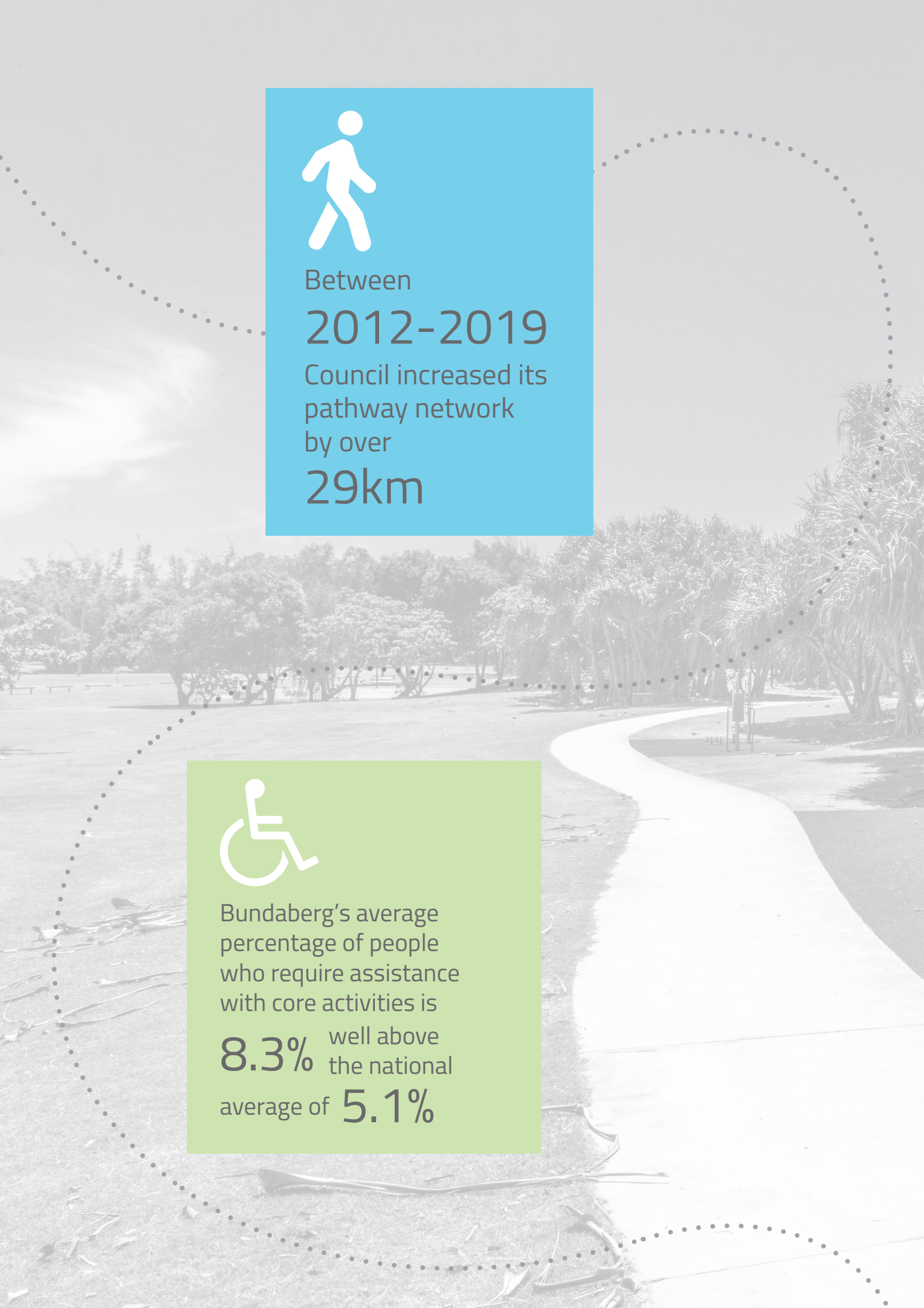
Active Transport Strategy 2020-2025

Building Australia's
best regional community

BUNDABERG
REGIONAL COUNCIL

Contents



Between
2012-2019
Council increased its pathway network by over
29km

Bundaberg's average percentage of people who require assistance with core activities is
8.3% well above the national average of 5.1%

Mayor's message

Council is working hard to make the Bundaberg Region Australia's best regional community.

A priority as part of this vision is to provide facilities that will ensure we are a healthy, safe and inclusive community.

I am pleased to present Council's Active Transport Strategy 2020-2025, a document which aims to meet these goals through the provision of a connected and considered pathway network.

The main objective of this strategy is to provide a road map that will assist Council to develop, plan, construct and maintain a well-connected and convenient Active Transportation Network that meets the needs of all residents.

This document builds on the Multi-Modal Pathway Strategy, which has been utilised since 2012.

The Multi-Modal Pathway Strategy had a strong focus on transport related outcomes, while the new Active Transport Strategy 2020-2025 connects these outcomes with health and social opportunities.

Our ambition is to be:

- A region that attracts more people with its enviable lifestyle, is well connected and embraces sustainability.
- A community that enjoys a safe and healthy lifestyle and is inclusive and supportive.
- A Council that delivers infrastructure for the future to create better connectivity and improves outcomes for ratepayers and residents.

These ambitions are of particular importance when planning and developing pathway infrastructure.

Providing infrastructure to support and encourage walking, running or cycling has the ability to inspire active living, engage people in social interaction and promote accessibility.

Council remains committed to delivering a high quality, well connected pathway network for all users.

As we work to develop quality pathway infrastructure throughout the region, I would encourage all members of the community to take advantage of these facilities as often as possible and discover their many benefits first hand.

Mayor Jack Dempsey
Bundaberg Regional Council

2. Strategy background

Bundaberg Regional Council recognises that the local government area is blessed with a number of attributes conducive to walking and cycling. The warm climate, flat topography, wide road reserves and attractive surrounding rural and coastal landscapes combine to make walking and cycling a desirable and viable mode of social interaction, recreation and transport. In concert with the higher proportion of older residents, the lower average income of households and the increasing number of tourists, opportunity exists to encourage more 'non-motorised' trips by developing an integrated active transportation strategy.

After amalgamation of the Bundaberg City, Burnett, Kolan and Isis Shire Councils in 2008, Bundaberg Regional Council engaged a consultant to integrate the pedestrian and cycling strategies for these Councils, forming what would become the Multi-Modal Pathway Strategy which has been utilised since 2012.

After seven years it was time to review this document and update it to detail:

- What has been achieved?
- What is still required?
- Areas for improvement; and
- Transition into a new active transport philosophy which considers health and social outcomes.

As part of the 2019-2023 Corporate Plan, Bundaberg Regional Council has outlined a vision 'To build Australia's best regional community'. As part of this vision Council wants to provide a healthy and safe community, a community that supports inclusiveness and a low cost of living, while valuing diversity and treating all community members and colleagues with equality and consideration. Given the health benefits associated with walking and cycling, the Active Transport Strategy 2020-2025 document is an opportunity for Council to build on the former Multi-Modal Pathway Strategy to further enhance the quality of pathway networks to create opportunities for residents to get active and engage with the community around them.

The purpose of this Active Transport Strategy 2020-2025 document is to:

- Continue to develop the pathway network identified in the previous strategy while implementing improvements to planning and delivery of pathway infrastructure;
- Integrate lessons learned during the implementation of the previous strategy to create future opportunities;
- Update the strategy to embrace current philosophies in active transport planning;
- Create an action plan to develop pathway and cycling infrastructure planning and delivery for the next five years.

3. Strategy objectives

This strategy has the following objectives:

a) Define the purpose and characteristics of an active transport pathway network;

b) Provide commentary on the delivery of the previous Multi-Modal strategy and provide a status of the network;

c) Identify the delivery program for 2020-2025;

d) Identify opportunities to integrate the Active Transport Strategy 2020-2025 with other Council strategies;

e) Develop an action plan to develop and improve planning and delivery of the active transport network through the life of this strategy.

This strategy is directed at developing and improving active transportation networks within established urban areas, currently serviced by existing transport infrastructure. It will focus on providing connectivity to major people attractors such as schools, parks, sporting fields and shopping centres. Future growth areas, linking of growth areas and specific recreational and tourist focused pathways are mentioned within this document, however their implementation should be assessed separately as they have different benefits and outcomes to that of establishing an urban active transportation pathway network.

Rifle Range Creek Bridge

The Rifle Range Creek Bridge was constructed along the Coastal Pathway to link Bargara and Innes Park. This 58m bridge over the Rifle Range Creek has connected locals to the south with the popular Mary Kinross Park to the north while providing a vital link in the long-term plan of establishing a Coastal Pathway connecting all coastal communities from Elliott Heads to Burnett Heads. This bridge was constructed out of composite fibre products which allowed for it to be constructed in segments on site and lifted into place with minimal disturbance to the coastal vegetation that surrounds Rifle Range Creek.

Baldwin Swamp Environmental Park Pathway

The Baldwin Swamp Environmental Park Pathway forms part of the Principal Pathway Network designed to connect the developing area of Ashfield to the Central Business District. Council was able to obtain State Government funding to deliver this significant pathway project. The completion of this section of pathway now allows residents living in the Belle Eden Estate to safely travel to the Central Business District without having to ride on the road. This project has also opened up the eastern end of Baldwin Swamp to allow more people to access and enjoy this area. The pathway enables people with limited mobility who previously did not have access to enjoy this area of the Environmental Park.

4. Transition from a multi-modal network to an active transport pathway network

4.1 How do we define 'Multi-Modal'?

The Multi-Modal pathway network incorporates those paths that are designed and constructed to meet the needs of the broadest range of potential users. By being designated as such, there is an expectation that the network reflects those needs specific to mobility impaired persons, to able-bodied persons of all ages and to people using wheeled recreational craft permitted by the Transport Operations (Road Use Management – Road Rules) Regulation 2009 to use a path.

The promotion of a pathway network as being 'Multi-Modal' therefore introduces a consideration of the needs and expectations of a raft of users, some of whose behaviour can be anticipated (e.g. commuter) and some of whose behaviour can be more erratic (e.g. school children). It also introduces a consideration of the range of transportation tools or aids and their relative compatibility e.g. bikes, walking frames, roller blades, mobility scooters, prams, skateboards and wheelchairs.

4.2 How do we define 'Active Transport'?

Active transport further builds on the multi-modal transport definition by developing not only the network, but the associated supporting infrastructure to promote and encourage physical activity, as all or part of a transport journey, to achieve not only transport, but health and environmental related outcomes for the community. Provision of trees and shade, regulatory and interpretative signage, seating, watering points and other facilities that improve the amenity and perceived safety of the pathway infrastructure to increase its usage, all form part of a successful active transport network.

4.3 Community benefits of an active transport network

Walking and cycling are low-cost transportation modes available to the greater part of the community. Providing bikeways and/or walkways introduces a significant range of community and personal benefits, including:

Reduced transportation costs:

Maintaining and improving the road transport network involves high costs to Local (and State) Government. Reducing vehicle use will reduce road maintenance costs.

Environmental outcomes:

Walking and cycling do not cause health-threatening impacts on air quality or residential amenity and are the most energy-efficient and sustainable forms of transport.

Street activation:
The number of people who feel comfortable walking or riding bicycles is a measure of the quality of life of a town. The presence of pedestrians and cyclists indicates that the sense of community is strong, people feel safe being outdoors and social interaction can happen openly.

Increased household disposable income:
The cost of buying and maintaining a bike has been estimated at approximately 1% of the cost of buying and maintaining a car.

Improved health and well-being:
Gentle and moderate intensity physical activities respectively, as well as walking and cycling can contribute to the prevention of a number of physical and psychological illnesses, including coronary heart disease, stroke, high blood pressure and depression.

Economic benefit:
There is significant literature linking a well-connected active transport network and economic benefit to the community. These benefits can range from increased commerce from improved accessibility, through to a reduced financial burden on the health system through improved health outcomes.

Social equity:
Walking and cycling are affordable, accessible and independent travel options for a large number of people, but particularly the 'transportation disadvantaged' – the unemployed, low income earners, the young and others who do not use a motor vehicle for a variety of reasons.

4.4 What users should an active transport network support?

An active transport network should seek to satisfy as many needs of the different user groups (generically categorised as cyclists and pedestrians) as possible.

Bundaberg Region currently has

116km

of network pathway

4.4.1 Cyclists

With respect to cyclists, there is wide acceptance that this user group can be categorised into seven broad sub-groups, each with diverse characteristics and needs that affect pathway planning and design.

These sub-groups are:

Primary school children – developing knowledge of road traffic laws and undeveloped cognitive skills.

Secondary school children – skill varies widely depending on age.

Recreational cyclists – skill varies widely and they generally desire pleasant recreational experiences along off-road paths and local streets.

