Cairns Cycling & Walking Strategy Review

Part B – Network Plan 2010-2030

Final Report – August 2010

STRATEGIC LEISURE GROUP

in association with

MCCORMICK RANKIN CAGNEY
Cairns Regional Council

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Final Report

August 2010

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EXECUTIVE SUMMARY

Introduction

Paths and bikeways make a significant contribution to the Cairns Region’s built environment, local character, tourism appeal and outdoor lifestyle. This is demonstrated by the enormous success of Cairns Esplanade, which will soon be supported by two new signature projects - the $6.1M CBD-Aeroglen Bikeway and CBD Walking & Cycling Circuit along Lily Creek.

The Cairns Region also boasts high rates of commuting to work on foot and by bike, and strong community interest in walking and cycling for sport, recreation, fitness and tourism. The Region’s combined rates of walking and cycling to work continue to outpace the Queensland average.

The amalgamation of the Cairns City and Douglas Shire Councils in 2008 prompted the need to update various strategic plans for the new Cairns Region, including the walk and cycle network. Therefore, Cairns Regional Council engaged the Strategic Leisure Group and McCormick Rankin Cagney to:

- Review the current walk and cycle plans; and
- Develop an updated strategy to ensure Council’s direction and delivery of paths and bikeways is relevant, realistic and reflects community needs.

The updated strategy will review and replace the:

- Cairns Pedestrian Movement & Cycle Travel Strategy (2004); and

These important plans have paved the way for off-road path and on-road bikeway construction, which now cover a total distance of about 500km. The updated plan will build on the existing network, to provide Council with strategic direction for the infrastructure delivery over the next 20 years. It will also help our Region to be even more bicycle and pedestrian friendly.

Findings and recommendations of the review process are presented in two separate documents:

- **Part A: Background Research** – Results of the existing situation analysis, stakeholder consultation program and other background research, to identify opportunities, constraints, community needs and strategic directions for future walk and cycle planning.
- **Part B: Network Plan 2010-2030** – The ‘strategy’ component of the review including updated network vision, works program, cost estimates and design guidelines.
Shaping the New Strategic Direction

The review process comprised five stages, including research, consultation and site reconnaissance activities:

- Stage 1 – Project Inception and Direction Setting
- Stage 2 – Situational Analysis and Issues Identification
- Stage 3 – Stakeholder Consultation
- Stage 4 – Development of the Updated Network
- Stage 5 – Report Preparation and Project Finalisation

The review has given Council a detailed understanding of the community’s needs for appealing, safe and functional places to walk, cycle, jog and run – these were shared during a stakeholder consultation program involving surveys, workshops, focus group discussions and displays, with:

- Council stakeholders – Councillors and Officers.
- State Government agencies.
- Interested residents and visitors.
- Local schools.
- Other stakeholders and special interest groups e.g. bike shop owners, bicycle user groups, walking groups, disability access advisors, Cairns Youth Council, James Cook University.

The community response was supportive, and demonstrated a high level of interest in the project. Full details of the consultation program are contained in the Part A report.

The research and consultation phases helped shape a new strategic direction for the future network:

... the Cairns Region’s walk and cycle network will:

- Continue to create a more bicycle and pedestrian friendly Region for residents and visitors.
- Provide for, and go beyond a transport function.
- Incorporate active recreation and healthy living principles into infrastructure planning and delivery.
- Focus on safe, complete routes linking people with their destinations, within and between communities.
- Achieve better permeability of the CBD and individual suburbs for pedestrians and cyclists.
- Be accessible for all abilities.
- Successfully integrate with the Mount Peter Township, other urban expansion areas, the Principal Cycle Network for FNQ, and major infrastructure projects.
- Provide more sustainable travel choices and help reduce the Region’s carbon footprint.
- Address the growing interest in major walking and cycling routes which showcase the Region’s tropical character, natural attractions and tourism appeal.
- Be developed within the capacity of available budgets and aligned with new funding opportunities.
The Network Plan 2010-2030

This document, the Network Plan 2010-2030, comprises the following key elements:

- Revised network map showing proposed walk and cycle routes for the entire Cairns Region.
- Updated functional route hierarchy to define network structure.
- Updated facility design guidelines for off-road paths and on-road bikeways linked to a new ‘standards of service’ model.
- Updated Network Implementation Plan identifying the works program, priorities, timing and cost estimates (5 and 20 year plans).
- Implementation Toolbox – An interactive GIS mapping and database tool linked to the works program.
- Non-infrastructure initiatives to promote increased walking and cycling activity, such as route signage and wayfinding, data collection and end-of-trip facilities.

Proposed Network

(a) Functional Route Hierarchy

The proposed network will continue to be delivered according to a hierarchy of access, providing the community with various functional opportunities for pedestrian and bicycle movement. This will be underpinned by a ‘dual network’ approach comprising the:

- State Network (Department of Transport & Main Roads, TMR):
  - Principal Routes on State Controlled Roads
  - Iconic Recreation Routes
- Local Network (Cairns Regional Council):
  - District Routes
  - Neighbourhood Routes
  - Esplanade Route
  - Strategic Investigation Routes
  - Recreational Routes
  - Northern Beaches Route

The dual network allows for clearer delineation of implementation responsibilities between Council and the State. It is also intended to support coordinated infrastructure delivery and promote integration with the ‘Principal Cycle Network Plan for FNQ’, released by TMR in December 2009.

Whilst the route classifications are intended to convey a hierarchical framework for the Region’s walk and cycle network, ultimately, there will be crossover of uses across all network elements i.e. recreation, transport, fitness, fun, tourism, school trips.
(b) Key Proposals

Over 400 works are proposed in the 20 year Network Implementation Plan, including off-road paths and on-road bikeways across the Region. Some of the major proposals include:

- **Cairns CBD and Inner Suburbs:**
  - High quality on-road bikeways, primarily for commuter cycling between the Cairns CBD and Key Activity Centres. Many of these are located on State Controlled Roads and will be delivered over time by TMR as part of the Principal Cycle Network.
  - Improved permeability of the CBD and inner city by establishing continuous bicycle corridors from the north, south and west, linking major CBD destinations.
  - Advisory treatments for on-road cycling which can be implemented more cost effectively without major road modification.
  - Improved permeability of established inner suburbs, targeting construction of off-road path circuits and missing links, to create more ‘walkable’ neighbourhoods.

- **Cairns Northern Beaches:**
  - Ongoing development of the ‘Northern Beaches Route’ to provide a continuous walking and cycling link from Machans Beach to Palm Cove – this long range strategy seeks to deliver a unique recreation and tourism experience, showcase the beaches and service local destinations on-route. It will be established with urban growth over time and utilise a mix of foreshore open space (where possible), road-based links, local parks and other open space. Some sections will be subject to detailed planning, environmental, engineering and feasibility investigations e.g. creek crossings.
  - Low key measures to enhance the pedestrian and cycling environment through beach esplanades e.g. meandering paths in foreshore parks, advisory treatments for on-road cycling, route signage and branding.

- **Southern Corridor, Gordonvale and Villages:**
  - Full off-road path continuity proposed within the Bruce Highway corridor with State Government assistance – priorities are missing links in Woree, Bentley Park and Edmonton.
  - ‘North-South Connector’ comprising off-road paths and on-road bikeways for a continuous link from Woree to Edmonton (as a less direct alternative to the highway).
  - Creating more walkable neighbourhoods (both sides of the highway) through path construction and upgrades.
  - Improvements to walk and cycle access within and to the Edmonton Town Centre.
  - Strategic inter-community links between the Mount Peter Master Planned Area and Edmonton, Gordonvale and the Cairns CBD (long range objective).
  - Targeted path upgrades in village school zones (Babinda, Miriwinni, Aloomba).

- **Former Douglas Shire:**
  - Consolidating existing off-road networks in Mossman and Port Douglas – targeting missing links and network extensions.
  - New ‘town loop’ for on-road cycling in Port Douglas, including bike lanes on Port Douglas Road and Macrossan Street.
- New off-road path from Cooya Beach and Mossman (subject to detailed investigation).
- Major upgrade proposed for safer pedestrian and cycle access to Mossman Gorge – new off-road path (subject to detailed investigation).
- Targeted path upgrades in village school zones (Cooya Beach, Wonga Beach, Cow Bay).

Recreation Routes – New walking and cycling routes and loops, with a focus on nature-based recreation, exercise and tourism (subject to further investigation):
- Cairns CBD Walking and Cycling Circuit along Lily Creek (in progress)
- Port Douglas Walkable Waterfront
- Mossman Gorge Road
- Cattana Wetlands and Marlin Coast Sports Complex precinct in Smithfield
- Redlynch Valley / Freshwater Creek corridor
- Norman Park circuit, Gordonvale
- Barron River open space corridor (Kamerunga – Barron – Stratford)

School Zones:
- School zone improvements in all communities, targeting off-road path connectivity, coverage, width, safety and integration with crossing points.

Integration of pedestrian and bicycle facilities with other major projects and transport modes, notably:
- Major transport infrastructure projects e.g. Bruce Highway Upgrade, Cairns Transit Network.
- Other opportunistic provision e.g. development approval process, road upgrade / maintenance, park master planning, waterfront renewal.

Network Implementation and Costs

A new funding strategy has been formulated for the walk and cycle network, with links categorised into three ‘streams’. This will enable Council to better align works with available internal funding sources, and to provide more flexibility in responding to State or Federal government initiatives:

- Stream 1: Network Projects - Principal, District and Neighbourhood Routes for which Council has lead responsibility. Funding sourced from existing Council budget allocation.
- Stream 2: Recreation Projects - Routes with a major recreation focus. Funded from Council budget allocation (outside standard capital works), or integrated with other sport and recreation strategies e.g. park master planning, external grants.
- Stream 3: Signature Projects - Routes of special significance or of high profile, that are beyond the scope of typical Council funding, and could attract funding from other sources including developer contributions and State or Federal grants e.g. sections of Northern Beaches Route.

