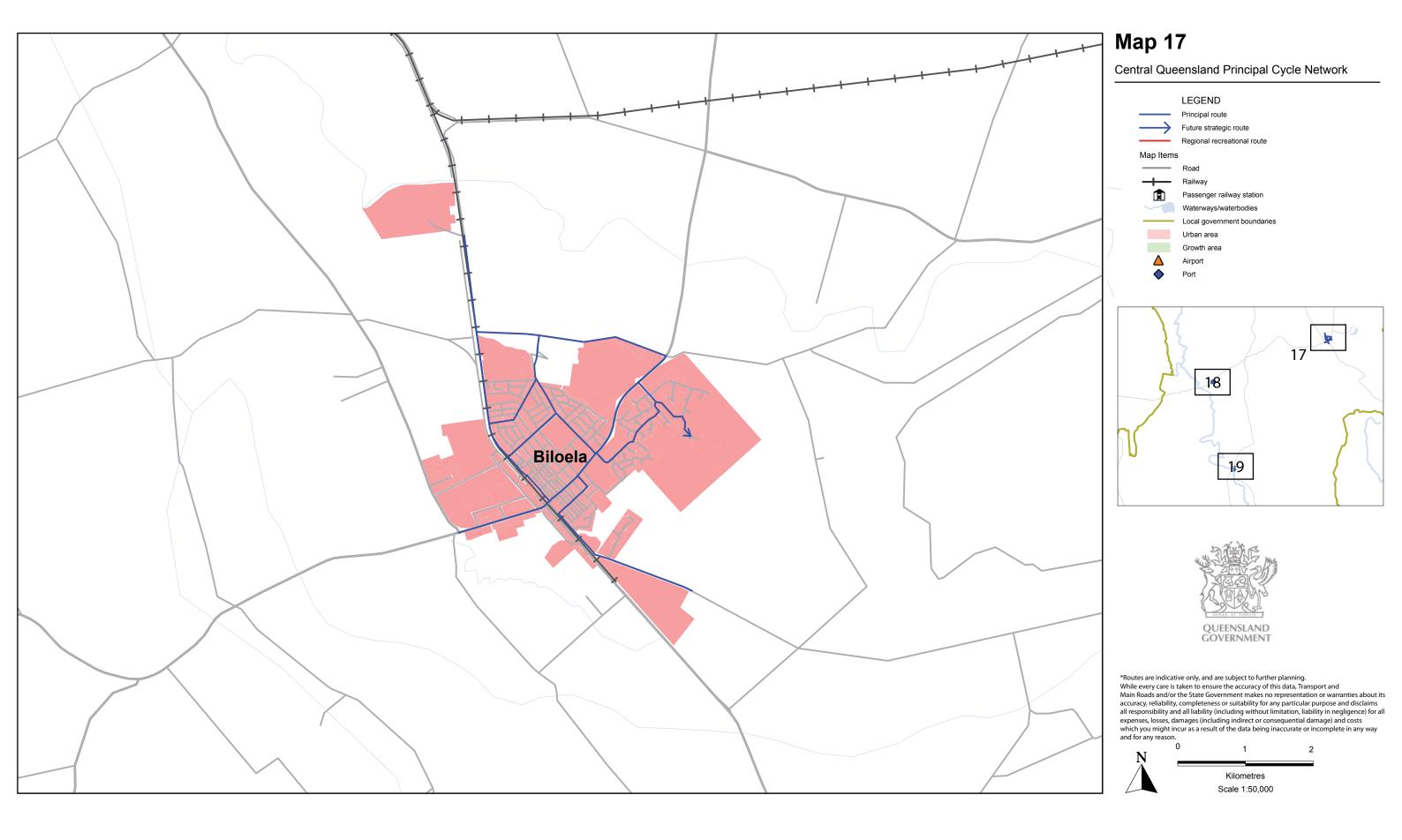
Routes are identified along Charles Street and the Dawson Highway in Springsure to improve cycle access within the town centre. A route along Comet Street provides access to Springsure Hospital while a principal route on Gap Street services residential areas.

The cycle network in Rolleston includes routes along Warrijo Street and the Dawson Highway to facilitate cycle access in the town centre and to Rolleston Airport. Future residential development is expected on thesouthwest of the township and will be serviced by a principal route on Herzog Street.