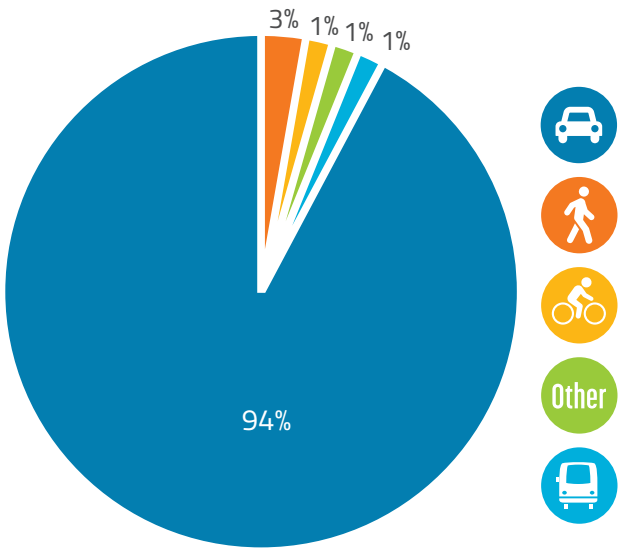
Commuter cyclists – includes people who wish to reduce travel time regardless of traffic conditions and those who are willing to take a longer route to avoid high-stress environments. Usually however, the commuter cyclist is best accommodated by on-road facilities because the road network more often offers the most direct route.

Utility cyclists – those who ride for a variety of specific purposes such as shopping, visiting friends, travelling to community facilities. These routes are generally unpredictable, short in distance and more often occur along roads not subject to high traffic volumes.

Touring cyclists – make extensive long distance journeys or shorter trips around local areas of tourist significance.

Sports cyclists (in training) – travel long distances on arterial road networks.

Journey to work mode share



(AUSTRALIAN BUREAU OF STATISTICS 2016 Census of Population and Housing Bundaberg (R) (LGA31820) 6432.7 sq Kms

4.4.2 Pedestrians

With respect to pedestrians, again there are several sub-groups with specific characteristics:

School children – a high degree of personal safety and security is more important than directness of the route. School students are the heaviest users of both bicycles and walking for transport.

Commuter – the route should be direct without being sterile.

Recreational user – a higher emphasis is given to the attractiveness of the route with a linear network comprising a raft of experiences preferred.

Engaged community user – an emphasis of engaging with the community around them making multiple crossings of the network to attend multiple attractions along the network. Well connected with designated safe crossing points and route connectivity is important.

Elderly users – direct routes to specific destinations and public transport facilities. Well maintained, smooth surface to minimise falls, has good passive surveillance for safety and facilities to rest along the journey.

Users with mobility impairments – require well maintained, Australian Standard 'AS1428 Design for Access and Mobility' (AS1428) compliant pathways with tactile indicators.

4.4.3 Personal mobility devices?

With respect to Personal Mobility Devices there are two major subgroups with specific characteristics.

Mobility Scooters – These devices are relatively slow moving and are utilised mainly by the elderly and people with mobility impairments. They are used for the specific purpose of providing the user with access to the community around them.

Rideables – The rideable user group covers a range of devices which includes E-Scooters, Segways and Balance Boards. Rideable users are generally moving at a higher speed to most other pathway users and are most often using the device for recreation or commuting.

4.5 Generators of trips

Residential areas are the origin of cycle and pedestrian trips. The planning scheme identifies areas for higher density housing typically in close proximity to activity centres, such as parts of Bundaberg South and Bundaberg West near the Bundaberg Central Business District (CBD), and parts of Bargara near the Bargara town centre and Esplanade. Residential development is therefore characteristically low-density housing occasionally punctuated with medium density housing.

Attractors of trips are destinations commonly visited by the community. These could be out of need (eg. shops or schools) or for recreation, enjoyment or knowledge (eg. parks, beaches, tourist attractions). Walking or cycling may form part of a multi-staged journey utilising public transport. Common attractors include:

Shops:

Regional, district and local. Shops are a key destination within all communities and a number of shopping trips are easily accomplished by walking and cycling. Although it is recognised that weekly shopping needs met by higher order centres are unlikely to be satisfied by a walk to the shops, the fact remains that these centres also provide top-up shopping needs that can be satisfied by transport means other than a motor vehicle. Infrastructure such as pathways and end trip facilities (e.g. bike parking) should be provided to support and encourage walking and cycling to shops.

Sport and recreation facilities include:

Picnic areas, sport fields, tennis courts, skate parks, basketball courts, beaches and playgrounds. Major sporting destinations (such as the Multiplex, Kendalls Flat and Salter Oval) and significant recreation spaces (such as Baldwin Reserve, Queens Park, Bargara Beach, Woodgate Beach) should be accessible by pathway. Other recreation facilities (such as lawn bowls, swimming pools and squash courts) will be connected by pathways as the opportunity presents.

Education establishments:

As a general principle, all schools (but particularly primary schools) should be accessible by shared use multi-modal paths. The extent of these paths will be influenced by the road network serving the schools, the strength of travel desire lines and the school catchment. Higher education facilities would preferably be accessible by pathway.

Bundaberg Riverside Master Plan area:

A rectangular area between Queens Park to the west and to Kennedy Bridge in the east, from Burnett River in the north to Bourbong Street in the south has been identified as the Riverside Economic Precinct. Public investment in this area will generate increased investment in the private market and it is important that this precinct be a focal point for the pathways network.

Medical precincts:

There are several medical precincts around the region. These areas are heavily utilised by people of varying age and physical abilities. The active transport network should seek to connect people to these precincts through pathways with a high standard of embellishment to match the needs of the users.

Tourist nodes:

Linkages should provide access to and inter-connect significant tourist destinations, e.g. Botanic Gardens, Hinkler Hall of Aviation, Rail Museum, Bundaberg Rum Distillery, Riverfeast, Alexandra Park Zoo and Bundaberg Brewed Drinks.

Key centres of employment:

The Bundaberg Central Business District is a key centre of employment that is sufficiently compact to be a destination in its own right. This is distinguishable from broadacre industrial estates where employment is less concentrated. Childers, Gin Gin, Bargara Central Shopping Centre and the Bargara Recreational Business District are smaller scale commercial and retail centres which also trigger pathway consideration. Key centres of employment should be easily accessed by cycling or walking, and infrastructure such as pathways and end of trip facilities should be provided to support and encourage active transport trips.

Other transport options:

For those who utilise pathways as they do not have access to other motorised transport options often do so as part of a multi-stage journey involving public transport. These people are often not physically able or are no longer capable of driving. For connectivity for this user group, AS1428 compliant pathways in close proximity to public transport options, neighbourhood stores and community centres are essential to maintain their independence.

Support facilities:

The following support facilities, which complement the pathway by increasing convenience of the user, have been prioritised in order of importance. Prioritisation has been based on relative importance, affordability for Council and likelihood of targeting by vandals.

1. Trees and shading
2. Signs: both regulatory and interpretive
3. Lighting
4. Ancillary equipment such as seats, bubblers and tables
5. Bike racks
6. Fitness equipment
7. Showers
8. Lockers.

Provision of this type of infrastructure is not always possible due to site constraints or conflicting land use priorities, however an opportunity exists to integrate other existing Council parks and open space infrastructure. This opportunity is explored in more detail in section 10.1 of this strategy and will be investigated in more detail as part of the Active Transport Strategy 2020-2025 Action Plan.

Baldwin Swamp Environmental Park Bridge

The Baldwin Swamp Environmental Park Bridge was constructed to replace an old 1m wide timber crossing of the Baldwin Swamp wetlands. This 3m wide bridge has allowed the continuation of the principal shared pathway that runs from Ashfield through to the CBD. Special consideration was given to how to construct a bridge of this size in the sensitive environmental area of Baldwin Swamp Environmental Park. To minimise disturbance to the waterway a 22m single span bridge was installed to avoid any unnecessary piling or excavation in the watercourse.

Quay Street East

This pathway was identified within the Department of Transport and Main Roads Priority Cycle Network Plan (PCNP), however this route never formed part of the Multi-Modal Pathway Strategy. This pathway provides great access for the people of East Bundaberg to the CBD and also connects the people in the CBD with a number of food and beverage tourist experiences such as Riverfeast and the Bundaberg Rum Distillery. As this route was part of the PCNP, Bundaberg Regional Council was able to obtain State Government funding to accelerate the delivery of this project to align with Department of Transport and Main Roads (TMR) work undertaken on the adjoining State Controlled Princess Street.

5. Review of 2012 Multi-Modal Strategy

The 2012 Multi-Modal Strategy completed significant work in identifying and assessing pedestrian and cycleway routes within the Bundaberg Region. The strategy successfully integrated the previous transport planning strategies from the amalgamated Council that formed Bundaberg Regional Council.

The 2012 version ascertained the location of proposed pathways by the use of a number of assessment criteria:

- Potential demand
- Personal safety
- Financial cost
- Environmental.

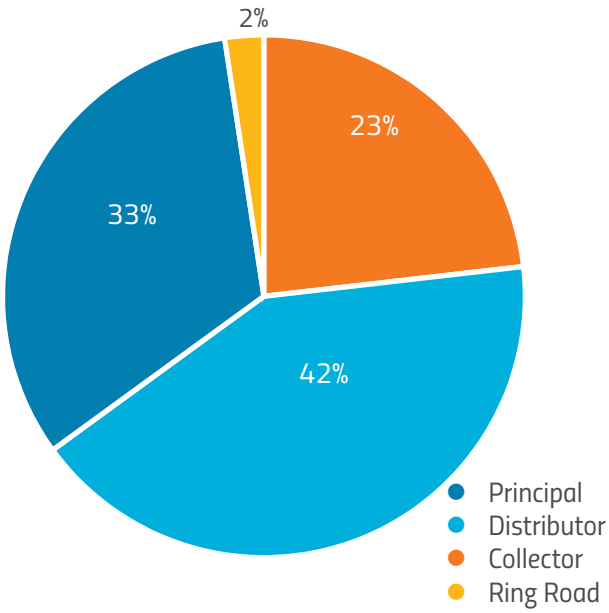
The 2012 Strategy used a weighted criteria assessment for locating and prioritising pathway construction. These criteria included:

- Good passive surveillance
- Direct links to schools
- Convenient to catchment
- Convenient link between destinations
- Uses public land
- Located on land located in the regional plan urban footprint
- Not located on a high traffic road
- Attractive landscape or historical significance
- Availability of supporting infrastructure.

In the years since its adoption, there has been significant developments in the area of active transportation network planning. While the 2012 strategy has identified and prioritised routes based on the above criteria of physical attributes, there is a number of dynamic elements that require consideration when determining the pathway project priorities throughout the region. The Active Transport Strategy 2020-2025 has identified the need for additional assessment criteria based around demand, connectivity, land use and network condition be established. An action plan in section 13 of this document has identified areas to be investigated to better determine the demand and usage of pathways into the future.

Breakdown of hierarchy for the 2012 Multi-Modal strategy

(percentage of total path length).



6. Proposed Active Transport Strategy 2020-2025

6.1 Overall outcomes of the active transport pathway network

The Bundaberg Regional Council active pathway network strategy has been developed with regard to:

- The community and personal benefits that accrue from having a well-used path network
- The disparate and sometimes competing user needs
- Generators and attractors of trips
- Principles identified in this report for locating and designing a pathway network
- Existing pathway characteristics and known opportunities and constraints for the augmentation of the existing pathways infrastructure.
- Increased participation and community activity.
- Extending the journey.

The overall outcomes that the strategy seeks to achieve:

Personal Safety: facilitate pathways that are generally located in areas with good passive surveillance; provide appropriate crossing points at roads; satisfy design specifications for pedestrian, remove hazards and obstacles for users, and most bicycle user groups; contain appropriate signage.

Connectivity: provides convenient links to attractors/generators and other parts of the network.

Amenity: establish paths that are appealing and encourage through the provision of shade and other support features.