The Network Implementation Plan indicates that development of the walk and cycle network will cost about $30M over a 20 year period. It is recommended that Council consider an increase to current funding levels for path and bikeway infrastructure, in order to deliver the desired outcomes for the growing Region. Alternative funding sources should continue be sought to assist in network delivery.
Finally, TMR’s release of the Principal Cycle Network Plan for FNQ also reinforces the need for an acceptable funding model to be determined by TMR and FNQ Councils as a high priority, to facilitate PCNP implementation and a partnership approach between Local and State Government.
1. **INTRODUCTION**

1.1. **Study Background**

The Cairns Region is a highly-valued place to live and visit. Opportunities for walking and cycling make a significant contribution to its built environment, local character, outdoor lifestyle and tourism appeal.

The amalgamation of the Cairns City Council and Douglas Shire Council in 2008 prompted the need to update various strategic plans for the new Region. Therefore, Cairns Regional Council engaged Strategic Leisure Group and McCormick Rankin Cagney to review its current walk and cycle plans, and develop an updated strategy.

The updated Strategy will review and replace the:

- Cairns Pedestrian Movement & Cycle Travel Strategy\(^1\) (2004); and

These important plans have guided network planning and construction, which has resulted in a system of off-road paths and on-road bikeways covering a total distance of about 500 km.

The opportunity now presents for a ‘fresh look’ at Council’s forward planning approach, to ensure that the direction and delivery of walk and cycle infrastructure is relevant, realistic and reflects the community’s needs.

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\(^1\) Herein referred to as ‘CPMCTS’
The review process is also prompted by the need to:

- Assess existing network conditions.
- Ensure infrastructure provision is aligned with population growth and available funding.
- Meet increasing community demands for pleasant places to walk, run, jog and cycle – some of the most popular recreational activities for Queenslanders.
- Harness the health benefits of walking and cycling to improve physical activity levels.
- Provide sustainable travel choices to help reduce the Region’s carbon footprint.
- Link with other planning projects including the State Government’s Principal Cycle Network Plan for Far North Queensland\(^2\) (December 2009).
- Continue to create liveable and accessible communities across the Cairns Region, where walking and cycling are encouraged as part of everyday life.

This project received funding under the Queensland Government’s “Local Sport and Recreation Program” administered by the Department of Communities – Sport and Recreation Services.

### 1.2. Study Aim and Objectives

The overall aim of this study is:

> "To prepare a new Cycling & Walking Strategy for the entire area of the Cairns Regional Council."

This is underpinned by 12 objectives:

1. Review and replace the present CPMCTS (2004) and Douglas Shire Bikeway Strategy Study (1999), to deliver an integrated Cycling & Walking Strategy for the Cairns Region.

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\(^2\) Herein referred to as ‘PCNP-FNQ’
2. Improve pedestrian and cyclist access, connectivity, mobility and safety.

3. Promote more walking and cycling activity, thus encouraging active living choices and a shift away from the reliance on private vehicles.

4. Recognise the characteristics, trip needs and facility requirements of different pedestrian and cyclist user groups.

5. Identify opportunities for logical coordination between walking, cycling and other travel modes.

6. Identify current and emerging needs of the community, including residents and visitors.

7. Identify new opportunities to enhance the progress of network development, and integrate with other Council and State Government initiatives.

8. Identify current and emerging factors that will increase walking and cycling activity in the Cairns Regional Council area.

9. Identify new and upgraded infrastructure needed for pedestrians and cyclists which can be realistically provided, ensuring it complements and enhances the existing walking and cycling network.

10. Review and update if necessary, engineering design standards for pathway and cycleway construction, based on current standards and best practice.

11. Recommend to Council any new or reprioritised projects, as part of an achievable works program for the network, which reflects budget and operational realities.

12. Demonstrate an engagement process with local residents, schools, stakeholder organisations, government agencies and other special interest groups, to ensure the community has input to the strategy, and is informed of the final outcome.

1.3. Scope

1.3.1. Mount Peter Master Planned Area

The scope of this study covers the whole Cairns Region, with the exception of Mount Peter – a large greenfield area located between Edmonton and Gordonvale. Mount Peter will absorb much of the Region’s future growth, with an ultimate population capacity of up to 50,000 residents over a 30+ year timeframe.

Council is conducting a separate master planning study for the Mount Peter Area, in partnership with the Queensland Government and landowners. Specific requirements for paths and bikeways in and around Mount Peter will be identified as part of the separate master planning process.

1.3.2. Strategic Outcomes

The recommendations of this study are intended to provide a strategic plan for the walk and cycle network. It will provide a framework from which more in-depth investigations can be conducted by Council in future, such as full scoping of proposed works, detailed design, construction plans, full cost estimates and other technical research required to assess route feasibility.
1.4. **Purpose of this Document**

The updated strategy is presented as two separate documents:

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<td>Updated Literature Review &amp; Strategic Context</td>
<td>Updated Design Guidelines</td>
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<td>Updated Baseline Information (Demographics, Travel Trends, Crash Data)</td>
<td>Desired Standards of Service</td>
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<td>Conditions, Opportunities and Constraints for Walking and Cycling</td>
<td>Updated Network of Proposed Walk and Cycle Routes</td>
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<td>Stakeholder Consultation Findings</td>
<td>Prioritised Works Program</td>
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<td>Network Cost Estimates</td>
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This document, Part B, presents the updated cycling and walking strategy for the Cairns Region i.e. the ‘Network Plan’ based on a 20 year implementation period.

It should be read in conjunction with the Part A Report, which presents the results of background research, existing situation analysis and stakeholder consultation – the background information has been used to inform the network planning process and recommendations.

1.5. **Network Plan 2010-2030**

This Network Plan sets the strategic direction for Council’s walk and cycle infrastructure delivery, by providing a schedule of ‘new’ and ‘renewal’ works which are recommended for staged development from 2010 to 2030.

The proposed works include a range of pedestrian and cycling facility treatments for implementation across the Cairns Region. The plan also seeks to build on the solid foundation of work already completed by Council, and deliver a walk and cycle network that is matches the community’s service level expectations, and keeps pace with the Region’s future growth.

In conducting this review, the previous network structure and associated route hierarchy frameworks developed for the Cairns City and Douglas Shire areas have been revisited and refined, to respond to a shift in focus towards walking and cycling as both a form of ‘active transport’ and ‘active living’.

Less emphasis has been placed on the rewriting of design guidelines and more on streamlining the range of facility treatments for off-road and on-road facilities, including lower cost interim measures which can be implemented by Council without the need for significant road modification or reconstruction.
Greater consideration of the operational realities of network construction, existing physical constraints and funding were identified as significant elements for the updated Strategy. Accordingly, this study proposes changes to the structure of the works program to:

- better categorise elements of the network; and
- allow for additional funding sources beyond Council’s annual capital works budget allocation for paths and bikeways.

In summary, preparation of the Network Plan 2010-2030 has involved a process of:

- A complete and extensive review of the previous walk and cycle networks recommended for Cairns City (2004) and Douglas Shire (1999), taking into consideration current infrastructure conditions, new transport planning initiatives, community needs and strategic land use plans.

- A review of the current pedestrian and cycle network hierarchy as proposed by the CPMCTS (2004), and taking into account the State’s recently released PCNP-FNQ (2009).

- Simplifying pedestrian and cycle facility treatments for both off-road and on-road scenarios, including an update of indicative construction costs.

- Setting desired standards of service for pedestrian and cycle facilities with regard to the differing access needs, conditions and opportunities of various ‘settings’ in the Region i.e. CBD, urban and non-urban.

- Staging of recommended works based on a revised prioritisation framework, focused on providing enhanced network continuity and integration with the Principal Cycle Network.

This document is generally structured to reflect the process above, and builds on information presented in the Part A report.
2. **RESHAPING THE CYCLING & WALKING STRATEGY**

2.1. **Strategic Directions**

Strategic directions for the updated Cycling & Walking Strategy were shaped by results of the existing situation analysis, background research and community vision documented in the Part A Report. These directions are:

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<td>- Continue to create a bicycle and pedestrian friendly Region for residents and visitors.</td>
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With this starting point in mind, the following sections outline the rationale for strategy revisions and new approaches.

2.2. **A Shift in Focus**

Since preparation of the ‘CPMCTS ‘(2004) and ‘Douglas Shire Bicycle Strategy Study’ (1999), the former Councils implemented a large number of recommended works within their funding capacity. In doing so, they have developed a solid base of walk and cycle facilities.

It is now timely for Council to prepare a new strategy for the whole Cairns Region. This task was not taken simply to mean updating the schedule of proposed works. Instead, the review process required a ‘reshaping’ of its strategic direction or philosophy to reflect the:

- Shift in community attitude towards active transport and sustainable urban growth.
Growing community awareness of benefits derived from healthy and active lifestyles, and resultant demands for path and bikeway infrastructure to support this.

Changing leisure participation patterns and the emphasis on informal, unstructured pursuits which can be conducted close to home with a focus on walking, cycling and jogging.

Changing planning context in respect to urban growth, infrastructure provision and policy development, as established by the Cairns Plan (2009), Douglas Shire Planning Scheme (2008), FNQ Regional Plan 2009-31 (2009), PCNP-FNQ (2009), sport, recreation and tourism projects, and other relevant literature (see Part A Report – Section 2.2).

The previous walk and cycle strategies placed a strong emphasis on engineering requirements of path/ bikeway infrastructure, and the ability to respond to various travel demands – particularly commuter travel.

Therefore, it is critical for the updated strategy to be cognisant of changing community demands for recreation, tourism, health, exercise and sustainable travel choices, and opportunities for integrated planning solutions.

2.3. Implementation Responsibilities

Prior to 2009, the State Government did not have a strategy for walking or cycling in Far North Queensland.

Both of the previous walk and cycle plans for Cairns City and Douglas Shire recommended facilities for development on State Controlled Roads (SCR’s) – many of which were rated as ‘high priority’. Hence, Council did not have sole responsibility for, or control of network development. Furthermore, development of many critical links was dependent on the State’s contribution.