Central Queensland Principal Cycle Network, Transport and Main Roads, 2014

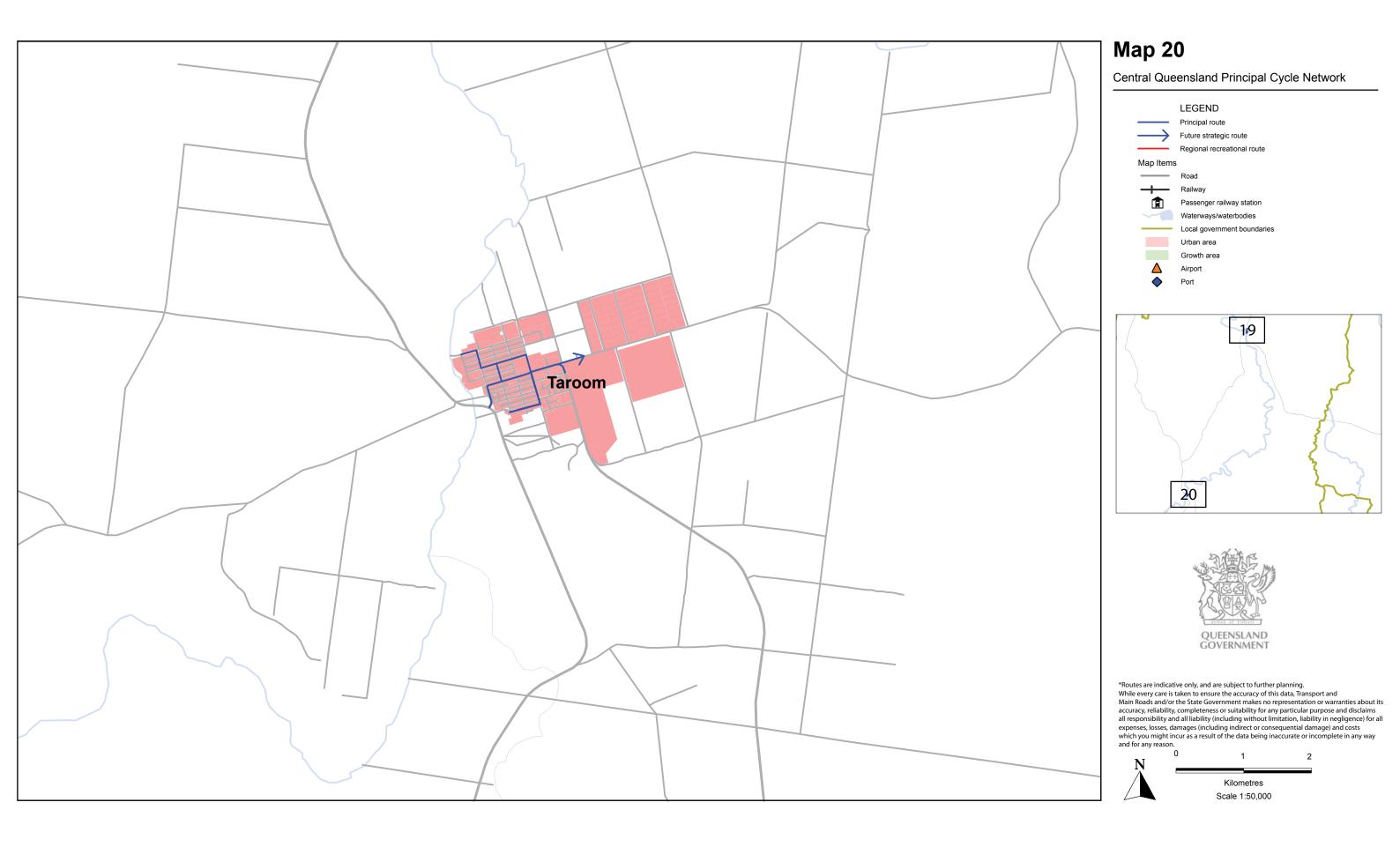
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Banana Shire Council analysis of routes

Map 17 - Biloela

As the main population and economic centre of Banana Shire, Biloela contains the key government, administrative, retail, business and community services within the local government area. The principal cycle network envisages routes connecting residential areas across Biloela to the town centre. Principal routes planned along Lawrence and State Farm Road will connect residential areas to the north and south of Gladstone Road.

A number of planned routes, including Lawrence Street, State Farm Roadand Washpool Street connect residential areas to the three schools.

Principal routes along Callide Street and Gladstone Road will facilitate cycling to central destinations like Biloela Shopping World. A principal route on Ward Crescent parallel to the Dawson Highway and a future principal route along Valley View Drive will cater for proposed residential development.