6.2 Hierarchy classification

The previous Multi-Modal Strategy contained three functional levels of pathway:

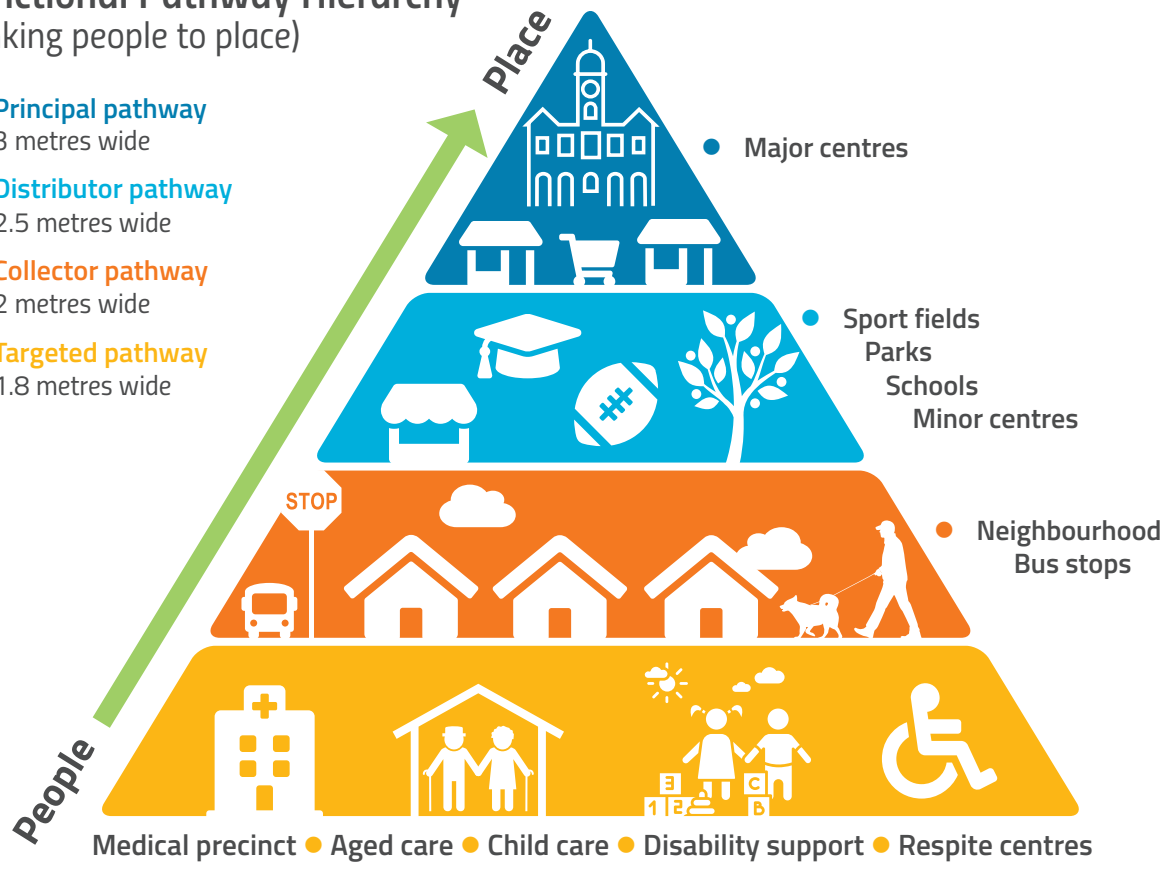
- Principal pathway
- Distributor pathway
- Collector pathway.

The Active Transport Strategy 2020 - 2025 introduces a fourth functional pathway level:

- Targeted pathway.

Functional Pathway Hierarchy
(Linking people to place)

- **Principal pathway**
  3 metres wide
- **Distributor pathway**
  2.5 metres wide
- **Collector pathway**
  2 metres wide
- **Targeted pathway**
  1.8 metres wide



Principal pathway

Primary purpose

A shared off-road path, or a combination of off and on-road facilities, or narrower width pathways duplicated on both sides, serving primarily a commuter/tourist/recreation function and accessing a number of local and regional attractors ultimately feeding users into the Central Business District. Will also serve defined destinations (e.g. schools, shops) but in doing so does not target specific user groups.

Physical characteristics

- Shared path design and construction standards reflect higher order function
- Provision of associated infrastructure e.g. drinking fountain, seating, shade trees
- Reflect contemporary mobility design standards.

Locational characteristics

- Generally longer distance, intra-urban routes linking a raft of attractions terminating in the Central Business District
- Variety of experiences
- Good passive surveillance.

Distributor pathway

Primary purpose

With a focus on accessing schools, the Distributor path primarily (but not exclusively) accommodates students. Linking alternative destinations, including the principal pathway networks, regional and neighbourhood parks and open spaces, sporting fields and shopping centres makes the path attractive to other user groups.

Physical characteristics

- Design width and support facilities less than Tourist/Recreational Path
- Uniform construction standard unless the location dictates otherwise
- Typically located off-road subject to other infrastructure constraints
- Reflect contemporary mobility design standards.

Locational characteristics

- Generally located on higher order roads where the primary function is to provide access to schools
- Direct route with good passive surveillance
- Often link different user groups to local destinations (e.g. shops, parks).

Collector pathway

Primary purpose

A shared off-road path providing access in urban areas for different user groups to the higher order paths, as well as access in smaller townships for different user groups to destinations.

Physical characteristics

- Design width and support facilities less than Distributor pathway
- Uniform construction standard unless the location dictates otherwise
- Reflect contemporary mobility design standards.

Locational characteristics

- Connecting links where the volume of usage is not expected to be as high as a Distributor pathway
- Located on road reserves and through public open space
- Link specific destinations.

Targeted pathway

Primary purpose

A lower order off-road path connecting specific user groups to part of the larger network or specific location or feature (bus stops, respite centres, retirement villages).

Physical characteristics

- Design width and support facilities depending on target and specific user group
- Uniform construction standard unless the location dictates otherwise
- Reflect contemporary mobility design standard with additional support facilities as required.

Locational characteristics

- Connecting links where a specific user group has been identified (Hospitals, respite centres, disability support, child care)
- Located on road reserves and through public open space
- Link specific destinations to shops, public transport and crossing facilities.

6.3 Design and construction standards

Austroads 'Guide to Road Design – Part 6A: Pedestrian and Cyclist Paths' provides contemporary footpath design and construction standards which should be reflected in the Bundaberg Regional Council active transport network.

With specific reference to the width of shared paths, Section 7.5.3 of Part 6A identifies the following standards.

Table 1 Shared path widths

	Path width (metres)		
	Local access path	Commuter path	Recreational path
Desirable minimum width	2.5	3.0	3.5
Minimum width – typical maximum	2.5-3.0	2.5-4.0	3.0-4.0

While the width identified above may be suited to greenfield sites in significant urban areas there is a number of factors that limit the width of the pathways identified in this strategy:

- Recognition that many of the path user flows are expected to be highly tidal in nature. There are, for example, peak morning and afternoon uni-directional flows of students to and from school.
- Realisation that retro fitting existing road reserves, with their prevailing geometry and infrastructure constraints, will often preclude the achievement of preferred pathway widths.
- Understanding that most towns in the local government area will experience constrained population growth through the State Government's regional planning process and consequently, the present and projected path usage volume will be low in comparison to more densely populated urban areas.
- Where pathways identified are located on the State Controlled Road Network, pathway proposals must be approved by the Department of Transport and Main Roads and comply with their standards.
- Where a pathway route travels through sensitive environmental areas, appropriate setbacks from trees, disturbance areas need consideration.

As ultimate pathway widths are most often not achievable due to site constraints such as available road reserve widths and footpath widths, this strategy has identified the following as the desired minimum requirements:

Principal pathway – Minimum of 3m wide on at least one side where physically possible and on-road cycle lanes if identified as a Principal Cycle Network Path (PCNP).

Distributor pathway – Minimum of 2.5m on one side.

Collector pathways – Minimum 2m on one side.

Targeted pathway – Desirable 1.8m varying to a minimum 1.5m should a specific user requirement be identified.

Austroads Part 6A states that a lesser width should only be adopted where cyclist volumes and operational speeds will remain low. A greater width may be required where the number of cyclists and pedestrians are very high or there is a high probability of conflict between users (eg. people walking dogs, roller bladers and skaters etc).

The above pathway widths are identified within the Bundaberg Regional Council Planning Scheme document. The Planning Scheme also notes that 'Where preferred pathway widths are not achievable, Council may consider alternative pathway proposals (e.g. pathways with reduced widths on both sides of the roads; on-roads cycle lanes)'.

Each year Bundaberg Regional Council provides around

$2.5M

in its capital budget for the delivery of Pathway infrastructure

There are several other standards and guides used in the planning and design of active transport infrastructure. At times these design standards and guidelines conflict with each other and their requirements are not always able to be achieved. In addition to these conflicts there are also conflicts with other assets and physical site constraints to be managed. The Active Transport Action Plan identifies the need to develop a risk based assessment process to help achieve positive outcomes for the community in these situations when not all design requirements can be achieved.

6.4 Pathway priority of all active transportation networks

Pathway priority is a technique of setting the priority of concrete pathways to assist children, beginner cyclists and people with visual impairment by constructing the pathways through the existing driveways. Pathway priority supports the Transport Operation (Road Use Management – Road Rules) Regulations which details that drivers entering or exiting properties must give way to pedestrians and cyclists on the footpath. By having pathways that continue through driveways, it provides a clear visual cue of the pedestrian priority of the pathway as recommended in Austroads Part 6A Paths for Walking and Cycling. This configuration also assists those who have visual impairment with identifying the pathway location. Photograph 1 shown below indicates an example where the driveways have been cut through to establish pathway priority.

Photograph 1 – Pathway Constructed with Pathway Priority

In addition to the benefits of the visual priority, this treatment of driveways also provides additional benefit to those with limited mobility by providing consistency of surface texture. The Department of Transport and Main Roads, Road Planning and Design manual states, *'Where a path transitions from one surface to another, the discontinuity is prone to vertical displacement and this combined with a change in surface friction can create a hazard for cyclists and pedestrians'*.

Exposed aggregate, stencilled concrete, pavers and asphalt driveways all come with varying degrees of slip resistance and surface friction. The level of slip resistance in exposed aggregate can vary significantly. The aggregate size, shape, depth of exposure and sealant coating can all affect the slip resistance of the surface. Pavers, over time, can subside or rise up to create an uneven surface. Stencilled driveways can be confusing to those visually impaired walking with the assistance of a cane, have height difference creating trip hazards and pond water in their stencilling creating a slip issue. By cutting through driveways and replacing them with the concrete pathway removes the surface texture variance which gives the elderly and people with mobility issues confidence of a consistent surface.

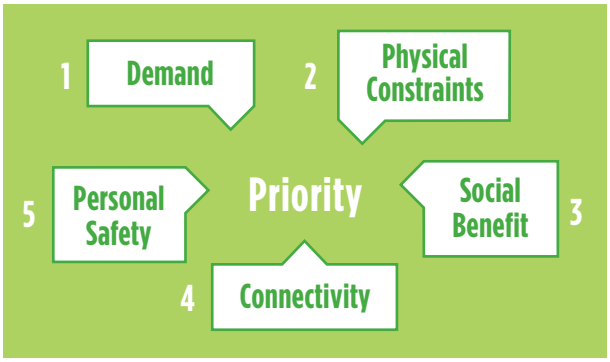
Bundaberg Regional Council understands the significant advantages and positive outcomes pathway priority achieves and is committed to utilising this technique on all driveways encountered while constructing its pathway network. Bundaberg Regional Council's current Standard Drawing R1010 for Driveways identifies the need for pathway priority with the inclusion of the note 'Should concrete footpaths exist or be required in the area, then the concrete footpath will be continuous through any driveway access'.

In 2020 the State Government introduced new mandatory provisions for neighbourhood design aimed at creating more healthy, active and liveable communities. The Model Code for Neighbourhood Design is aimed at increasing participation in walking in new development areas by building infrastructure to create a walking friendly neighbourhood. To support the new policy the Institute of Public Works Engineering Australasia Queensland (IPWEAQ) developed the Street Design Manual: Walkable Neighbourhoods. Section 5.2 of the manual describes the importance of pathway priority.

6.5 Pathway ranking criteria

To help prioritise the delivery of the pathway network, a new ranking criteria has been established. This criteria expands on the previous Multi-Modal Strategy ranking criteria with the inclusion of additional criteria. The Active Transport Strategy 2020-2025 considers things such as integration with public transport as well as connectivity and accessibility for those with physical and cognitive impairments.

The Multi-Criteria Analysis developed focuses on five key areas:



While in the short term we will continue to deliver projects prioritised in the Multi-Modal Pathway Strategy, this criteria will be used throughout the life of this document as we review current mapping and land use to establish a new integrated active transport network. Action plan items have been included as part of this document identifying requirements to establish this network.

7. Pathway areas

7.1 Pathway network Bundaberg city

The active transport pathway network for the Bundaberg City is reflected in Appendix A of this report.

The plan locates destinations such as educational establishments, commercial districts and public open space and introduces a four-tiered hierarchy of paths. The hierarchy identifies the primary function of each path and gives consideration to the following elements:

1. The Central Business District, currently proposed for redevelopment.
2. Principal Cycle Networks identified by the State Government.
3. Heightened pedestrian activity in the medical precincts of Bourbong Street and Bingera Street.
4. A desire to create loops in the network where possible to provide 'exercise circuits'.