The release of the PCNP-FNQ in December 2009 reflects an increased commitment by the State Government to expand its delivery of cycle facilities on State and Local roads in collaboration with FNQ Councils. This is further supported by the Department of Transport & Main Roads Policy, Cycling On State Controlled Roads (2004), which states that along priority cycling routes (as defined by Principal Cycle Network Plans), TMR will positively provide for cyclists in road upgrade projects.

In conclusion, the updated strategy for the Cairns Region should seek to:

- Deliver a local walk and cycle network that links with the broader regional framework.
- Support a cooperative State-Local Government approach to deliver agreed projects.
- Align walk and cycle facility provision with major road and transport infrastructure projects, including new works, upgrades and maintenance activities.
- Provide strategic off-road links as part of major park, sport and recreation projects.
2.4. **Funding Approach**

The review process recommends that a new approach to funding for network development be considered – this is required to better reflect existing budget thresholds and harness opportunities for additional funding sources.

Therefore, future funding allocation needs to:

- Strike a balance between all transport facilities;
- Be separated into different funding ‘streams’ to reflect the functionality of various routes in the network;
- Reflect agency responsibility i.e. acknowledge but exclude those works which are not the responsibility of Council;
- Be within actual budget thresholds;
- Take account of developer contributions in emerging communities; and
- Seek opportunities for alternative funding programs.

2.5. **Network Priorities**

The updated Strategy also proposes refinements to the prioritisation framework for walk and cycle routes. In particular, greater priority needs to be given to measures which:

- Provide continuity of network i.e. target missing links.
- Complete routes of a higher order on Council roads which are expected to have the most demand.
- Link with Principal Cycle Routes on SCR’s.
- Optimise coverage of work delivered by using a range of different facility types.
- Can be implemented quickly given they are unencumbered by property impacts, significant infrastructure investment and/or further studies.
- Focus on connecting communities.
- Account for projects of special importance or high profile, which can be developed separately as a ‘Signature Project’.
- Are missing links on SCR’s for which Council is responsible (i.e. typically off-road paths).
2.6. **Network Planning Process**

2.6.1. **Changing Strategic Context**

The physical structure of the walk and cycle network has been reviewed and refined to reflect major changes occurring since release of the previous strategies for Cairns City (2004) and Douglas Shire (1999), notably:

- Expanded local government area of the Cairns Regional Council.
- Significant progress made towards network implementation by Council and the State. Many ‘proposed’ links have now come to fruition, resulting in a more extensive base network.
- Escalation in rates for pathway and bikeway construction, requiring a review of all cost estimates.
- Solid population growth and a more dispersed urban footprint, with Mount Peter providing the focus of future population growth.
- Changes to the planning and policy framework, creating new opportunities and constraints for network development (refer to Section 2.2. of Part A report).
- TMR’s release of the PCNP-FNQ.
- Current forward planning activities for the Region’s public transport system and Bruce Highway corridor.
- Changing community demands and use of paths and bikeways, particularly influenced by enhanced lifestyle, health and environmental awareness.

2.6.2. **Sieve Analysis**

In simple terms, the network planning process involved a sieve mapping exercise using a series of overlays, as follows:

- Existing facilities - off-road and on-road.
- Current distribution of key activity centres, trip generating land uses, parks/ open space and patterns of future urban growth.
- Major network gaps or missing links.
- Committed projects e.g. CBD-Aeroglen Bikeway.
- Proposed PCNP-FNQ routes.
- Community desire lines and needs.
- Corridors with ‘strategic investigation’ potential.
- Updated opportunities and constraints for walk and cycle travel.
Accident blackspots.
Other planned transport infrastructure networks (with path/ bikeway integration opportunities).

A preliminary network was identified, and then refined through:

- Rationalisation of lower order links and route duplications, to focus on key connectors and circuits (being cognisant of funding thresholds);
- Council and community engagement; and
- Extensive on-site observations and route feasibility testing.

This review process provided the basis for:

- An updated Network Implementation Plan (construction program and cost estimates).
- A new level of service model for walk and cycle facilities.

### 2.6.3. New Directions

In future, the network’s basic structure will continue to be characterised by:

1. **Activity Centres Hierarchy:**

   - *Key Centres are the primary anchor points of the walk and cycle network.*
   - *The Centres hierarchy comprises:*
     - *Principal Regional Activity Centre – Cairns CBD.*
     - *Major Regional Activity Centres – Smithfield, Edmonton, Earlville.*
     - *District Regional Activity Centres – Mossman, Port Douglas, Clifton Beach, Redlynch, Mount Sheridan, Manunda, Westcourt, Gordonvale.*

2. **Linear Urban Form and Beach Connectivity:**

   - *Strong linear urban form underpinned by the Captain Cook/ Bruce Highway corridor, from Palm Cove in the north to Gordonvale in the south.*
   - *Creation of higher order links for cycling and walking, between the CBD and activity centres.*
   - *Primary ‘north-south spine’ (highway corridors) for longer distance travel between suburbs (primarily cycling trips).*
   - *Secondary routes running parallel to highway corridors for pedestrian and cycle movement within suburban catchments, supported by east-west connectors which cross highways and major arterials.*
   - *Strategic connections between Northern Beaches – largely development driven over time.*
3. **Local Focus in Townships and Villages:**

- *Network focus on safe, direct and convenient walk/cycle access over shorter distances between local activity nodes.*
- *Consideration of inter-community links between Mossman, Port Douglas and surrounding beach villages (Cooya, Newell and Wonga).*

New planning directions for the 2010-2030 network will be:

- A dual network approach (Local and State) providing clearer delineation of responsibilities.
- Greater emphasis on achieving complete and legible routes between origin and destination.
- At the local level, increased focus on more walkable and cycleable neighbourhoods.
- Supporting safe and convenient access to local activity centres, as there is a great potential to substitute car journeys for walking and cycling trips less than 5km.
- Greater focus on network infill to target critical gaps.
- Integration with the Principal Cycle Network for FNQ.
- Walk and cycle connectivity between Mount Peter and the broader regional network.
- Importance of recreational walking and cycling reflected by the functional route hierarchy.
- Enhanced network integration with the Region’s parks and open space network.
- Stronger links to nature-based recreation and tourism attractions.
- More extensive implementation of on-road bikeways.
- Strengthening the relationship between route hierarchy classifications and ‘on ground’ infrastructure delivery (i.e. level of service).

2.7. **GIS Database and Mapping Tool**

An important outcome of the Strategy Review process is the development of an interactive GIS mapping and database tool linked to the Network Implementation Plan.

The database and maps are structured to allow simple querying, updating and analysis of proposed works by Council officers, and enable generation of thematic maps illustrating incremental staging of the network over 20 years.
3. **REVISED ROUTE HIERARCHY**

3.1. **Existing Approach**

The CPMCTS (2004) applied a functional hierarchy over the proposed walk and cycle network, to help define network structure, route function and infrastructure needs. This approach was based on the premise that higher order facilities/destinations require higher order connections.

A five level hierarchy was proposed for Cairns City, as follows:

- **Trunk Routes** – Principal corridors for commuter cycling in Cairns. Their main purpose is to link the city’s key centres, major employment nodes, James Cook University (JCU) and the coast, with the urban population.
- **District Routes** – Intended to provide a link between residential catchments and district facilities/community focal points.
- **Neighbourhood Routes** – Lower order connections intended to link smaller residential/township catchments with neighbourhood focal points and facilities, such as primary schools, parks and local convenience centres.
- **Esplanade Route** – Continuous pedestrian and cycling corridor along the Cairns CBD waterfront, providing an important and unique recreation and tourism resource for the region.
- **Strategic Investigation Routes** – Routes providing strategic opportunities for walk and cycle facilities as part of other transport infrastructure projects, urban development and maintenance or upgrade works. These routes may also represent valuable corridor opportunities requiring preservation e.g. open space, decommissioned cane rail lines.

Whilst the hierarchical approach still remains relevant to the amalgamated Cairns Region, this review proposes some minor route reclassifications to:

- Improve relevance and consistency with other Council and State initiatives.
- Integrate critical elements of the State Government’s PCNP-FNQ (*Principal Routes, Iconic Recreation Routes*)
- Differentiate between access needs and conditions in CBD, urban and non-urban settings.
- Limit confusion with Priority Infrastructure Planning terminology in its application to ‘Trunk’ infrastructure.
- Introduce two new route classifications for Council controlled corridors – ‘Recreation’ and ‘Northern Beaches’. This will:
  - Address growing community demand for walking and cycling routes for recreation, tourism and exercise.
  - Support the ongoing implementation of special status walking and cycling routes via the Cairns Esplanade and Northern Beaches.
- Extend application of the functional route hierarchy to the former Douglas Shire area.
3.2. Revised Route Classifications

3.2.1. Route Hierarchy

It is recommended that the updated network continue to be delivered according to a hierarchy of access, providing the community with various functional opportunities for walk and cycle movement. This will be underpinned by a ‘dual network’ approach comprising the:

- State Network (incorporating critical elements of the PCNP-FNQ); and
- Local Network.