Map 18 - Moura

In Moura, the local amenities are concentrated in the centre of town while a number of the major employment centres are located on the outskirts.

Planned routes along Gillespie Street connect Moura primary and high schools to the main residential areas. A planned route on Nott Street will encourage cycling trips to the hospital, show grounds and retirement village.

Future residential development is expected on the southwest of the township and will be services by future principal routes identified along Nobbs Street and the Dawson Highway

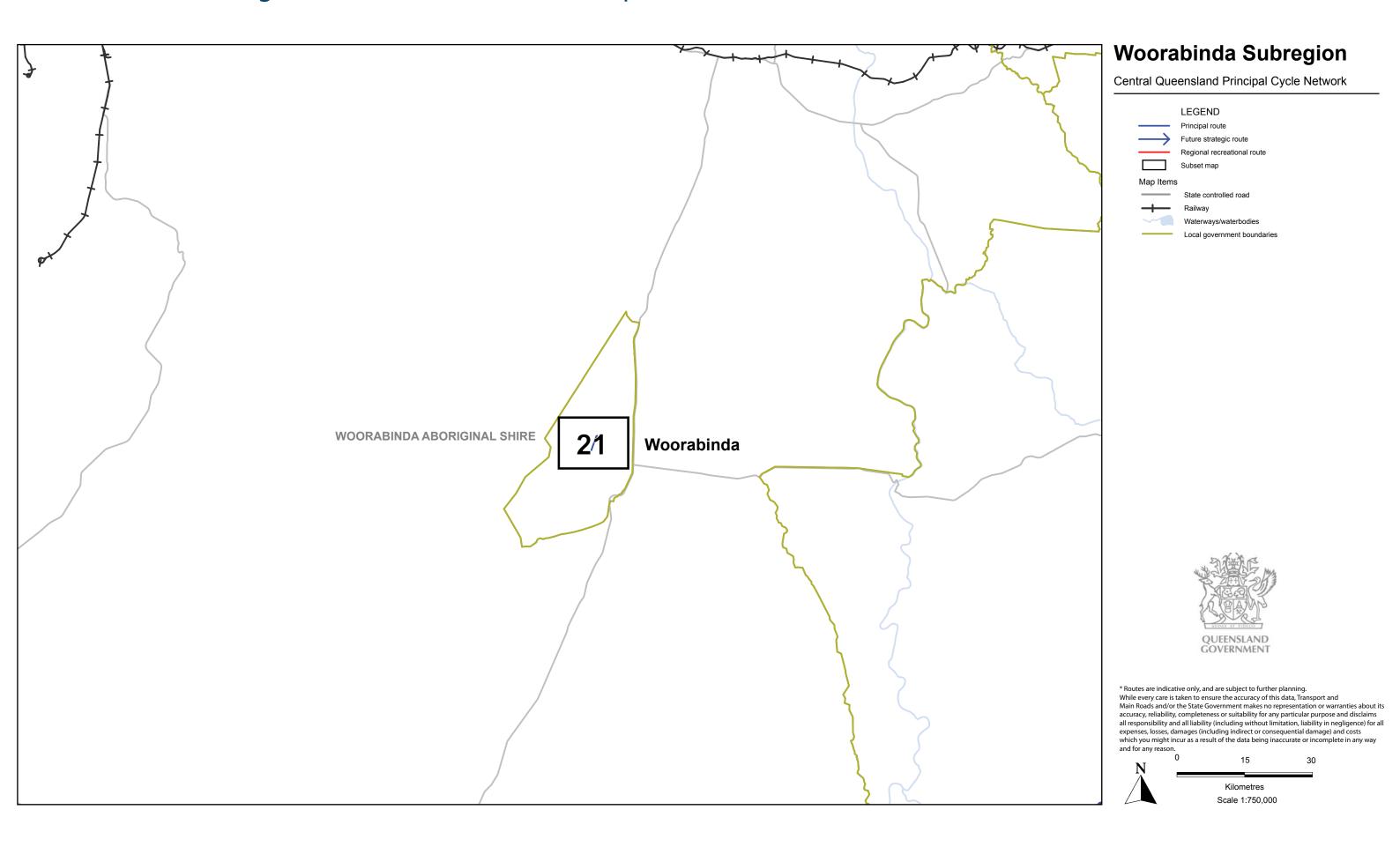
Maps 19 and 20 - Theodore and Taroom

Theodore and Taroom are located on the Leichhardt Highway south of Moura. In Theodore, a cycle route planned along the Boulevard will service most of the town's amenities including the hospital. Theodore has wide streets with little traffic allowing cycling on most residential streets.