This plan introduces a four-stage strategy to realise the active transport network. The realisation of this strategy is a function of a number of variables, some of which are beyond the control of Council e.g. Federal and/or State Government funding opportunities, pace of land development. The plan references the prioritisation of works rather than a deadline for works. Thus Stage 1 assumes the highest priority and Stage 4 assumes the lowest priority.

To this end, it is recommended that priority be given to:

1. Developing principal network paths feeding pedestrian and cyclist into the high use area of the Central Business District.
2. Providing access to schools (and particularly routes where the path can serve several functions) and providing connectivity to Principal pathways.
3. Developing the inner-city network where return on investment is likely to be higher.
4. Improving access of urban areas to higher order pathways.

7.2 Pathway network coastal areas

The active transport pathway network for the Coastal Areas of the Bundaberg region are attached at Appendix A of this report. The plans have been prepared for the coastal towns of Burnett Heads, Bargara, Innes Park, Coral Cove and Elliott Heads. The hierarchy identifies primary function of each path and gives consideration to the following elements:

1. Strong focus on Coastal Pathway enhancing interaction with natural areas along the coastline.
2. Increasing the lower order pathway routes.
3. An assumption that the proposed North South Link Road between Bargara and Elliott Heads will form the western boundary to future urban residential growth.

4. A preference that active transport paths should be characterised by a high level of passive surveillance and should be located to satisfy as many travel desire lines as possible.
5. A preference that active transport paths should provide direct access to schools.
6. A preference to avoid environmental and/or topographical constraints.
7. A desire to create loops in the network where possible to provide 'exercise circuits'.

The Staging Plan introduces a four stage strategy to realise the active transport network. Once again, the realisation of this strategy is a function of a number of variables and the plan reflects construction priorities. To this end, the Staging Plan reflects the following priorities:

1. Effect on the greater part of the Foreshore Tourist/Recreational route.
2. Providing access to schools (and particularly routes where the path can serve several functions).
3. Connecting urban areas to facilities such as schools, shopping, parks and higher order pathways.
4. Future growth areas, master plan areas and higher speed road connections.

7.3 Pathway networks Woodgate and Moore Park Beach

The active transport pathway network for Woodgate and Moore Park Beach communities is detailed in the plan attached at Appendix C in this report. While coastal, these townships do not form part of the coastal pathway due to the geographic separation from Elliott Heads to Woodgate in the south and Burnett Heads to Moore Park Beach in the north. Both these townships have similar populations and trip generation factors. Moore Park Beach has educational facilities where Woodgate does not.

In relation to Woodgate, both the Hierarchy Plan and the Staging Plan reflect the significance of the present foreshore path. This path connects Woodgate's linear settlement pattern with the foreshore, the community precinct (in the vicinity of the Woodgate Bowls Club) and the small commercial centre on The Esplanade.

Connectivity of the development areas along Frizzells Road, and connection of existing residential areas to the Esplanade should become the future focus for the Woodgate township area.

Moore Park Beach township has significant networks in place since the development of the previous strategy. At the completion of the identified network, future focus should move to additional lower order pathways to connect urban areas to the significant higher order pathway network.

7.4 Pathway network Childers

In relation to Childers, the Hierarchy Plan located in Appendix D, once again locates destinations such as educational establishments, commercial districts and public open space and introduces a three tiered hierarchy of paths. The hierarchy reflects both the expected catchment of each path and the primary function of each path. The plan seeks to achieve the following outcomes:

1. An active transport network that focuses on Childers Central Business District.
2. An active transport network that focuses on accessibility to schools.
3. A desire to create loops in the network where possible to provide 'exercise circuits'.

The Staging Plan introduces a four-stage strategy to realise the network. Once again, the realisation of this strategy is a function of a number of variables and the plan reflects construction priorities. To this end, the Staging Plan reflects the following priorities:

1. Ensuring that the Churchill Street CBD pathway system takes precedence due to its significance to resident and tourist populations
2. Providing active transport access to schools (and particularly routes where the path can serve several functions)
3. Improving access to the Central Business District.

Avoca Street principal pathway

The Avoca Street principal pathway was constructed along the road reserve to run parallel between Avoca Street and Avoca Street Service Road. This 2.5m wide pathway supplements the new on-road cycle facilities at this location providing direct access from Avoca to the CBD for pedestrians and cyclist of all abilities. This pathway is well utilised not only by those heading to the CBD but by residents looking to get active and stay healthy by using it as part of a bigger exercise circuit.

7.5 Pathway network Gin Gin

The active transport pathway network for Gin Gin is reflected in the Hierarchy Plan attached in Appendix E of this report.

The Hierarchy Plan locates destinations such as educational establishments, commercial districts and public open space and introduces a two tiered hierarchy of paths. The hierarchy reflects both the expected catchment of each path and the primary function of each path. The plan seeks to achieve the following outcomes:

1. An active transport network that focuses on Gin Gin Central Business District (CBD)
2. An active transport network that focuses on accessibility to schools and medical facilities.
3. A desire to create loops in the network where possible to provide 'exercise circuits'.
4. A network that reflects an expansion of urban residential development as shown in the planning scheme.

The plan introduces a four stage strategy to realise the network. The realisation of this strategy is a function of a number of variables, and the plan reflects construction priorities. To this end, the map reflects the following priorities:

1. Ensuring that the CBD pathway system takes precedence due to its significance to resident and tourist populations. This includes extending the path network to the west along the Bruce Highway to the retirement village.
2. Providing active transport access to schools (and particularly routes where the path can serve several functions e.g. access to the showgrounds, swimming pool, lawn bowls and child care centre in Somerset Street).
3. Connection of urban areas to higher order pathways.

8. Significant pathway projects

While the majority of the pathways identified within this strategy focus on establishing an active transportation network to provide connectivity to community infrastructure, some pathways move beyond being purely transportation orientated. The significant pathway projects identified below fall outside of the ranking and priority system as their demand is driven by other factors such as tourism or economic development.

The funding and delivery of these projects will occur independently to the active transport network pathways.

Examples of these pathways include:

8.1 Riverside activation

One of Bundaberg's best natural assets is the Burnett River that makes its way from the city centre through to The Port of Bundaberg and out to Burnett Heads. In addition to the picturesque natural environment there are a number of tourist attractions along or near the river. Activating the riverside with pathways, the addition of facilities and signage linking through to attractions in the East Bundaberg Tourist Precinct (Riverfeast, The Rum Distillery and Kirby's Wall) will connect these attractions to the CBD which would further enhance Bundaberg's reputation as a tourism destination. In addition to the East Bundaberg Tourist Precinct, there is other proposed master planning being undertaken to connect the Riverside Parklands to Queens Parks. The benefits of any potential Riverside Activation pathway projects stretch beyond the transported related outcomes of the Active Transport Strategy 2020-2025 and should be assessed on the economic benefit and against other projects of a similar type and therefore falls outside of active transport network prioritisation.

8.2 Bundaberg CBD

The Bundaberg CBD is in the early stages of a significant generational revitalisation and upgrade. The Active Transport Strategy 2020-2025 treats the CBD as one of the main destinations of the network, however once into the CBD the integration of cyclists and pedestrians with motorists and facilities will change significantly. The physical infrastructure and design philosophies used to facilitate the integration of all these user groups are uniquely different to those paths identified leading into the CBD and as such, pathway treatments within the CBD should form part of the overall CBD planning rather than as part of the Active Transport Strategy 2020-2025.

8.3 Bundaberg to Gin Gin Rail Trail

Bundaberg Regional Council has secured funding for the development of a Bundaberg to Gin Gin Rail Trail. The proposal would utilise the old rail corridor to establish a pathway from Bundaberg to Gin Gin. This project is being driven from a tourism and economic perspective rather than transport infrastructure. While this project may cater to some commuting cyclists, the overall users groups of this pathway will be significantly different to those targeted within the Active Transport Strateg 2020-2025. Projects of this type focus more on health and economic outcomes rather than transport and for this reason it falls outside of Active Transport Strategy 2020-2025 prioritisation.

8.4 Bundaberg to Bargara cycleway

The concept of a Bundaberg to Bargara cycleway/ pathway has been around for a number of years. While a number of project outcomes relate directly to active transportation, the scope of this project is likely to expand beyond pathways and involve significant levels of civil works. This project will need to involve a number of stakeholders and funding sources to become a viable project. Given the significant financial costs to deliver a project of this size, when assessing this project against other active transport pathways in terms of priority, there is going to be an imbalance and therefore this proposed pathway should not form part of the active transport pathway routes. Bundaberg Regional Council supports the idea of establishing this route, however given that the majority of this project would be on a State Controlled Road, it is expected that the State Government through the Department of Transport and Main Roads would be the lead agency in progressing this project through to completion.

To reinforce our commitment to this pathway, Bundaberg Regional Council has included a Bundaberg to Bargara Cycleway as part of the 'Advocacy Priorities 2020' document. This document identifies 28 Economic, Social, Human and Green infrastructure projects for the region which Council will be seeking bipartisan support from State and Federal Governments to commence delivery on.

9. Cycling Infrastructure

9.1 Cycling Infrastructure

Cycling plays an integral part of any active transport network. For an active transport network to be attractive and convenient to potential users, it needs to cater for a range of confidence and ability levels. As identified in section 4.4, cyclists can be broken down into several subgroups all with differing levels of skill and ability. While in Queensland cyclists can legally ride on footpaths, a typical concrete pathway is only going to service the needs of some cycling subgroups. Limited widths, driveway access, street furniture and other hazards limit the ability for Sporting or Commuting cyclists to use pathways to travel a constant speed for long distances. To facilitate a wider range of cyclists, an integrated active transport network needs to include provision for dedicated cycling facilities. In Queensland, the planning of cycling infrastructure is undertaken through the Principal Cycle Network Plan (PCNP).

9.2 Principal Cycle Network Plan

Published through the State Government Department of Transport and Main Roads in consultation with Local Government Authorities, the PCNP is a 'one network' approach to cycle facility planning and design. Following an extensive stakeholder engagement process which included State and Local Government agencies, local cyclists, bicycle interest groups and community groups, the principal cycle network has been identified. The PCNP not only identifies proposed cycle routes, it also assigns priorities to establish proposed delivery timelines. Bundaberg Regional Council utilise the PCNP document and maps within the document to support funding applications for planning and delivery of cycling infrastructure in the region.

10. Integration with Council strategies

Bundaberg Regional Council understands the important benefits to personal health that comes from physical activity and is committed to providing opportunities for this to occur through a number of departments within the organisation. While each department has a specific function in facilitating physical activity there is several opportunities to integrate some of the objectives from other departments into the delivery of the Active Transport Strategy 2020-2025.

10.1 Parks and Open Space Strategy

The Bundaberg Regional Council's Parks and Open Space Strategy identifies the benefits that come from physical activity and documents the need for this infrastructure to be accessible for everyone. The strategy identifies three standards of parks: Local, Neighbourhood and Regional. These standard parks have accessibility targets ranging from 500m for local parks to a 30 minute car ride to a Regional Destination Park.

While the Regional Parks are planned to be accessed by car and the Local Parks do not contain embellishments to complement pedestrians and cyclists, there is an opportunity to align the active transport routes with Parks and Open Spaces accessibility targets for Neighbourhood Parks. The Neighbourhood Parks include a number of embellishments that complement active transportation outcomes. These include bike racks, sheltered picnic tables and taps/bubblers.

Complementing facilities principal Pathway and Neighbourhood Parks

Principal pathway support Facilities	Neighbourhood Parks Features
Seats and tables	Three sheltered picnic tables
Trees	Trees
Bike rack	Bike rack
Bubblers	Bubblers
Signage	Signage
Wheelchair compliant	Wheelchair accessibility
	Toilet block

The Active Transport Strategy 2020-2025 action plan at the end of this document identifies the need to pursue opportunities to integrate Pathway and Parks infrastructure. There are mutual benefits to be gained by utilising Parks facilities to support pathway infrastructure and establishing routes to connect the greater pathway network to Parks to help facilitate accessibility targets.

10.2 Sport and Recreation Strategy

The Bundaberg Regional Council Sport and Recreation Strategy 2018-2028 aims to guide and structure the provision of sport and recreation programs and infrastructure across the Bundaberg Region.

The Sport and Recreation Strategy specifically references the previous Multi-Modal Pathway Strategy in its action plan. Action item number 11 in the Sport and Recreation Action Plan identifies 'Review the Multi-Modal Pathway Strategy: Connecting our Region 2012 to reflect changing recreation and participation trends. Consider the use of Strava data (and heat maps) to understand popular routes and routes in inappropriate locations'. In section 13.2 of this strategy, the action plan reflects a similar need for a review of demand and usage of the identified pathways.