A revised route hierarchy is proposed and consists of the following components:

- **State Network:**
  - Principal Routes (located on State Controlled Roads)
  - Iconic Recreation Routes

- **Local Network:**
  - District Routes
  - Neighbourhood Routes
  - Esplanade Route
  - Strategic Investigation Routes
  - Recreational Routes
  - Northern Beaches Route

**Table 3.1 – Proposed Route Hierarchy Reclassifications**

<table>
<thead>
<tr>
<th>NETWORK</th>
<th>EXISTING ROUTE CLASSIFICATION (CPMCTS 2004)</th>
<th>PROPOSED ROUTE CLASSIFICATION (2010-2030)</th>
</tr>
</thead>
<tbody>
<tr>
<td>State</td>
<td>Trunk Route</td>
<td>Principal Route (on State Controlled Roads)</td>
</tr>
<tr>
<td></td>
<td>NA</td>
<td>Iconic Recreation Route</td>
</tr>
<tr>
<td>Local</td>
<td>District Route</td>
<td>District Route</td>
</tr>
<tr>
<td></td>
<td>Neighbourhood Route</td>
<td>Neighbourhood Route</td>
</tr>
<tr>
<td></td>
<td>Esplanade Route</td>
<td>Esplanade Route</td>
</tr>
<tr>
<td></td>
<td>Strategic Investigation Route</td>
<td>Strategic Investigation Route</td>
</tr>
<tr>
<td></td>
<td>NA</td>
<td>Recreation Route</td>
</tr>
<tr>
<td></td>
<td>NA</td>
<td>Northern Beaches Route</td>
</tr>
</tbody>
</table>

Whilst the route classifications are intended to convey a hierarchical framework for the Region’s walk and cycle network, ultimately, there will be multiple uses across all network elements e.g. district and neighbourhood routes - trips for fun, fitness, training, travel to work or school, or to visit a local park.
3.2.2. **Application to State Network**

In respect to the **State Network**, it is noted that:

- PCNP-FNQ route classifications (Principal and Iconic Recreation) were developed by TMR and this terminology has been retained for the purpose of Council’s strategy. Full details of these route types and links concept plans are contained in the PCNP-FNQ (2009).

- ‘Iconic Recreation Routes’ are intended to link sites of iconic status, and over time, the routes themselves may become iconic in their own right.

- Where elements of the PCNP-FNQ are located on Council controlled roads or public open space, these links have been classified as part of the ‘Local Network’ e.g. sections of ‘Iconic Recreation Routes’ under the PCNP-FNQ have been included in the ‘Northern Beaches Route’ under the Local Network.

- Where ‘Principal Cycle Routes’ have included in the ‘Local Network’, their increased significance has been reflected in works programming and prioritisation.

- Whilst the planning approach strongly supports local and state network integration, in some cases, the alignment of proposed PCNP-FNQ routes located on the ‘Local Network’ have been adjusted or removed to reflect:
  - Community need and aspirations;
  - Parallel or modified route opportunities considered to be more achievable and/ or beneficial;
  - Budget realities;
  - Council advice; and/or
  - Deliver increased benefits for both cyclists and pedestrians.

- Further to the above point, preparation of the PCNP-FNQ was informed by the Cairns Pedestrian Movement & Cycle Travel Strategy (2004), and Douglas Shire Bicycle Strategy Study (1999). Naturally, preparation of Council’s updated Cycling & Walking Strategy during 2009/10 necessitated some network changes and departures from previous planning.

3.2.3. **Summary of Route Classifications**

In summary, the revised intent for route hierarchy classifications is summarised below, adapted from the CPMCTS (2004) and PCNP-FNQ (2009).
**State Network (TMR)**

1. Principal Routes (on State Controlled Roads)

Principal Routes are the primary corridors recognised by TMR for ‘all purpose’ cycling trips within and between urban centres, and connect to major residential areas, activity centres and key attractors throughout the FNQ Region. They have also been developed to ensure connectivity between neighbouring Council areas. Routes that serve only a local function are not generally included in a Principal Cycle Network.

Principal Cycle Routes located on State Controlled Roads in the Cairns Region include:

- **South**
  - Bruce Highway through rural villages and Southern Corridor communities.
  - Gordonvale-Atherton Road.

- **Central**
  - Ray Jones Drive.
  - Mulgrave Road.
  - Cairns Western Arterial Road.
  - Anderson Street.
  - Captain Cook Highway through Smithfield and the Northern Beaches extending to Port Douglas and Mossman.
  - Kennedy Highway to the Tablelands.

- **North**
  - Port Douglas Road and Macrossan Street.
  - Mossman-Mount Molloy Road.

Principal Routes are focussed on State controlled arterial and sub-arterial roads. As explained in Section 3.2.1, where elements of the PCNP-FNQ are located on Council controlled roads or public open space, these links have been classified as part of the ‘Local Network’ under Council’s Strategy.

Major design issues for Principal Routes on State Controlled Roads will be:

- Achieving high levels of route continuity and directness, without jeopardising user safety.
- Retrofitting facilities into existing major road corridors, interchanges, roundabouts and bridge crossings.
- Integrating facilities into construction and improvement projects across the State controlled network.
- Favourable grades, alignment and road shoulder conditions

Typical on-road improvement works for Principal Routes on State Controlled Roads could include:

- Identification of on-road bicycle lanes (exclusive, shared or Copenhagen style facilities).
- Widening/sealing of road shoulders.
- Line marking and lane modification to create space for cyclists (including at bridges).
- Intersection and roundabout improvements e.g. ‘hook turn’ storage boxes, green pavement treatments on bike lanes to minimise conflict potential between cyclists and motor vehicles.

In some locations, off-road solutions may be deemed necessary to maintain safety and separate users.

2. Iconic Recreation Routes

These routes cater for long distance cycle tourism through Far North Queensland, highlighting coastal and tableland opportunities. They utilise both state and local road corridors.

Under the PCNP-FNQ, the Queensland Government has identified Iconic Recreation Routes along the following roads in the Cairns Region:
South
- Bruce Highway through rural villages and Southern Corridor communities.
- Bramston Beach Road.
- Aloomba (Moss – Anderson – Broughton Roads).

Central
- Spence St / Little Spence St corridor.
- Cairns Esplanade.
- Captain Cook Highway from Cairns CBD to Machans Beach Access Road.
- Smithfield to Palm Cove via Northern Beaches communities (utilising local roads and foreshore links – existing and future).

North
- Captain Cook Highway from Palm Cove to Port Douglas.
- Port Douglas Road and Macrossan Street.
- Captain Cook Highway from Port Douglas to Mossman.
- Mossman – Daintree Road.
- Cape Tribulation Road.
- Cape Tribulation – Bloomfield Road.

It is noted that some routes within the Principal Cycle Network are designated as both ‘Principal’ and ‘Iconic Recreation’. This is intended to reflect functional outcomes, rather than development of two separate facilities.

The PCNP-FNQ is silent on funding arrangements for Iconic Recreation Routes.

**LOCAL NETWORK (CRC)**

3

3. District Routes

District Routes are intended to provide a link between urban residential / township catchments and district facilities. In general terms they supplement the ‘Principal Routes’ and support the ‘Neighbourhood Routes’.

For the purpose of the Cairns Region walk and cycle network, facilities identified as ‘district’ destinations are:
- Major shopping centres;
- James Cook University and major colleges;
- Secondary schools;
- Major public transport stations/terminals; and
- Major sport and recreation facilities.

The Region’s collector roads, in the main, provide an opportunity to link urban residential catchments to district destinations. District Routes are likely to comprise on-road and off-road facilities, offering benefits to cycling and pedestrian user groups.

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3 Adapted from CPMCTS (2004)
4. Neighbourhood Routes

Neighbourhood Routes are lower order connections, intended to link smaller residential/township catchments with neighbourhood facilities such as primary schools, parks and local convenience centres. These routes typically follow lower volume streets and parkland reserves.

For cycling, many Neighbourhood Routes will be suitable for small scale cost improvements to provide a safe and attractive facility, whilst still providing trip continuity and directness e.g. pavement symbols, signage. They can offer an effective solution due to their lower costs and potentially high usage levels by different cyclist groups.

For pedestrians, many Neighbourhood Routes the minimum path width is likely to be acceptable to deliver the link.

In combination, the Neighbourhood and District Routes will provide safe and accessible links for pedestrians and cyclists in the urban area, townships and larger villages.

5. Esplanade Route

The Cairns Esplanade is a renowned recreation and tourism precinct. It provides a continuous north-south pedestrian and cycling corridor, running along the Cairns waterfront, extending from Lily Street in the north to Wharf Street in the south. The Esplanade incorporates the Lagoon, Foreshore Promenade, and Regional Playground, together with shopping and tourist facilities, hotel accommodation and marina.

The Esplanade Route’s scenic nature and proximity to waterfront activity nodes attract high levels of usage by pedestrians, cyclists and other user groups. Pathway treatments are varied along its length, with a mix of shared and separated sections where necessary, whilst ensuring that generous path width, route continuity, legibility and safety are not compromised. The Esplanade Route will continue to be integrated with activity nodes, signage/wayfinding features and support facilities along its length e.g. secure bicycle parking, shade, seating, drinking water points.

The Esplanade Route should be supported by ongoing implementation of good connections to the rest of the Local and State Network, including the new CBD to Aeroglen Bikeway Project, and CBD Walking & Cycling Circuit along Lily Creek.

6. Strategic Investigation Routes

Strategic Investigation Routes are intended as opportunities for establishment of pedestrian and cycling facilities coordinated with other strategic projects i.e. transport infrastructure, planning and urban development. This will ensure that walking and cycling is considered from the outset and cost efficiencies delivered.

The intention is that improvements for walking and cycling will be secured along strategic corridors where feasible, to coincide with development, maintenance and renewal projects undertaken by Council, State Government and developers. The routes will be progressively implemented over time, and in some cases, beyond the life of this Strategy. This planning approach reinforces Council’s ongoing commitment to develop a fully integrated transportation system and land use planning process.