Similarly, the cycle network in Taroom provides for routes along Leichhardt Highway and Roma-Taroom Road to service most residential areas.

A route planned for Miller Street provides access to the hospital and serv ices Taroom primary school. Principal route located along Morgan Ryan Street provides connection to St Mary's Catholic Primary School.

Woorabinda Aboriginal Shire Council network maps



Woorabinda Aboriginal Shire Council network maps



Woorabinda Aboriginal Shire Council analysis of routes

Map 21 - Woorabinda

Future residential development in Woorabinda is planned for the northern part of town, reinforcing the long narrow urban footprint of the township. Woorabinda Shire residents mostly walk to destinations around town; there is also a large number of horse riding trips undertaken in Woorabinda.

For Woorabinda, the important transport corridor through town is Munns Drive. Munns Drive connects the northern residential areas (future and existing) to the destinations on the southern part of town such as the school, hospital and community pool. Providing a route along the extent of Munns Drive will ensure safe connections through town, particularly providing safe connections for students to school. Similarly a connection along Rankin Street has been provided to service east-west trips through town.

A recreation route was suggested for inclusion in Woorabinda. This route would have been used as a recreation loop for occasional active transport events. The loop would have consisted of extensions off Munns Drive north and Rankin Street to the east along the Fitzroy Development Road, connected by a north-south route parallel to the west of Fitzroy Development Road on Woorabinda land. Given the dominant recreation function of this route it was decided it would be reviewed for inclusion at the five year review.

Delivery

6 Timing for delivery

While the PCNP does not determine specific time frames for delivery of the principal network, it is important for it to be developed in a connected and logical manner. A rigorous prioritisation process, in consultation with local governments, will result in a list of priority projects and ensure that the most critical routes are planned and developed first. The timing for delivery of priority projects will depend on funding availability and construction time frames for associated road and transport corridors.

7 Updating the plan

Alterations to the principal cycle network and the delivery of PCNP routes will be tracked throughout the life cycle of the plan. An update form will be sent to all councils and Transport and Main Roads' regional offices seeking details on proposed planning led alterations to the network and routes that have been delivered in the past year. Information requested will include:

- type of change (alteration, removal, addition or delivery)
- description of the route to be altered/that has been delivered
- planning document or construction project which has triggered the change
- description of the change and detailed justification for the change against the PCNP planning principles (including for infrastructure, a description of the facility and adherence to cycling standards for delivered infrastructure)
- maps and photos of the change
- contact person for required additional information.

This information will then be collected by the department, tested against the planning principles and included as input in future reviews of the PCNP.

8 More resources

There are a number of resources and guides covering the development of cycle networks in Queensland, ranging from state-wide target setting to technical specifications for infrastructure.

Practitioners are encouraged to review the following:

- Queensland Cycle Strategy 2011-2021
- Traffic and Road Use Manual
- A Guide to Signing Cycle Networks
- Manual of Uniform Traffic Control Devices
- TMR Cycling Infrastructure Policy
- AUSTROADS guides
- Queensland Development Code.

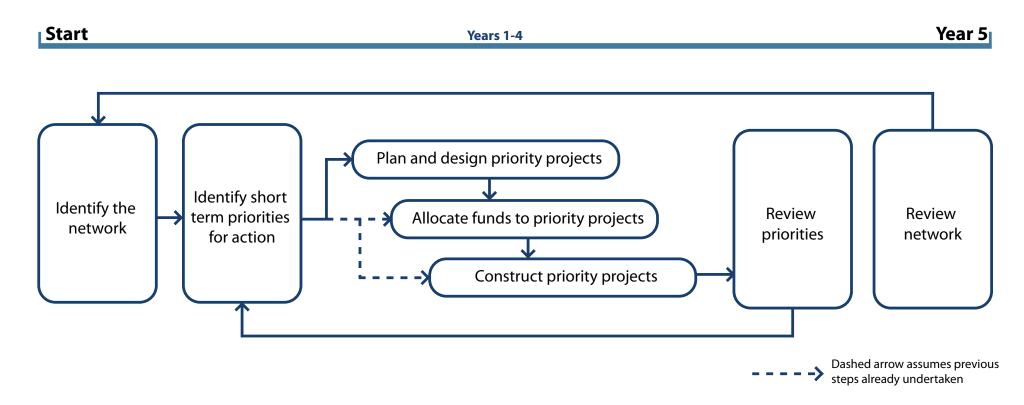


Figure 4 Indicative planning and prioritisation cycle

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