The Active Transport Strategy 2020-2025 Action Plan highlights the need for more detailed collection of data around participation and usage.

As defined earlier in this document, the evolution from a Multi-Modal Strategy to an Active Transport Strategy 2020-2025 established a need to integrate and promote the health and fitness outcomes of a well-connected pathway network. Opportunities exist for Bundaberg Regional Council to promote walking and cycling activities within the region.

10.3 Integration with Planning Scheme

10.3.1 Planning scheme

An important aspect of any transport strategy is to ensure that it is reflected in Council's infrastructure and land use planning instruments. This facilitates cost effective delivery and ensures pedestrian and cycle friendly environments are developed as a matter of course. It is therefore considered important that Council's Planning Scheme and Planning Scheme Policies provide appropriate guidance on providing walkable and cycle-friendly communities.

Opportunities identified for the planning scheme regarding walk/cycle facilities include:

The pathway network be reflected in Council's Local Government Infrastructure Plan (LGIP) schedule of works and plans for trunk infrastructure to ensure there is a plan incorporated and not compromised by new developments.

Codes (assessment benchmarks) to encourage best practice active transport planning e.g. principles such as connectivity, convenience, accessibility, safety, personal safety design principles, amenity/ urban design (based on the Street Design Manual and Model code for neighbourhood design).

Requirements for bicycle parking and showers/ lockers in new commercial developments (refer to Queensland Development Code Section 4.1 – Sustainable Buildings).

Incorporate consistent standards for active transport paths in Council's standard drawings and Planning Scheme Policy for Development Works, e.g. cross sections, construction standards.

LGIP to incorporate active transport paths.

Ensuring all new pathways, including contributed/'gifted' pathway assets are appropriately recorded in Council's asset register.

10.3.2 State Government walkable neighbourhood provisions

In 2020 the State Government introduced new regulated requirements for walkable neighbourhoods and a supporting model code for neighbourhood design, to help create healthy and active communities. These were developed in conjunction with the new IPWEAQ Street Design Manual. The new provisions emphasise the importance of providing pedestrian and cycling infrastructure as part of new development, not just higher order active transport infrastructure identified in this strategy. The Planning Regulation 2017 includes assessment benchmarks that require development to include pathways on at least one side of local streets, and pathways on both sides of higher order roads (nominally trunk collector and above). The Active Transport Strategy 2020-2025 design standards will apply to routes identified within new development areas, and will complement the State Government minimum standards for walkable neighbourhoods. The State Government has also produced a Walkability improvement tool to help guide the design and provision of improved pathway infrastructure in existing urban areas.

10.4 Bundaberg Integrated Transport Strategy (BITS)

Undertaken as a joint project between the Queensland Department of Transport and Main Roads (TMR) and Bundaberg Regional Council (BRC) the BITS is the first major transport study undertaken in the region since 2012. The BITS plans to tackle transport issues and future growth in the region and develop a 20 year integrated transport plan for the BRC Local Government Area (LGA). The BITS gives consideration to all transport modes including freight, passenger, public transport and active transport. The key goals for the BITS are to:

Integrate existing and ongoing planning works by Council and TMR.

Align Council, State and Federal programs and projects.

Create a long term strategic transport plan for the LGA.

Optimise the use of existing assets.

Inform potential future investment decision.

Engage with key stakeholders to understand land use, freight, transport and infrastructure challenges and opportunities.

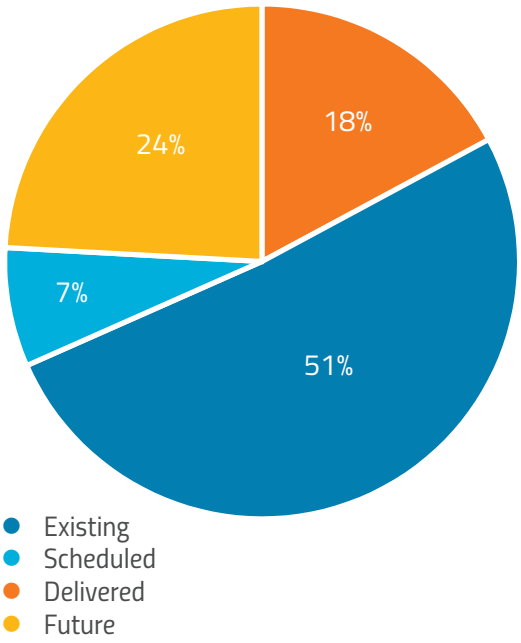
For Bundaberg Regional Council, the Active Transport Strategy 2020-2025 document, along with BRC Road Investment Strategy will be two key strategy documents used in the BITS development.

11. 2012-2019 Delivery

Following the adoption of the Multi-Modal Pathway Strategy in 2012, Bundaberg Regional Council has been delivering pathways identified within the strategy. In an effort to accelerate the delivery of the strategy to quickly establish useable connected networks, Council programmed delivery based on the philosophy of starting routes that did not currently contain any existing pathway. Each year Bundaberg Regional Council provides around $2.5M in its capital budget for the delivery of pathway infrastructure. This level of investment coupled with the delivery philosophy mentioned above has now established 68% of the Multi-Modal pathway network with a further 7% scheduled for delivery in the three year Capital Investment Program. Of the remaining network, Stage 1 is complete with 3% of Stage 2, 64% of Stage 3 and 32% of Stage 4 still remaining. While these pathway networks have been established, it should be noted that the segments of these pathways include sections of existing pathway infrastructure that may complete the pathway route identified within the strategy, however the pathway could be improved greatly through renewal of the existing infrastructure. Renewals, upgrades and duplications are now required to achieve desired minimum standard and Australian Standard 'AS1428 Design for Access and Mobility' (AS1428) compliance which will improve the overall amenity and quality of these pathway networks.

In revising the 2012 document to produce the Active Transport Strategy 2020-2025 document, a number of opportunities to improve the pathway strategy documentation and delivery has been identified. Not having a benchmark of the condition and physical characteristics of the existing network makes it difficult to have a full understanding of the quality of the network. Establishing the condition of the network will help identify and prioritise sections of the completed network pathway that can be further upgraded to create improved facilities for those with restricted mobility.

Multi-Modal network summary



12. Developing the network

12.1 Remaining Multi-Modal pathways

After reviewing the completed works on the network under the old Multi-Modal Strategy, 41km of the pathway routes remain uncompleted. While some of these will be completed over the next five years of the Active Transport 2020-2025 Strategy, approximately 21km of pathway have been identified as long term future pathways. Council has identified a desire to establish pathway infrastructure at these locations, however there is a number of factors preventing them from being constructed in the short to medium term. No kerb and channel, significant site constraints, rural road profiles and future development demand all form reasons why some locations will not progress in the short term. The remaining pathways are shown in the table in Appendix C.

12.2 Renewal

The delivery philosophy for the previous Multi-Modal Strategy was to start delivery of pathways where no pathways existed before. As identified in section 11 by utilising this philosophy, Bundaberg Regional Council was able to add approximately 29km of new pathway to the network over the life of the Multi-Modal Strategy. As identified in the action plan, additional data is now required on the condition of the network. It is anticipated that as data is collected and the condition of the existing network is assessed, sections of the network are going to be discovered where there is a significant number of pathway users on sections of the pathway that are reaching the end of their useful life.

The current status of the delivery of the previous Multi-Modal Strategy has been identified in section 11 of this document. As identified in this section, a large number of the remaining sections of the Multi-Modal network are in locations that are difficult to construct. The lack of supporting infrastructure (i.e kerb and channel) are in future development areas of the region. It is for this reason that at some point over the life of the Active Transport Strategy 2020-2025, renewal and duplication of existing higher order pathways will begin to take priority over some of these remaining pathways.

12.3 Additional routes

The Active Transport Strategy 2020-2025 has identified the need for additional data collection on user behaviour and a detailed land use assessment before any significant extension to the proposed network should occur. It is for this reason the additional routes added as part of the Active Transport Strategy 2020-2025 document has been kept to a minimum. The routes added are:

12.3.1 Faldt Street Bundaberg

Faldt Street was not included in the 2012 Multi-Modal Strategy, however since 2012 Bundaberg Regional Council has constructed the Bundaberg Multiplex at a site opposite the Walker Street end of Faldt Street. The proposed pathway along Faldt Street, from Maynard Street to Walker Street,

provides another north-south link between these east-west routes. In addition, the Multiplex and the TAFE as people attractors, this route has also been identified as being a highly utilised bus route for the elderly. The provision of this pathway has been brought forward to the 2019/2020 and 2020/2021 financial years to further complement Council's recent investment in bus shelter infrastructure along this popular public transport route.

12.3.2 Civic Avenue/Pyefinch Boulevard

Since the adoption of the Multi-Modal Pathway Strategy in 2012, Bundaberg Regional Council has made significant changes to the area around Walker Street/Burrum Street. The relocation of the show grounds and construction of the Bundaberg Multiplex have changed the land use and function of this area. As part of the development of this area, two new roads were created to provide direct access to the Multiplex by linking Burrum Street and Walker Street. These two new roads, Civic Avenue and Pyefinch Boulevard have both been included in this strategy as they connect residents directly to this significant people attractor.

12.3.3 Branyan Street Bundaberg

Branyan Street from Walker Street to Bourbong Street has been included as a new distributor pathway in the Active Transport Strategy 2020-2025. While the principal pathway runs parallel to this street, one block over in Mulgrave Street, the Branyan Street pathway serves a different function and provides connectivity to the principal pathway along Bourbong Street which is currently identified on the PCNP. The ongoing expansion to the Friendlies Hospital is expected to be a key driver for network utilisation in this area. This combined with the GP Super Clinic and the large child care centre on Branyan Street justifies the inclusion of this route into the active transport pathway network.

12.3.4 Thabeban Street Bundaberg

Thabeban Street from Barolin Street to Fitzgerald Street has developed into a significant link road for the region since the development of the 2012 Multi-Modal Pathway Strategy document. The construction of Eggmolesse Street, combined with new roundabouts constructed at Thabeban Street/Fitzgerald Street/Kay McDuff Drive and Eggmolesse Street/Fitzgerald Street have provided connectivity to a number of land use attractors that include, schools, shops, sporting fields and industrial and residential estates. It is expected that this area will experience significant growth and development over the life of the Active Transport Strategy 2020-2025 document and therefore it needs to be included as one of the few additional routes within the Active Transport Strategy 2020-2025. It is worth noting the section of this route from Barolin Street to Ritchie Street is planned for the 2019/2020 financial year, however additional kerb and channel works along the section from Ritchie Street to Fitzgerald Street will be required before this pathway will be able to be extended further.

12.3.5 Johnston Street Bundaberg

Johnston Street from Twyford Street to Walker Street Bundaberg has been included in this revision of the pathway strategy, as it provides connectivity for the shopping centre at one end and Salter Oval at the other end. This pathway is also connected to the Principal Pathway in Avoca Street via Duffy Street, providing residents in the suburbs of Millbank and Avoca with both direct access to facilities and a long circuit for health and recreation.

12.3.6 Duffy Street Bundaberg

Duffy Street provides a vital link for residents in the Avoca/Millbank area to the principal pathway on Avoca Street as well as the above mentioned Johnston Street pathway. This link will improve access to the major shopping centre.

12.3.7 Dittmann Road Bundaberg

Dittmann Road from Branyan Drive to Johnston Street will provide a more direct link for Avoca residents utilising the proposed Avoca Road pathway to access the shopping centre. The recent upgrade of the Dittmann Road/Branyan Drive/Avoca Road intersection includes pathway crossing facilities to enable safe passage of pedestrians and cyclists across the busy Branyan Drive.

12.3.8 Quay Street East Bundaberg

This pathway was identified within the Department of Transport and Main Road PCNP, however this route did not form part of the Multi-Modal Pathway Strategy. This pathway provides greater access for the people of East Bundaberg to the CBD and also connects the people in the CBD with a number of food and beverage tourist experiences such as Riverfeast and the Bundaberg Rum Distillery. As this route was part of the PCNP, Bundaberg Regional Council was able to obtain State Government funding to accelerate the delivery of this project to align with TMR work undertaken on the adjoining State controlled Princess Street.

12.3.9 Lions Drive Childers

Lions Drive from Elizabeth Street to Goodwood Road, much like the western end of Childers there are a number of accommodation facilities providing for itinerant workers for the local agricultural industry. Many of these workers often do not own cars, therefore connecting these people to the vital services provided in the Childers Central Business

District is of high importance. These workers/ tourists provide significant benefit to the region's economy and therefore Council needs to provide infrastructure to ensure a positive experience for those visiting the region.