Implementation of Strategic Investigation Routes will also be dependent on the preservation of other valuable corridor opportunities, including the Region’s open space system, future roads, easements and decommissioned cane rail lines.
Strategic Investigation Routes have been identified through consultation with Council, State Government agencies and the community. Major opportunities and projects warranting special consideration are:

**Local**
- Mount Peter Area Master Planning Project (2009 – In Progress)
- Port Douglas Waterfront Master Plan (2009)
- Cairns Region Parks & Recreation Strategic Plan (2010)
- Cairns City Transport Network Plan (2005)
- CRC road construction and maintenance program
- Urban development process

**State**
- Principal Cycle Network Plan for FNQ (2009)
- FNQ Regional Plan 2009-2031 (and FNQ Regional Infrastructure Plan 2009-2031)
- Bruce Highway Upgrade Project (2009 – In Progress)
- Cairns Transit Network Project (2010) – i.e. integration of walk and cycle facilities with the transit network, and appropriate end of trip facilities at public transport stations.
- TMR Road Implementation Program

Further to the above, specific Strategic Investigation Route opportunities for walk and cycle facility integration with the future road network will be:
- Highway corridor upgrades (State)
- Northern Beaches - inter-suburban connections (CRC and developers)
- Future Smithfield Bypass (State)
- Redlynch – inter-suburban connection (CRC)
- Lake Street, Cairns North to Airport Avenue – future public transport corridor (State)
- Spence Street, Bungalow – future public transport corridor (State)
- Southern Corridor and Gordonvale – inter-suburban connections (developers)

The appropriate location and form of these routes should be developed through detailed corridor investigations. Further details of strategic projects and opportunities for walk/cycle access are contained in the Part A Report – Section 5.3.
7. Recreation Routes

Progressive implementation of the Region’s Recreation Routes will provide new opportunities to promote walking and cycling for sport, recreation, exercise and tourism purposes. These routes will utilise parks, foreshore reserves, other open space, strategic corridors and in some cases, the local road network.

Four Mile Beach Foreshore Park, Port Douglas – opportunity for recreation path

Major Recreation Routes in the Cairns Region will include:

- Port Douglas ‘Walkable Waterfront’ between the Yacht Club and Rex Smeal Park, with path extensions to Four Mile Beach (as per the Port Douglas Waterfront Master Plan, 2009).
- Mossman Gorge Road.
- Cattana Wetlands and Marlin Coast Sports Complex precinct in Smithfield (circuits and connections).
- Cairns CBD Walking and Cycling Circuit along Lily Creek.
- Redlynch Valley / Freshwater Creek Corridor and bridge link to Goomboora Park at Brinsmead.
- Barron River open space corridor (Kamerunga – Barron – Stratford).
- Norman Park circuit, Gordonvale.

Some Recreation Route projects will also fall into the “Strategic Investigation” category, and will be dependent on land tenure and the availability of public open space or other strategic corridors. Where possible they should be integrated with other sport, recreation and landscape strategies e.g. park master planning.

The planning and design approach should be assessed on a case by case basis, to reflect the natural aesthetics of the route’s location and other site conditions e.g. river bank, flood prone areas, park setting, road corridor. Recreation Routes should be supported by directional and interpretive signage.

‘Recreation Routes’ on the ‘Local Network’ are distinct from TMR’s ‘Iconic Recreation Routes’ in that they seek to address local community demand for:

- Both walking and cycling;
- Pleasant places to walk and ride that are in close proximity to residential areas; and
- Alternative ‘destinations’ for walking and cycling to the Cairns Esplanade precinct.

In contrast, ‘Iconic Recreation Routes’ have a focus on longer distance bicycle touring and support growth of a cycle tourism industry in the FNQ region.
8. Northern Beaches Route

The Northern Beaches Route will be established to provide a continuous walking and cycling route extending from Machans Beach in the south to Palm Cove in the north – a total distance of approximately 17 km. It will become a key recreational and tourism route for the Region showcasing the scenic qualities of local beaches and servicing other activity nodes on-route.

As the Region lacks a continuous corridor of public open space along the coastline due to environmental, topographic and tenure constraints, it will be necessary for the Northern Beaches Route to connect beach communities by utilising a mix of:

- Foreshore open space (where possible);
- Parallel road based links; and
- Local parks and other open space.

Parts of the Northern Beaches Route are already in place, including marked on-road bike routes and off-road pathways. Other sections will be delivered as urban development progresses over time. Some of the future connections will require detailed technical investigations including environmental, planning, engineering and CPTED\(^4\) assessments, in consultation with local landholders and residents.

Strategic connections are proposed between:

**Machans Beach – Holloways Beach**
- Option (a): Foreshore link for exclusive pedestrian/ cycle bridge between O’Shea Esp - Cassia St.
- Option (b): Exclusive pedestrian/ bicycle boardwalk over Barr Creek (Machans Beach Access Rd - Oleander St).

**Holloways Beach – Yorkeys Knob**
- Option (a): Integrate walk/ cycle facilities with proposed future road (between Cassia St - Yorkeys Knob Rd/ Dunne St).
- Option (b): Exclusive pedestrian/ cycle bridge crossing of Thomatis Creek downstream of the boat ramp near Acacia St.

**Yorkeys Knob – Trinity Park**
- Integrate pedestrian/ cycle facilities with future road construction between Wattle St and Riverside Pde.

**Trinity Park – Trinity Beach**
- Pedestrian and cycle access via the existing road network.

**Trinity Beach – Kewarra Beach**
- Pedestrian and cycle access via the existing road network.

**Kewarra Beach – Clifton Beach**
- Pedestrian and cycle access via existing and future foreshore paths between Arlington Esp or Batt St (Clifton Beach) to Pelican Park (Kewarra Beach).

\(^4\) CPTED – Crime Prevention Through Environmental Design
- Community proposals for a 'Cycle/Pedestrian Only Zone' along Upolu and Arlington Esplanades at Clifton Beach (including relocation of bus route) should also be considered by Council (beyond scope of this study).

**Clifton Beach – Palm Cove**

- Pedestrian / cycle access via a future foreshore path from Williams Esp (Palm Cove) to Upolu Esp (Clifton Bch). Note: Confirmation required regarding status of this corridor as a gazetted road.
- Also integrate paths and bikeways with development of the Argentea subdivision (road network and park-based links) to achieve a secondary connection between communities.
- From Palm Cove, the Northern Beaches Route should connect with the proposed Ellis Beach-Palm Cove Principal Cycle Route, as per the PCNP-FNQ, which includes off-road access to Buchan Point.

The appeal of the Northern Beaches Route is likely to attract high levels of use by a wide range of cyclists and pedestrians, including residents and visitors of varying ages and capabilities. Therefore, a mix of facility treatments is likely to be used, ranging from shared paths through major foreshore parks, and low-key bicycle routes utilising quiet linking streets designated with signage and/or road pavement symbols, to higher standards of design and construction in key coastal locations where necessary e.g. boardwalk sections, bridge crossings.

Improved legibility of the Northern Beaches Route should be supported by a public wayfinding strategy, including route signage, network maps and interpretive opportunities on-route. ‘Branding’ of the route will also be a very effective way for Council and tourism agencies to promote the Northern Beaches Route. Suitable on-trip and end-of-trip facilities should also be provided at strategic locations and activity nodes. Refer to Section 9 for guidelines and technical references to signing and mapping walk and cycle facilities.

**Examples of Route Signage and Branding**

Implementation of the Northern Beaches Route will occur as development progresses and will be dependent on securing external funding support for route sections that qualify as ‘Signature Projects’.

### 3.3. Dual Networks – Local and State

Council and TMR will continue to share responsibility for the Region’s network’s delivery and maintenance. Release of the PCNP-FNQ prompts the need for clearer definition of Local and State network elements. Hence, the Route Hierarchy classifications have been refined to reflect this ‘dual network’ approach.
Local Network (Cairns Regional Council)

- The Local Network comprises off-road paths and on-road bikeways within Council-controlled road corridors and public open space.
- The Local Network is intended to facilitate bicycle and pedestrian access utilising a mix of shared and dedicated facilities.
- The Local Network comprises the full spectrum of walk and cycle routes, from higher order inter-suburban connections to short neighbourhood paths and recreation circuits.
- Cairns Regional Council is the responsible for the provision, management and maintenance of facilities in the Local Network (off-road and on-road).

State Network / Principal Cycle Network (TMR)

- The PCNP-FNQ (2009) is the State Government’s blueprint for Far North Queensland’s cycling routes, and is an outcome of the Queensland Cycle Strategy (2003).
- Its implementation is intended to complement the Local Network, and facilitate cooperation between state and local government to deliver safe and connected Principal Cycle Routes.
- Principal Cycle Routes are typically provided in road corridors, including State and Council controlled roads. They may use other corridors where desirable e.g. disused rail corridors.
- It focuses on arterial or ‘trunk’ routes for cycling (typically on-road) that connect major destinations. Routes with a ‘local’ function are generally not included.
- The PCNP-FNQ will address major barriers to cycling such as steep grades and river crossings.
- TMR is responsible for improvements on State Controlled Roads in line with its current policy, Cycling on State Controlled Roads (2004).
- Principal Cycle Routes have been defined by TMR as either ‘existing’ or ‘future’ – ‘existing’ routes have been identified as having some form of cycle facility. Routes labelled as ‘future’ are not known to have any cycle facilities.
Secondary benefits for pedestrian movement may be delivered where off-road facilities are provided as part of the PCNP-FNQ, however, cycling is the primary focus.

A funding agreement for contributions to local government for elements of the PCNP is yet to be formulated by TMR. This is essential to enable all FNQ Councils to seek additional funding from the State to help deliver objectives of PCNP-FNQ, for the benefit of their respective municipalities and the entire FNQ region.

Existing agreements between Local Government and TMR should be referenced when finalising funding arrangements for the PCNP-FNQ.

Refer to the Part A Report (Section 2) for further details.

Appendix A contains maps of the revised walk and cycle network for Cairns Region. These depict:

- Revised functional route hierarchy.
- Local and State network elements.
4. **REVISED WALK & CYCLE NETWORK FOR THE CAIRNS REGION**

4.1. **Network Implementation Plan**

This section presents the Network Implementation Plan for Council detailing the 20 year construction program for the walk and cycle network.

Maps illustrating proposed works for each section of the network are contained in the accompanying A3 Map Portfolio, and are supported by the Network Implementation Plan spreadsheets in Appendix B.

The Network Implementation Plan contains the following information:

- Unique route identification number linked to GIS database allowing for ease of reference;
- Route location and approximate distance;
- Planning/ Catchment Area;
- Works category (New or Renewal);
- Type of facility treatment recommended (off-road or on-road);
- Functional route hierarchy;
- Indicative cost;
- Responsible agency;
- Whether the route is part of the PCNP-FNQ; and
- Priority.

For consistency with Council’s Priority Infrastructure Planning framework, the Network Implementation Plan has been structured according to 11 existing contributions catchment areas, as follows:

- Cairns Beaches
- Barron – Smithfield
- Freshwater – Stratford – Aeroglen
- Redlynch Valley
- Inner Suburbs
- CBD – North Cairns
- Portsmith – Woree Industrial
- White Rock – Edmonton
- Gordonvale – Goldsborough
- Rural Towns and Villages
- Former Douglas Shire

Catchment area boundaries are shown in **Appendix C**.
4.2. Key Proposals

A summary of proposals contained in the 20 Year Network Implementation Plan is provided below.

4.2.1. Former Douglas Shire

<table>
<thead>
<tr>
<th>PLANNING AREA</th>
<th>DOUGLAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mossman</td>
<td></td>
</tr>
<tr>
<td>• Johnson Road / Mossman Gorge Road – New off-road shared path to replace the existing on-road bicycle/ pedestrian shoulder lane, for safer access to Mossman Gorge and the local community. Detailed engineering investigation required.</td>
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<tr>
<td>• Targeted improvements to the local path network and connections to the recent Front Street upgrade.</td>
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</tr>
<tr>
<td>• New off-road path extension via Alchera Dr (Captain Cook Highway) to service southern Mossman.</td>
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<tr>
<td>• Strategic Investigation Routes to service future residential areas.</td>
<td></td>
</tr>
<tr>
<td>Port Douglas</td>
<td></td>
</tr>
<tr>
<td>• Macrossan Street - Renewal of on-road bikeways (shared bicycle and parking lanes) and upgraded pedestrian crossing points.</td>
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</tr>
<tr>
<td>• ‘Town loop’ created by new on-road bikeways via Macrossan Street, the Esplanade, Mowbray and Wharf Streets.</td>
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</tr>
<tr>
<td>• Create a ‘walkable waterfront’ providing public access to water’s edge from Rex Smeal Park to Yacht Club, with path extensions to Four Mile Beach. As per the ‘Port Douglas Waterfront Master Plan’ (2009) the vision for this project includes paths, boardwalks and possibly floating pontoons (requires full planning and engineering assessment).</td>
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<tr>
<td>• Establish new shared path through the foreshore park at Four Mile Beach, to cater for high recreation and tourism demand. This should be considered as part of a landscape master plan for the park.</td>
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<tr>
<td>• School zone improvements to increase safety at crossing points on local streets and at Port Douglas Road.</td>
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<tr>
<td>• Davidson Street and Port Douglas Road – Staged works to improve off-road and on-road links via this State Controlled Road.</td>
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<tr>
<td>• Warner Street – Full engineering solution required to address drainage, road, parking and pedestrian path infrastructure.</td>
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<tr>
<td>• Strategic Investigation Route for recreational cycling between Port Douglas and The Bump Track via the Captain Cook Highway and Mowbray River Road.</td>
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<tr>
<td>Other Proposals</td>
<td></td>
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<tr>
<td>• Targeted upgrades to off-road paths in local school zones (Cooya Beach, Wonga Beach, Cow Bay).</td>
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<tr>
<td>• New off-road path connection between Cooya Beach and Mossman (detailed engineering investigation required).</td>
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</tr>
<tr>
<td>• Inter-community links – Strategic Investigation Routes to facilitate safer cyclist and pedestrian access from:</td>
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</tr>
<tr>
<td>• Mossman to: Port Douglas, Newell Beach and Miallo (with links to the PCNP-FNQ north to Daintree and Cape Tribulation).</td>
<td></td>
</tr>
<tr>
<td>• Cow Bay to: Diwan Sports Reserve and the local health centre.</td>
<td></td>
</tr>
<tr>
<td>• Inter-community connections are subject to feasibility assessment, integration with other road projects and funding availability.</td>
<td></td>
</tr>
</tbody>
</table>

A selection of route proposals is illustrated below.

Johnson Rd / Mossman Gorge Rd – Off-road shared path recommended as a long term objective

Mossman-Daintree Rd - Strategic Investigation Route (extension of pathway from Mossman to beach villages)
Macrossan St – Renewal of on-road shared bicycle and parking lane

Wharf St – Formalise on-road bikeways to create town loop system

Warner St – Full engineering solution required for drainage, parking and path infrastructure

Argincourt St – Improve path continuity and crossing points in school zone for vulnerable users

Davidson St / Port Douglas Rd – Continuous on-road bike lanes and targeted shoulder widening (TMR)

Port Douglas Rd – Safety improvements at key crossing points for pedestrians and cyclists (TMR)

Cooya Beach Rd – Detailed engineering investigation required for off-road path connection from Cooya Beach to Mossman

Buchanan Creek Rd, Cow Bay – Path safety improvements for school and community access
4.2.2. Northern Beaches and Smithfield

<table>
<thead>
<tr>
<th>PLANNING AREAS</th>
<th>CAIRNS BEACHES</th>
<th>BARRON - SMITHFIELD</th>
</tr>
</thead>
</table>

**Northern Beaches Route**
- Ongoing development of the ‘Northern Beaches Route’ as a signature element of the Cairns Region’s walk and cycle network (refer to Section 3.2.1 for further details).
- This route will be delivered over time coinciding with urban development, future road construction/ upgrades and links through parkland, to connect communities, local beaches and other attractions.
- Strategic foreshore links and other constrained sections will require full engineering and environmental investigations.
- A recognisable route signage and wayfinding scheme will help achieve good route legibility and ‘profile’.

**Recreational Loop**
- Establish a recreational circuit for walking and cycling anchored by three major destinations - Smithfield Village, Marlin Coast Sports Complex and the Cattana Wetlands.
- Integrate with access points and trails within the Cattana Wetlands precinct.
- Sections of this circuit are aspirational and subject to the future availability of strategic corridors (cane rail) for cycling and pedestrian use.
- Opportunities for integration of walk and cycle facilities with any future public transport corridor in Smithfield should also be pursued.

**Beach Access Roads**
- Targeted path improvements and extensions to enhance off-road continuity along beach access roads (in built-up areas).
- Establish new on-road bike lanes along beach access roads coinciding with future road improvement programs – Machans Beach, Holloways Beach and Yorkeys Knob.
- Renew existing Copenhagen Lanes at Clifton Beach (Reed Rd) and Yorkeys Knob (Varley St) for shared cycle and pedestrian use.
- Palm Cove Esplanade – Council’s preferred future access route into Palm Cove requires new on-road bikeways.

**Beach Esplanades**
- Establish new shared path through Williams Esplanade Foreshore Reserve at Palm Cove, to cater for high recreation and tourism demand. The path will provide an important link between the jetty and Veivers Rd. To ensure the path solution is in-keeping local streetscape character and environmental values, it should be considered as part of a landscape master plan for the entire foreshore park.
- Low key measures to enhance the pedestrian and cycling environment through other beach esplanades – meandering paths linking foreshore parks and advisory treatments to formalise bicycle routes to create on-road ‘shared zones’ e.g. route signage.

**JCU and Smithfield High School Zone**
- Improve pedestrian and cycle access to James Cook University with upgraded off-road and on-road facilities on McGregor Road.
- Smithfield High School – upgrade narrow off-road paths to provide shared facilities; improve on-road cycle access to service the high school and neighbouring Marlin Coast Sports Complex.

**Captain Cook Highway**
- Integrate cycle and pedestrian facilities with the future Smithfield Bypass (TMR).
- Improve conditions for on-road highway cycling guided by the PCNP-FNQ and TMR policy.

A selection of route proposals is illustrated below.
Williams Esp, Palm Cove – New shared path meandering through foreshore park (landscape master plan required)

Endeavour Rd, Clifton Beach – Renewal of Copenhagen bike lane

Poolwood Rd, Kewarra Beach – New off-road path and renewal of on-road bike lanes

Madang St, Trinity Beach – New off-road paths in school zone

Foreshore esplanades – Low key measures in-keeping with beach setting to improve pedestrian and cycle access

Captain Cook Hwy – Integrate cycling provisions with future road upgrades and PCNP-FNQ roll-out (TMR)

Yorkeys Knob Rd – Integrate bike lanes with future road upgrade for cycle access

McGregor Rd, Smithfield – Improve JCU access (target missing path sections and road widening for on-road bikeways)
4.2.3. Cairns CBD and Inner Suburbs