12.3.10 Davidson Street Bargara

The ongoing development around the Hughes Road Corridor and expansion of the shopping centre has created a situation of more people accessing a significant people attractor. By providing infrastructure on Davidson Street, from Bauer Street through to Blain Street, it will hopefully encourage people utilising the Distributor Pathway on Hughes Road travelling to the shopping centre to detour down Blain Street and Davidson Street allowing them to utilise the safe signalised crossing point at Bauer Street/Davidson Street rather than attempting a non-controlled crossing at the Hughes Road/Bargara Road intersection.

12.4 Future Trends in Active Transport

12.4.1 QDesign

In late December 2018 the State Government of Queensland released the QDesign document. QDesign details principles for good urban design in Queensland. The QDesign document explains that, how well our communities are designed, including suburban streets, buildings, open spaces and the transport network directly impacts how people feel. Several of the QDesign principles detail how active transport plays a significant role in achieving good urban design, as it is one of the main ways to connect people by providing accessibility to schools, shops, other transport options, public and community facilities. These principals included:

> **Principle 04** 'Create well defined, legible and connected streets and spaces'
>
> 4.1 Part of well-connected network.
>
> Work with existing streets and spaces to create places that are part of a well connected network with simple and direct links.
>
> 4.4 Provide shade and shelter.
>
> Use appropriate vegetation, large trees and awnings in public spaces and along streets to provide shade and shelter for pedestrians and cyclists.

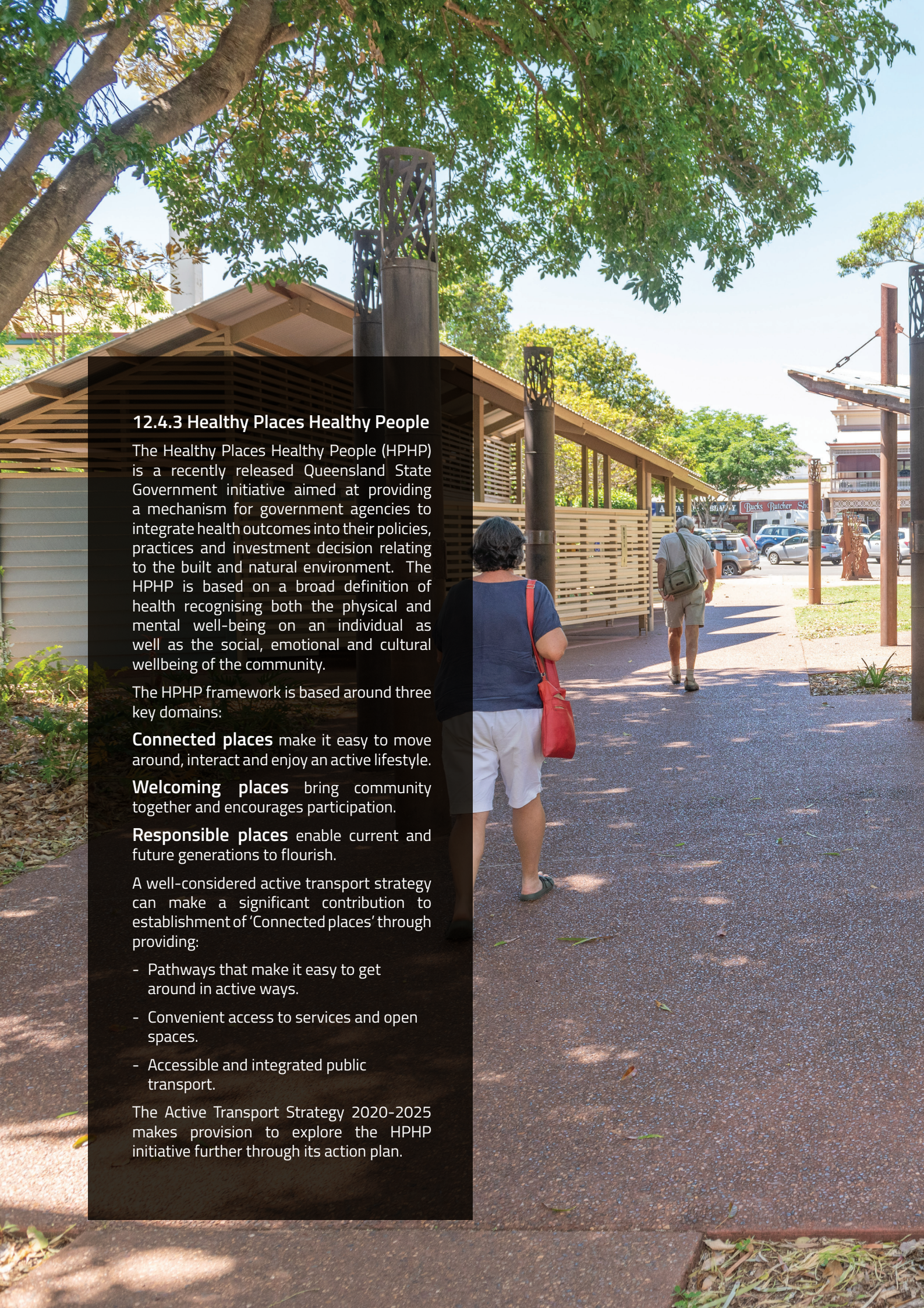
> **Principle 05** 'Create great places for people to live'
>
> 5.3 Easily accessible.
>
> Ensure that the community's daily needs are easily accessible, by providing a safe environment that promotes walking and active mobility by all.
>
> 5.5 Prioritise the needs of children and the elderly.
>
> Create places that respond to the diverse needs of society, in particular, prioritise the needs of children and the elderly. If proposed housing options, land use activities, parks, streets and transport options respond to the specific needs of the young and elderly, it is more likely to accommodate the whole community throughout life.

The Active Transport Strategy Action plan identifies a need to further explore opportunities to integrate these QDesign principles into pathway development and design.

12.4.2 Movement and Place

The Movement and Place (M&P) philosophy primarily recognises the dual function of streets as movement corridors and destinations in their own right. Movement is described in terms of networks and significance and place in terms of intensity (primarily the level of activity). M&P considers transport modes, focuses on future aspirations for a street, considers the role of place in planning which modes of transport are appropriate on a given street. These classifications need to be carefully managed as to not create opposition between movement and place, but rather to work together to achieve shared outcomes. A movement and place framework aims to integrate both movement and place, including type of street, its activities and uses and how it can be best served by transport.

The Active Transport Strategy Action Plan includes an item that seeks to develop a Movement and Place framework for planning of future active transport networks.



12.4.3 Healthy Places Healthy People

The Healthy Places Healthy People (HPHP) is a recently released Queensland State Government initiative aimed at providing a mechanism for government agencies to integrate health outcomes into their policies, practices and investment decision relating to the built and natural environment. The HPHP is based on a broad definition of health recognising both the physical and mental well-being on an individual as well as the social, emotional and cultural wellbeing of the community.

The HPHP framework is based around three key domains:

Connected places make it easy to move around, interact and enjoy an active lifestyle.

Welcoming places bring community together and encourages participation.

Responsible places enable current and future generations to flourish.

A well-considered active transport strategy can make a significant contribution to establishment of 'Connected places' through providing:

- Pathways that make it easy to get around in active ways.
- Convenient access to services and open spaces.
- Accessible and integrated public transport.

The Active Transport Strategy 2020-2025 makes provision to explore the HPHP initiative further through its action plan.

13. 2020-2025 Implementation schedule

The following pathways identified within the Capital Investment Plan (CIP) are proposed for implementation over the next three financial years and are estimated to cost $5.8M.

Location	From	To	Locality	Distance (m)
Bargara Road	Number 89	Number 93	Bundaberg East	100
Sylvan Drive	Malvern Drive	Pandanus Street	Moore Park Beach	1000
Taylor Street	Macrossan Street	Bolton Street	Childers	300
Burrum Street	Crofton Street	Boreham Street	Bundaberg Central	450
Burrum Street	Boreham Street	Walker Street	Bundaberg Central	850
Hughes Road	Durdins Road	Causeway Drive	Bargara	260
Childers Road	University Drive	Kendalls Road	Branyan	720
Telegraph Road	Eastgate Street	Ring Road	Bundaberg East	1200
Barolin Street	Sims Road	McCarthy Road	Avenell Heights	780
Barolin Street	McCarthy Road	Thabeban School	Thabeban	360
Faldt Street	Nott Street	Maynard Street	Norville	485
Sims Road	Elliott Heads Road	Boundary Street	Kepnock	820
Sims Road	Boundary Street	Barolin Street	Avenell Heights	880
Tirroan Road	Watawa Walkway	Watawa Walkway	Gin Gin	130
Avoca Road	Branyan Drive	Smiths Road	Avoca	480
Barber Street	Marks Street	King Street	Bundaberg North	140
Fitzgerald Street	Brother Hogan Drive	Maynard Street	Norville	330
Moodies Road	Wearing Road	Woongarra Scenic Drive	Bargara	670

14. Action Plan

As identified in section 13, the delivery of pathways for the first three years of the Active Transport Strategy 2020-2025 have been identified and programmed for delivery. This level of advance programming has created a window for the Council to explore opportunities to develop a pedestrian and cycling infrastructure planning framework by incorporating the learnings from delivering the Multi-Modal Strategy. The areas to be investigated have been mentioned throughout this document and form part of the Action Plan presented in Appendix B. Of the items identified within the Action Plan the following items are the key elements for shaping the Active Transport Network for the next five years:

14.1 Condition assessment

While the Multi-Modal Strategy successfully integrated the pathway strategies for the various amalgamated councils, no consideration was given to the attributes and condition of the existing pathway network. Consideration needs to be given to the current network to establish its condition and physical characteristics to determine whether investing in replacement or renewal projects on higher order routes will achieve better outcomes for more users than the establishment of new lower order pathways in less populated areas.

14.2 Demand assessment

To fully comprehend the benefits of 14.1, additional works needs to be undertaken in the area of demand assessment and identification of pedestrian and cycleway movements. This can be undertaken in a number of ways including physical counts, surveys and analysis of the maps of fitness apps such as Strava. Development of strategies to obtain useful data on user's movements and needs will help encourage utilisation and improve health and transport outcomes for the region.

14.3 Land use review

To establish the newly introduced 'Targeted' pathway classification, a review of land use around the established pathway network needs to be undertaken. Identifying specific land use will allow targeted pathways to be tailored to suit the needs of the specific user groups and connect them to the wider network.

14.4 Mid-block crossings

While establishing the pedestrian demand, it is also expected that data will indicate that movement along a higher order route generates movements across the routes. By establishing mid-block crossing facilities such as a pedestrian refuge will allow users to safely access features such as shops, sporting fields etc, while making their way across the network. Currently BRC receives a number of requests for this type of crossing infrastructure and as such, need to start identifying and budgeting for their construction. This action plan aims to develop a checklist to help prioritise the refuge crossing requests and establish appropriate yearly funding allocation levels for delivery.

14.5 Intersection treatments

While the 2012 strategy identified the proposed routes of travel, there is no information on how the user will negotiate major intersections along the route. Much like the mid-block crossing, the demand identified in the 14.2 Demand Assessment will be able to detail how user groups, both on and off the road, use these intersections as part of their journey along multiple pathway routes.