<table>
<thead>
<tr>
<th>PLANNING AREAS</th>
<th>CBD – NORTH CAIRNS / INNER SUBURBS / PORTSMITH – WOREE INDUSTRIAL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Major Elements</strong></td>
<td></td>
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<tr>
<td>- Existing and planned infrastructure regarded as 'anchoring' elements of the CBD’s walk and cycle network are:</td>
<td></td>
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<tr>
<td>- Cairns Esplanade.</td>
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<tr>
<td>- Cairns Pedestrian Mall (Lake St / Shields St).</td>
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<tr>
<td>- CBD-Aeroglen Bikeway Project.</td>
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<tr>
<td>- CBD Recreational Pathway Circuit via Lily Creek.</td>
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</tr>
<tr>
<td>- CBD cultural and convention centre precinct.</td>
<td></td>
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<tr>
<td>- Full walk and cycle continuity through CBD (including mid-block crossing points) as detailed in the CBD Streetscape Masterplan.</td>
<td></td>
</tr>
<tr>
<td><strong>Walkable Communities</strong></td>
<td></td>
</tr>
<tr>
<td>- A range of targeted off-road path projects are proposed for construction around the CBD and inner suburbs, to improve local network coverage, connectivity and safety.</td>
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</tr>
<tr>
<td>- In the established inner suburbs, more ‘walkable neighbourhoods’ to be achieved with development of continuous off-road paths providing connections within and between suburbs. Key proposals include:</td>
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<tr>
<td>- Martyn St (Manunda – Parramatta Park)</td>
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<tr>
<td>- Swallow, Beatrice and Kingsford Streets (Mooroobool)</td>
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<tr>
<td>- Irene St, Gordon St and Carnation Dr (Earlville – Mooroobool)</td>
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</tr>
<tr>
<td>- Sunflower Dr and Mestrez St (Mooroobool)</td>
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<tr>
<td>- Enmore St (Manoora)</td>
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<tr>
<td>- Jensen St (Whitfield)</td>
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<tr>
<td>- Loridan Dr, Longden St, Benn St &amp; Parkridge Dr to Cairns Western Arterial Road to service the southern part of Brinsmead.</td>
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</tr>
<tr>
<td>- New off-road path construction focusing on Trinity Bay High School/ TAFE College precinct e.g. Grove, Wilkinson, Gatton Sts.</td>
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</tr>
<tr>
<td><strong>Improving Permeability of CBD for Cycling</strong></td>
<td></td>
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<tr>
<td>- The primary goal of the cycle network is to improve permeability of the CBD and inner city by establishing continuous bicycle corridors from the north, south and west.</td>
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</tr>
<tr>
<td>- Renew and extend existing base of major on-road bikeways (e.g. Lake, McLeod, Aumuller, Severin, Upward Sts, Mulgrave Rd).</td>
<td></td>
</tr>
<tr>
<td>- Establish east-west connectors for on-road cycling to the CBD / Esplanade / Mall precinct via:</td>
<td></td>
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<tr>
<td>- Lily St</td>
<td></td>
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<tr>
<td>- Grove St</td>
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<tr>
<td>- Mann St / Minnie St</td>
<td></td>
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<tr>
<td>- Florence St</td>
<td></td>
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<tr>
<td>- Shields St</td>
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<tr>
<td>- East-west connectors join major on-road commuter bikeways within State Controlled Roads to be delivered by TMR over time, through rollout of the PCNP-FNQ and other road improvement projects:</td>
<td></td>
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<tr>
<td>- Mulgrave Rd.</td>
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<tr>
<td>- Alfred / Pease / Anderson Sts.</td>
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<tr>
<td>- Ray Jones Drive.</td>
<td></td>
</tr>
<tr>
<td>- Cairns Western Arterial Road.</td>
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</tr>
<tr>
<td>- Implement low-key advisory measures on quiet linking streets to formalise as cycle routes e.g. Mann St / Minnie St link; Spence St/ Little Spence St link (joins to Bungalow via footbridge at McCoombe St). These will provide important parallel corridors for cycling, as alternatives to busy roads with higher traffic volumes and speeds.</td>
<td></td>
</tr>
<tr>
<td>- Extend the popular Tanks/ Botanic Gardens cycle route through Edge Hill and Whitfield, with new and renewal works via Collins Ave, Woodward St, McManus St and Pease St.</td>
<td></td>
</tr>
</tbody>
</table>
A selection of route proposals is illustrated below.

Mulgrave Rd – Integrate Principal Cycle Routes (TMR) with CBD ‘connectors’ on the Council road network

Aumuller St - Shoulder sealing required for continuity of on-road bikeways approaching Gatton St

Lily Creek – Major upgrade to create enhanced off-road path system for recreational walking and cycling through the inner city

Tanks / Botanic Gardens Bikeway – Extend the popular cycle route through Edge Hill and Whitfield

Examples of new off-road path projects to support the ‘walkable neighbourhoods’ concept:

Greenslopes St, Edge Hill

Beatrice St, Mooroobool

Jensen St, Whitfield

Balaclava Rd, Mooroobool
4.2.4. Redlynch Valley and Surrounds

<table>
<thead>
<tr>
<th>Planning Areas</th>
<th>Redlynch Valley</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aeroglen</td>
<td>Freshwater – Stratford - Aeroglen</td>
</tr>
</tbody>
</table>

- **CBD-Aeroglen Bikeway** is a current project expected for completion by 2011. This $6.1M dedicated bikeway will connect Aeroglen (general aviation area) to the Cairns CBD over a 6.5km distance. This joint initiative of Council and the State Government is the first project to be delivered under the PCNP-FNQ.

- Establish on-road exclusive bike lanes via Airport Ave with targeted shoulder widening to provide cycle access to the airport terminal and mangrove boardwalk. This will support the CBD-Aeroglen Bikeway.

**Brinsmead - Freshwater - Stratford**

- To create a more walkable community for the Freshwater / Stratford area, pathway construction and upgrades are proposed along Kamerunga Rd / Stratford Connection Rd / Aeroglen Dr. This will provide improved local access and connectivity with existing paths approaching Whitfield Range Environmental Park in Aeroglen (and linking to the Cairns North path network).

- New paths will require crossing points across the Captain Cook Highway at Whitfield Street and Aeroglen Drive. This project requires a full planning and engineering assessment.

- Targeted infill path development proposed in the Freshwater Primary School precinct for improved safety and off-road path continuity including Lavis Rd, Corkill St, Old Smithfield Rd and Stratford Connection Rd.

- Northern connection to recreational paths at Aeroglen (Whitfield Range Environmental Park).

**Redlynch Valley**

- Provide on-road bicycle lanes and off-road facilities (missing sections) on Brinsmead-Kamerunga Road for full local access and continuity between Redlynch, Freshwater and the existing shared paths alongside the Cairns Western Arterial Road.

- Widen road shoulders on Redlynch Intake Road between Mary Parker Drive and Jungara Road to provide a separate road space for pedestrians, cyclists and other non-motorised travel. Road widening with additional warning signage, pavement markings and barrier delineation will improve accessibility and safety for travel to / from Redlynch Primary School and St Andrews Catholic College. Improvements for on-road cycling to Crystal Cascades are a long range objective, due to significant spatial and other constrained via this corridor.

- Freshwater Creek Recreational Corridor - Establish a shared recreational path for cyclists and pedestrians meandering along the western bank of Freshwater Creek and disused cane rail easements through the Redlynch Valley. Establish public access points at Brinsmead, Shaws, Jungara and The Rocks Roads, Mary Parker Drive, Rice’s Gully and Jenkins Access Road. Address path solution as part of a landscape master plan for the creek corridor to reflect the significance of this precinct and to ensure design is fully informed by environmental, planning, tenure, engineering and CPTED investigations, in consultation with landowners and local residents.

- Establish an off-road path linking the Redlynch Valley (at Redlynch Intake Road) and connect to Goomboora Park at Brinsmead, via a footbridge over Freshwater Creek. This will provide an important connection for pedestrians and cyclists between the two communities, with a particular emphasis on recreation and school access. It should be integrated with other recreation routes proposed for the Freshwater Creek corridor. This route requires full environmental, planning, tenure, engineering and CPTED investigation in consultation with landowners and local residents.

- Provide full off-road connectivity across Cairns Western Arterial Road between Redlynch and Kamerunga to improve safety and access, particularly for children travelling to the Lutheran Private School. Options include a grade-separated crossing between Fairweather Road (east) and Fairweather Road (west) (desired line but requires full engineering solution) or establishing a path on Brinsmead Kamerunga Road connecting Redlynch Intake Road to the existing path on the eastern side of the highway.

- Create more ‘walkable neighbourhoods’ with new path construction proposed for Redlynch Intake Road, Michaelangelo Drive, Kamala Street (with future residential development), Daphne, Harley, Cowley and Majestic Streets.

- Kamerunga pedestrian bridge upgrade and the provision of Exclusive Bicycle Lanes on Lake Placid Road to provide a safe Barron River crossing point and on-road continuity for cyclists.

- Establish an off-road path along Stoney Creek Road, Kamerunga, to service the local residential catchment – full engineering solution required due to the major constraints along this route.

*A selection of route proposals is illustrated below.*
Airport Drive – Formalise road shoulders as exclusive bicycle lanes

Redlynch Intake Rd – Provide additional space for pedestrians and cyclists to service the Redlynch community, and improved access to Crystal Cascades as a long term objective.

Kamerunga Rd, Freshwater – Off road path improvements

Deviation Rd, Redlynch – Road shoulders adequate for commuter cycling
4.2.5. Southern Corridor Communities