14.6 Cycleway audit

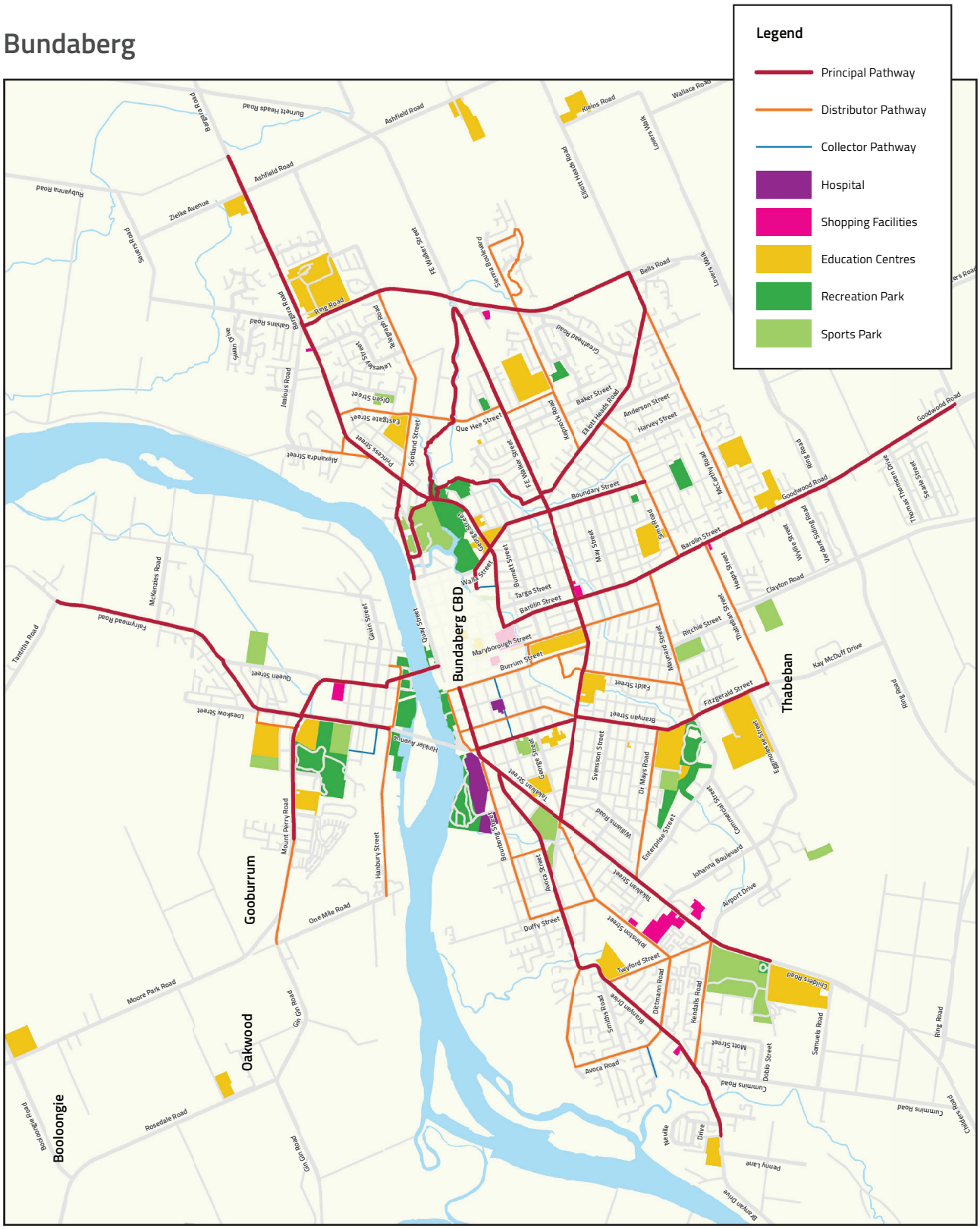
Over many years, all amalgamated Councils have delivered cycleway infrastructure to the standard of the day. As time has passed, many of the signage and line marking treatments have outlived their useful life. It is proposed that a cycleway audit be undertaken to establish the current condition and effectiveness of existing cycleway infrastructure and identify what improvements can be made to improve their safety and function.

14.7 Principal network pathway mapping

The State Government through the Department of Transport and Main Roads, identify and map the Principal Network Pathway for the Wide Bay Region. This mapping forms the basis for assessment of funding applications for cycleway related projects. The Bundaberg Regional Council will need to provide support and information when the State Government is updating and reviewing their maps.

Appendix A - Maps

Bundaberg



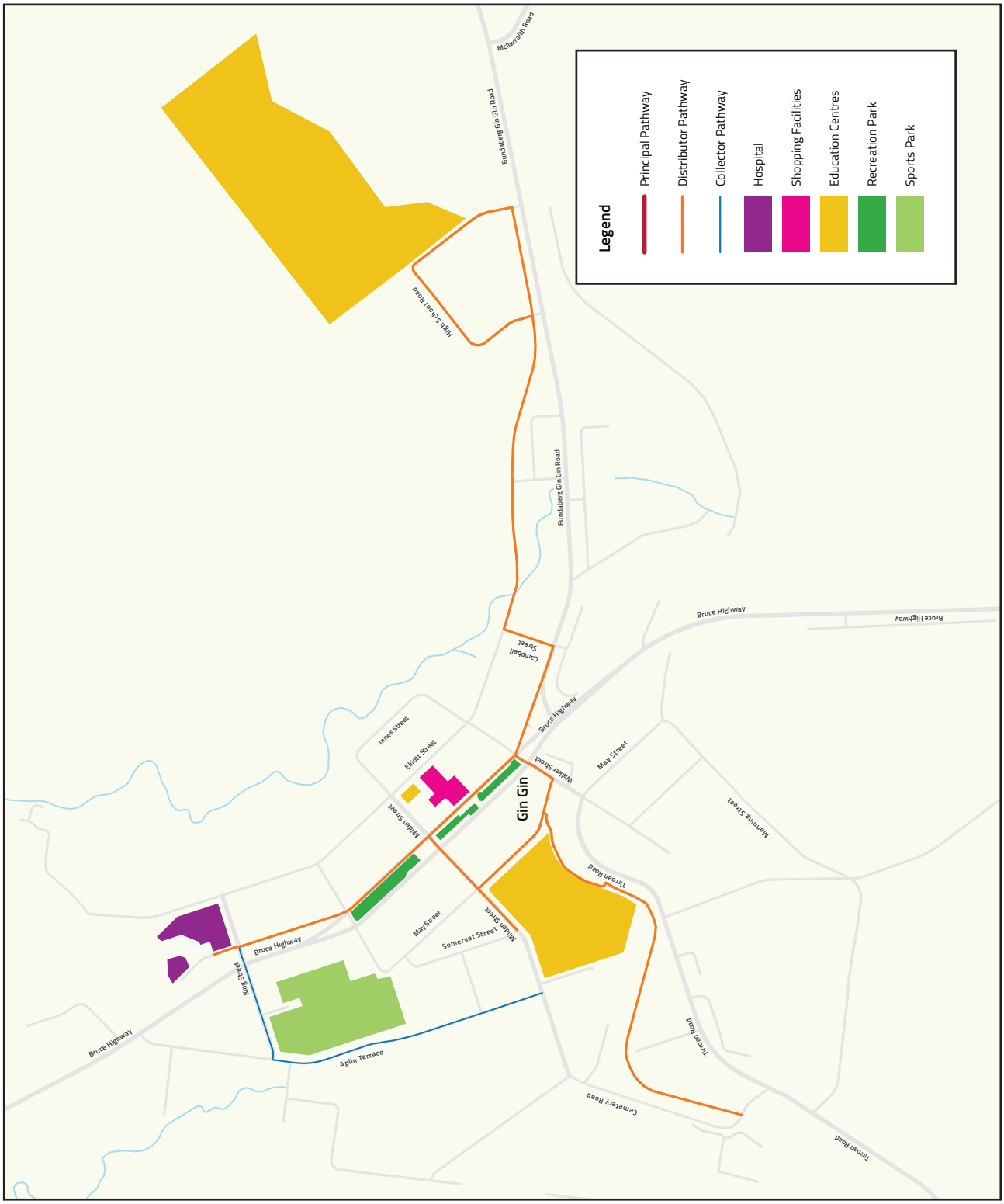
Childers


North Isis Road
Oakes Street
Mungomery Street
Ridgway Street
Churchill Street
Hinkler Street
Lord Street
North Street
West Street
Crescent Street
Churchill Street
Childers
Churchill Street
Churchill Street
Broadhurst Street
McIlwraith Street
Nelson Street
Taylor Street
Thompson Road
Thompson Road
Broadhurst Street
Isis Highway
Legend
Principal Pathway
Distributor Pathway
Collector Pathway
Hospital
Shopping Facilities
Education Centres
Recreation Park
Sports Park

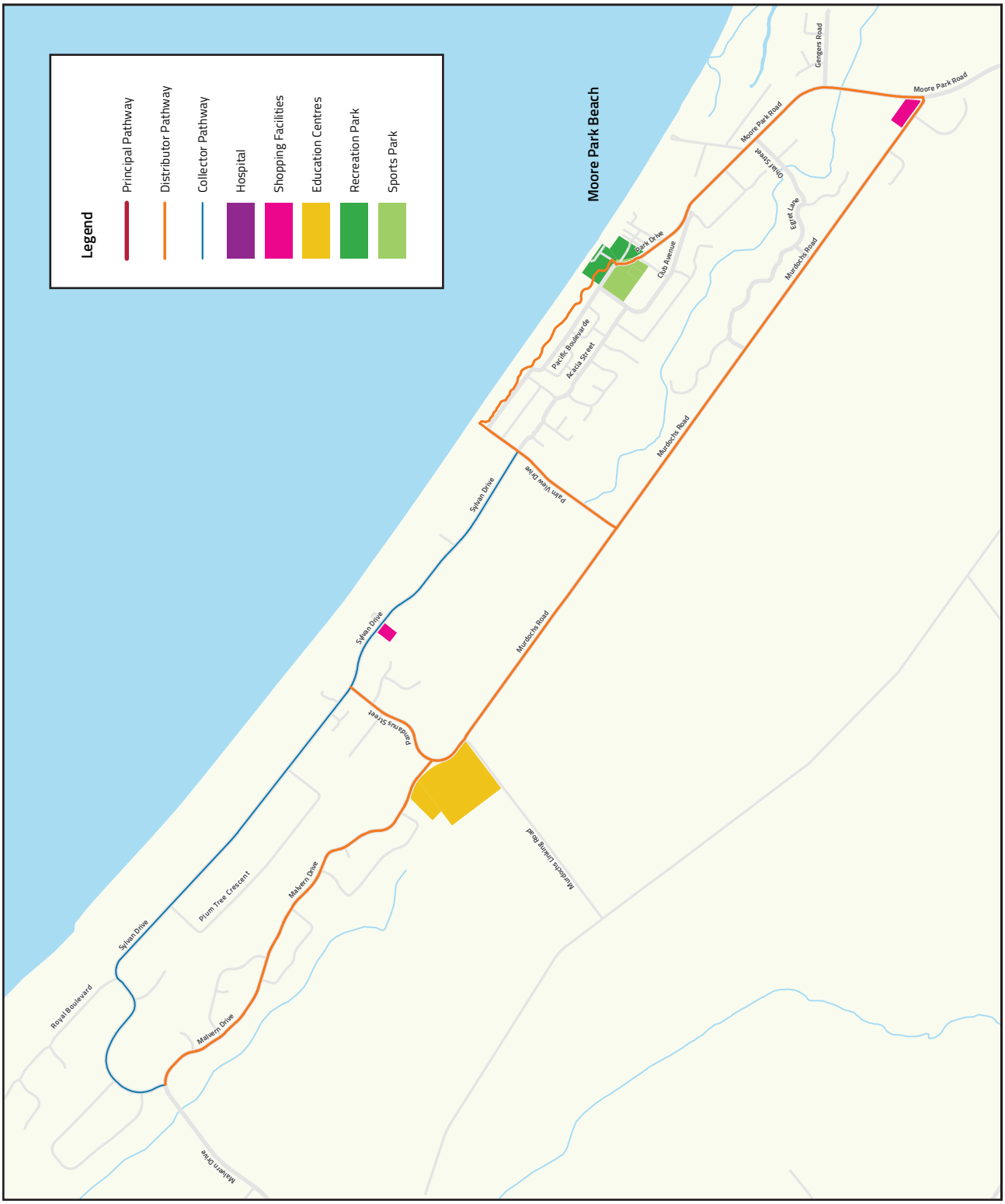
Coastal communities - Burnett Heads to Bargara

Coastal communities - Bargara to Elliott Heads

Gin Gin


Legend
Principal Pathway
Distributor Pathway
Collector Pathway
Hospital
Shopping Facilities
Education Centres
Recreation Park
Sports Park
Mcilwraith Road
Bundaberg Gin Gin Road
Hill & School Road
Bundaberg Gin Gin Road
Bruce Highway
Bruce Highway
Campbell Street
Bruce Highway
Innes Street
Elliot Street
Walker Street
May Street
Gin Gin
Miller Street
Manning Street
Troon Road
Miller Street
May Street
Somerset Street
Bruce Highway
Hope Street
Troon Road
Bruce Highway
Aplin Terrace
Cemetery Road
Troon Road

Moore Park Beach



Woodgate


Legend
Principal Pathway
Distributor Pathway
Collector Pathway
Hospital
Shopping Facilities
Education Centres
Recreation Park
Sports Park
Woodgate Beach
Theodolite Creek Drive
Ocean View Drive
First Avenue
Esplanade
Kookaburra Way
Frizzells Road
Woodgate Road
Second Avenue
Acacia Street
Fourth Avenue
Fifth Avenue
Sixth Avenue
Seventh Avenue
Ninth Avenue
Mackerel Street

Appendix B - Active Transport 2020-2025 Action Plan

No.	Action	Purpose	Timeframe
1.1	Undertake a full audit of existing cycleway signage.	By conducting this audit, Council will be able to identify current status of all historic cycleway signage erected and conduct an assessment of its suitability with today's standards and corresponding infrastructure.	3-5 years
1.2	Review condition assessment criteria to include Australian Standard 'AS1428 Design for Access and Mobility' (AS1428) requirements as part of the collected and assessed data.	Current infrastructure condition assessments are assessed against the physical condition of the asset which helps determine its useful life or intervention levels for maintenance or replacement. The effects of non-compliance with AS1428 creates a risk to specific user groups that are not currently captured in pathway assessments.	1-2 years
1.3	Conduct a new network wide condition assessment to determine areas of non-compliance with AS1428.	Establishing the areas of pathways that do not comply with the current standards. It will give Council the opportunity to identify areas for renewal and upgrade projects. This information combined with trip generation data will give Council the ability to identify high risk areas and work towards improving outcomes at these locations.	1-2 years
1.4	Develop framework for the collection of data relating to user groups, attractors, pedestrian hotspots and demand.	Developing methods to obtain useful data in relation to user's trips and needs will help Council to verify suitability of existing Active Transport Network pathways. In addition to this, the data will also help identify any weakness or opportunity for improvement.	1-2 years
1.5	Review non-compliance areas against usage data results to establish areas of high risk or high value in renewal/ rectification works.	By establishing areas of high usage and existing non-compliance infrastructure, Council will be able to establish priority areas for repairs to be considered against areas of new capital.	3 years
1.6	Review mapping and land use to identify attractors, specific user groups and public transport nodes and establish proposed infrastructure within a suitable radius of each attractor.	By establishing a new pathway network maps suited to short and specific (800m and below) trips allow for created connectivity and engagement for pedestrians. These trips and facilities connect people to the long run significant loop network identified in the previous Multi-Modal Pathway Strategy.	1-3 years

No.	Action	Purpose	Timeframe
1.6	cont.	Identification of specific user groups (schools, retirement villages, respite centres) allows pathway infrastructure to be enhanced to provide additional assistance and amenity. For example, additional seating around areas of elderly residents, wider pathways around areas with higher numbers of the community members with cognitive impairment or mobility issues.	
1.7	Establish a weighted criteria ranking system for the prioritisation of identified or requested crossing points within the pathway network.	Prioritisation of crossing points will assist in future planning by ranking proposed crossing locations allowing value for money when selecting sites for future budgets.	1-2 years
1.8	Establish procedures to confirm driveway compliance during the approval process.	The current procedure/policies for single dwelling approvals does not make provision for inspection hold points or approval for driveway design and construction. By improving this process, Council will have the opportunity to ensure the maximum 2.5% cross fall for future pathway construction is achieved. This will provide long-term cost benefit to the community as rectification works on non-compliant driveways creates additional cost for pathway delivery projects.	1-2 years
1.9	Conduct an audit of 'Neighbourhood Park' locations to identify opportunities to utilise park infrastructure to improve comfort and usability of network pathways.	By establishing locations where minor deviation from network pathways can deliver users to the Neighbourhood Standard Parks to utilising existing facilities such as tables, toilets, water bubblers etc. It is anticipated that this sort of integration of Council's parks and roads assets will help promote physical activity and improve utilisation of both the Parks and Network pathways.	3 years
1.10	Investigate innovative methods of providing information and 'way finding' signage.	Communicating pathway route information helps people develop an understanding of the connected network and possible points of interest. This understanding gives people encouragement to further explore the network or plan future trips and extend their journey. As confidence in the network increases, there should also be an increase in participation numbers. Innovative solutions are required to try and improve the pathway amenity, while not contributing to trip hazards for visually impaired users or further adding to the visual distraction of drivers along these major routes.	3-5 years

No.	Action	Purpose	Timeframe
1.11	Establish framework to transition 'Stage 4' future greenfield pathways to master plans and proposed development.	A framework is required to align proposed pathways in future development areas with submitted development applications. This will allow Council to ensure connectivity and Active Transport outcomes are achieved in areas of new infrastructure.	3-5 years
1.12	Develop an Infrastructure charge scale for pathways to reflect the differences in construction costs between developed areas and Greenfield sites.	Infrastructure charges currently assigned to network pathway do not take into account the difference in cost to construct in a Greenfield site versus a developed. Developed area construction costs are greater than Greenfield as they require significant works on existing driveways to achieve 'Pathway Priority', have clashes with existing infrastructure as well as requiring more detailed and costly traffic management arrangements.	3-5 years
1.13	Revise policy for the appropriate assessment, treatment, integration or offset for conflict with existing street trees and proposed pathway infrastructure.	With an increasing commitment to new street beautification works, coupled with existing street trees, conflicts between existing and proposed assets occur.	1-2 years
1.14	Develop a risk-based assessment for pathway lighting to achieve CPTED outcomes in areas of concern.	By developing an assessment method, Council will be able to achieve positive CPTED outcomes in areas of concern identified.	1-3 years
1.15	Development of Landscaping Manual for Urban Street Design	By ensuring active transport pathways form part of the proposed landscaping design manual will allow pathways to be integrated with other design features improving the amenity and comfort for pathway users.	1-3 years
1.16	Develop a community education campaign regarding shared pathway use and etiquette.	Misinformation regarding legal rights of all user groups on active pathways results in a number of customer requests to council. Education in these areas will help reduce confusion and conflict that exists between user groups.	1-3 Years
1.17	Integrate future trends into planning and design of the network.	Section 12 of the document highlighted the emerging trends of QDesign, Movement and Place, and Happy Places Happy People. By developing a framework to integrate these planning design philosophies with current Active Transport planning will help service the needs of the community into the future.	Ongoing

Appendix C - Future stages

Street	from	to	Locality	Stage	Distance (m)	Hierarchy	Delivery timeline	Delivery considerations
Princess Street	Eastgate Street	Ring Road	Bundaberg East	2	215	Principal	Short/Med Term	
Alexandra Street	Whittred Street	Avenue Street	Bundaberg East	2	103	Principal	Short/Med Term	
Avenue Street	Alexandra Street	Rum Distillery	Bundaberg East	2	230	Collector	Short/Med Term	
Avoca Road	Michel Lane	River Springs Drive	Avoca	3	585	Collector	Short/Med Term	
Avoca Road	River Springs Drive	Avoca Street	Avoca	3	1100	Principal	Short/Med Term	
Ruddell Street	Maryborough Street	Barolin Street	Bundaberg South	3	280	Distributor	Short/Med Term	
Gahans Road	Bargara Road	Balaam Drive	Kalkie	3	850	Distributor	Short/Med Term	
Telegraph Road	Ring Road	Sergiacomi Drive	Kalkie	3	680	Distributor	Short/Med Term	
Reddan Street	FE Walker Street	Shelter Shed	Bundaberg South	3	1400	Collector	Short/Med Term	Consideration as part of stream naturalisation works
Elliott Heads Road	Greathead Road	McCarthy Road	Kepnock	3	790	Distributor	Short/Med Term	
Kendalls Road	Branyan Drive	Childers Road	Branyan	3	1350	Distributor	Med/Long Term	Kerb and channel, widening works to be completed before pathway can be scheduled
Station Street	Hinkler Avenue	Mount Perry Road	Bundaberg North	3	820	Collector	Med/Long Term	Kerb and channel works required along Wilmot Street to provide link through to Thornhill Street
Barber Street Fairymead Road	Mount Perry Road	McKenzies Road	Bundaberg North	3	1780	Distributor	Med/Long Term	Alignment, connectivity and safety consideration to be addressed prior to programming delivery
McCarthy Road	Barolin Street	Elliott Heads Road	Avenell Heights	4	2500	Distributor	Med/Long Term	
Greathead Road	Elliott Heads Road	Ring Road	Kepnock	4	1400	Collector	Med/Long Term	
Coastal Pathway	Turtle Cove Park	Coolanblue Avenue	Innes Park	3	1200	Principal	Med/Long Term	Property acquisitions/ easement/ development to be resolved
Coolanblue Avenue	Kalina Street	Innes Park Road	Innes Park	2	600	Principal	Med/Long Term	Concept analysis required to determine alignment
Coastal Pathway	Barolin Esplanade	Sea Esplanade	Coral Cove	3	1200	Principal	Med/Long Term	Property acquisitions/ easement/ development to be resolved
Lihs Street	Coastal Pathway	Moore Street	Elliott Heads	3	330	Collector	Med/Long Term	Site constraints along Saunders Street

Street	from	to	Locality	Stage	Distance (m)	Hierarchy	Delivery timeline	Delivery considerations
Moore Street	Esplanade	Saunders Street	Elliott Heads	3	750	Collector	Med/Long Term	
Coral Cove Drive	Barolin Esplanade	Bisdee Street	Coral Cove	3	600	Collector	Med/Long Term	
Rifle Range Road	Woongarra Scenic Drive	Hughes Road	Bargara	3	750	Collector	Med/Long Term	Kerb and channel or drainage works required
Shelley Street	Rickerts Road	Dryden Street	Burnett Heads	3	220	Collector	Med/Long Term	
Shelley Street	Dryden Street	Sea Park Road	Burnett Heads	3	1200	Collector	Med/Long Term	
Ridgeway Street	High School	Mungomery Street	Childers	3	601	Collector	Med/Long Term	Kerb and channel, site constraints at showgrounds and Oakes Street
Mulgrave Street	King Street	Hospital	Gin Gin	4	75	Collector	Med/Long Term	
Queens Park	Hope Street	Bourbong Street	Bundaberg West	3	2000	Collector	Long Term	Any proposed works to be developed as part of a masterplan for the Queens Park
McGills Road	Avenue Street	Kirbys Road	Kalkie	3	3000	Distributor	Long Term	No kerb and channel, tourism driven outcome
Baldwin Swamp	Shelter Shed	Scotland Street	Bundaberg East	3	500	Collector	Long Term	Consideration needs to be given to how this location aligns with Baldwin Swamp Environmental Park Trust Land Management Plan
Branyan Drive	Sandy Hook	Future possible link road	Branyan	4	2050	Distributor	Long Term	Serious site constraints - grades, culvert crossing, rural road profile making this project cost prohibitive
Future possible link road	Branyan Drive	Cummins Road	Branyan	4	1700	Distributor	Long Term	Developing area, no road infrastructure currently exists at this location
Cummins Road	Branyan Drive	Samuels Road	Branyan	4	1300	Collector	Long Term	Rural road profile, site constraints currently making this project cost prohibitive
Samuels Road	Cummins Road	Childers Road	Branyan	4	1200	Collector	Long Term	Rural road profile, site constraints currently making this project cost prohibitive.
Childers Road	University Drive	Samuels Road	Branyan	4	690	Distributor	Long Term	Delivery will depend on finding adequate linkages along Samuels and Cummins Roads.
Innes Park Road	Carla Drive	Back Windermere Road	Innes Park	3	1000	Collector	Long Term	Provide link to long term pathways along Coastal Link Road.
Burnett Heads Road/ Rickerts Road	Baldry Street	Shelley Street	Burnett Heads	3	1400	Distributor	Long Term	Rural road profile, 80km/h speed environment, development and growth dependent

Street	from	to	Locality	Stage	Distance (m)	Hierarchy	Delivery timeline	Delivery considerations
Rickerts Road	Shelley Street	Sea Esplanade	Burnett Heads	3	275	Collector	Long Term	Rural road profile, 80km/h speed environment, development and growth dependent
Bruce Highway	Unnamed road 5047	Number 212 Churchill Street	Childers	4	210	Collector	Long Term	Section beyond last accommodation provider, no demand generated at this stage
Future Road	Mungomery Street	Back of School	Childers	4	200	Distributor	Long Term	Road infrastructure does not exist, future development area
McIlwraith Street	Nelson Street	Thompson Street	Childers	4	200	Distributor	Long Term	
Nelson Street	McIlwraith Street	Bolton Street	Childers	4	430	Collector	Long Term	Property ownership to be resolved to establish this link
Lakefront	Woodgate Road	Kookaburra Way	Woodgate	4	580	Collector	Long Term	Demand and Environmental consideration to be investigated prior to programming
Rieck Street	Tirroan Road	Number 47	Gin Gin	3	740	Collector	Long Term	Demand, site Constraint Issues
Bundaberg Gin Gin	High School Road	Honors Saunders Road	Gin Gin	3	1100	Collector	Long Term	Demand to be established before works to be programmed
Milden Street	Aplin Terrace	May Street	Gin Gin	1	140	Collector	Long Term	Site constraints along culvert
Aplin Terrace	Milden Street	King Street	Gin Gin	4	840	Collector	Long Term	Site constraints along sections of Aplin Terrace, No Kerb and Channel

Bridge and pathway at Baldwin Swamp Environmental Park.

Pathway construction on Maryborough Street, Bundaberg.

BUNDABERG
REGIONAL COUNCIL

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