<table>
<thead>
<tr>
<th>PLANNING AREA</th>
<th>WHITE ROCK - EDMONTON</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bruce Highway Corridor</strong></td>
<td></td>
</tr>
<tr>
<td>• Bruce Highway Upgrade Project – Provision of cycle and pedestrian facilities proposed as part of this State project is likely to be beyond the life of this Strategy (refer to Section 4.2.8).</td>
<td></td>
</tr>
<tr>
<td>• In the meantime, Council should advance targeted path construction within the highway corridor (western side) with TMR assistance to provide full off-road continuity, between:</td>
<td></td>
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<tr>
<td>o Woree (Anderson Rd – Forest Gardens Boulevard);</td>
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<tr>
<td>o Bentley Park (Supply Rd – north of Robert Rd); and</td>
<td></td>
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<tr>
<td>o Edmonton (Petersen Rd – north).</td>
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</tr>
<tr>
<td><strong>North-South Connector</strong></td>
<td></td>
</tr>
<tr>
<td>• Southern Corridor communities will benefit from progressive implementation of a ‘North-South Connector’ comprising off-road paths and on-road bikeways utilising suburban road network and park-based links.</td>
<td></td>
</tr>
<tr>
<td>• It will facilitate full route continuity for cycle and pedestrian movement from Woree to Edmonton, and provide an alternative to the highway corridor for suburban trips.</td>
<td></td>
</tr>
<tr>
<td>• As sections of the North-South Connector are already in place, the strategy will target missing links via Windarra, Currawong and Sawpit Streets, Forest Gardens Boulevard, Foster, Hardy and Bicentennial Roads, and Ravizza Drive.</td>
<td></td>
</tr>
<tr>
<td><strong>Walkable Neighbourhoods</strong></td>
<td></td>
</tr>
<tr>
<td>• Targeted construction of new and upgraded paths in Southern Corridor communities, to minimise network gaps and create more ‘walkable neighbourhoods’.</td>
<td></td>
</tr>
<tr>
<td><strong>Edmonton Town Centre and Surrounds</strong></td>
<td></td>
</tr>
<tr>
<td>• Improve pedestrian and cycle access within the Edmonton Town Centre and surrounding residential area, by:</td>
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</tr>
<tr>
<td>o Creating more space and legibility for cyclists within the Mill Road corridor and at the Bruce Highway intersection.</td>
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<tr>
<td>o New path links and crossing points – Mill, Petersen and Mount Peter Roads.</td>
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<tr>
<td>o Improved path access and continuity in the vicinity of Isabella and Hambledon State Schools.</td>
<td></td>
</tr>
<tr>
<td>o Strengthening north-south connections for walking and cycling between Edmonton and Bentley Park.</td>
<td></td>
</tr>
<tr>
<td><strong>Other Initiatives</strong></td>
<td></td>
</tr>
<tr>
<td>• New and upgraded on-road cycle routes via major collector roads for inter-suburban connections, linking to highway access points and crossings.</td>
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<tr>
<td>• East of the highway, key recommendations for White Rock are to improve local network connectivity:</td>
<td></td>
</tr>
<tr>
<td>o New off-road path construction for Progress Rd, Skull Rd, Kowinka St, Kambara St and Cavalcade Street Park.</td>
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</tr>
<tr>
<td>o Strengthen pedestrian and bicycle access to highway crossing points e.g. Anderson and Progress Roads.</td>
<td></td>
</tr>
<tr>
<td><strong>Mount Peter Master Planned Area</strong></td>
<td></td>
</tr>
<tr>
<td>• Secure a high standard of connectivity between Mount Peter and the broader walk and cycle network to meet future demand from a community of up to 50,000 new residents (30+ years).</td>
<td></td>
</tr>
<tr>
<td>• Strategic inter-community links will be required for cycle commuting from Mount Peter to:</td>
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<tr>
<td>o Edmonton.</td>
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<tr>
<td>o Gordonvale; and</td>
<td></td>
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<tr>
<td>o Cairns CBD.</td>
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<tr>
<td>• The current ‘Mount Peter Master Planning Project’ offers an exciting opportunity to identify specific infrastructure requirements, and establish a high quality walking and cycling environment for this community.</td>
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</tr>
<tr>
<td>• Long range planning for the ‘Bruce Highway Upgrade Project’ will further support pedestrian and cycle movement to the Mount Peter Area.</td>
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</tbody>
</table>

A selection of route proposals is illustrated below.
Bruce Highway Service Rd, Woree – Missing link requires new off-road path

Bruce Highway – New off-road path needed: Forest Gardens to Anderson Rd (requires full engineering solution adjacent to cane rail line)

Currawong St, Mount Sheridan – Part of the ‘North-South Connector’

Robert Rd, Bentley Park – Extension of on-road bikeways for inter-suburban cycling

Cavalcade St, White Rock – Complete path around Khala Park

Timberlea Dr, Edmonton – Target local pathway gaps in school zone

Petersen Rd, Edmonton – Off and on-road facilities proposed for local access and strategic connection to Mount Peter

Mt Peter Rd, Edmonton – New path construction to create more walkable neighbourhood
4.2.6. Gordonvale and Southern Villages

<table>
<thead>
<tr>
<th>PLANNING AREAS</th>
<th>GORDONVALE - GOLDSBOROUGH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gordonvale – Goldsborough</td>
<td>RURAL TOWNS AND VILLAGES</td>
</tr>
</tbody>
</table>

- Create a continuous ‘town loop’ system for enhanced cycle access around Gordonvale, utilising existing and new on-road bikeways via Cairns Rd, George St, Riverstone Rd, Dempsey St and Draper Rd.
- Improve measures for pedestrian and cycle access via Cairns Rd, as the primary access route into Gordonvale from the Bruce Highway.
- Create a recreational path circuit around Norman Park in Gordonvale town centre, incorporating existing and new path sections, linking to picnic and play nodes.
- Carry out targeted off-road path construction to address missing links and network extensions, including:
  - Improvements in school zones and sports facility precinct - Cairns Rd, Clarke St, George St, Mill St.
  - Northern side of rail line – path connections to local activity nodes via Highleigh Rd and Maher Rd (Gordonvale Hospital, Johnson Park, Djarragun College).
  - Short sections of path construction where gaps exist in residential growth areas e.g. Jacob Cl, Wiltshire Dr.
- Investigate strategic connections for pedestrian/cycle access timed with future development:
  - School zone (Sheppards St) to western Gordonvale.
  - Gordonvale to Mt Peter.
- Safety improvements for highway cycling between Gordonvale and Edmonton to be delivered through PCNP-FNQ roll out and other upgrade works (TMR).

Rural Towns and Villages

- Ongoing maintenance of existing off-road paths in Babinda, Miriwinin and Aloomba (school and main street focus).
- Babinda and Miriwinin:
  - Short sections of path construction to improve local network continuity.
  - Formalise on-road cycling conditions through main street precincts.
- Implementation of Principal Cycle Routes and Iconic Recreation Routes through southern villages with PCNP-FNQ roll-out and other road upgrade works (TMR).

A selection of route proposals is illustrated below.
4.2.7. Principal Cycle Network Plan for FNQ – Link Concept Designs

As noted in Section 2.2.2 of the Part A Report, three link concept designs have been prepared by TMR for the Cairns Region as part of the PCNP-FNQ:

- Mossman to Port Douglas (whole route).
- Ellis Beach to Palm Cove (first stage of the Palm Cove – Port Douglas route).
- Smithfield to Palm Cove (via the beaches – whole route).

TMR note that PCNP-FNQ link concept designs represent the first step in advancing to detailed investigations and design prior to funding and construction. In the process, the alignment shown on the concepts may change to align better with current local planning and outcomes of consultation and corridor investigations.

Council will have an important role to play in the detailed design process, by providing local input and knowledge, and encouraging local network integration.

4.2.8. Integration with Major Transport Projects

In preparing this study, a review was undertaken of strategic projects planned for the Cairns Region, both Council and State (see Part A Report, Section 5.3). This sought to identify opportunities for integration of walk and cycle facilities with other planning or infrastructure projects.
The State Government, through TMR, is undertaking two major transport studies of special significance:

- Bruce Highway Upgrade Project; and
- Cairns Transit Network Project.

**Bruce Highway Upgrade Project**

The Bruce Highway Upgrade Project has involved a detailed study of options to provide a long term multi-modal transport corridor between Wrights Creek (south of Edmonton) to Draper Street in the city.

The scale of the project is significant, and options for upgrading the highway include provision of cycle and pedestrian access, a high speed cycleway, a realigned rail corridor and a series of upgraded interchanges for vehicles.

A review of the options which were released for public display in late 2009 indicates the provision of a two way high speed cycle path on the eastern side of the highway. Advice from TMR indicates that as yet, there is no timeframe of upgrading the highway.

On this basis, it would be expected to be delivered over a 15-20 year period. Given the anticipated long range timeframe of this highway project, it is recommended that off-road paths be included in Council’s Network Implementation Plan to address critical network gaps within the life of this Strategy.

**Cairns Transit Network Project**

TMR’s Final Concept Design Report for the Cairns Transit Network Project was released in July 2010.

The project includes three dedicated public transport corridors servicing the area from Palm Cove to Gordonvale, and the neighbourhoods in between:

- Northern Corridor – Linking Cairns CBD and Palm Cove via Smithfield (29km)
- Southern Corridor – Linking Cairns CBD and Gordonvale via Earlville and Edmonton (25km)
- Western Corridor – A link between Cairns Base Hospital and Smithfield via Redlynch (16km).
The southern corridor of the transit network has been incorporated into the Bruce Highway Upgrade Project. The transit network includes 59 passenger stations, including converting Lake Street into a bus only transit mall.

Current planning places emphasis on delivering quality pedestrian and cycle access to the 59 passenger stations.

Implementation of the transit corridors will be staged and delivered as funding becomes available. Given this uncertainty, transit network corridors have been identified as “Strategic Investigation Routes” by this Cycling & Walking Strategy.

GIS Mapping Overlay

The GIS mapping tool developed for this study will enable Council to visually monitor potential impacts of strategic projects on the proposed walk and cycle network, and respond to any changes in delivery timing and/or network integration opportunities.
5. **PEDESTRIAN AND CYCLE FACILITY TREATMENTS**

5.1. **Reference Design Guidelines**

The updated Cycling & Walking Strategy does not intend to establish ‘new’ design guidelines for the Cairns Region. Instead, it recognises that an increasing number of National and State guidelines already exist, which provide direction to local government on standards for pedestrian and bicycle infrastructure.

Major reference design guidelines include:

- NSW Bicycle Guidelines, 2005 (now adopted by TMR for application in Queensland)
- Traffic and Road Use Management Manual – Bicycle Awareness Zones (July 2009)

On this basis, preparation of 20 year works program (i.e. Network Implementation Plan) for the Cairns Region, provides a funding guide for Council and is based on various facility treatment options for costing purposes.

Details of the treatments adopted are described below and illustrated in Appendix D (including width requirements) – these are consistent with existing published guidelines, however reference to Austroads and other abovementioned documents will be required at detail design phase, when more site specific information would be available.

Facility treatments have been streamlined into an ‘Off Road’ Series and ‘On Road’ Series. Furthermore, for the purposes of the Network Implementation Plan each treatment was provided with a user friendly reference code.

5.1.1. **Off-Road Series**

The Off-Road Series comprises three core forms of facility which are a distillation of various treatments included in the national and state guidelines, and are used locally in the Cairns Region:

- Shared Path (SP)
- Path Upgrade (UP)
- Separated Pedestrian / Bicycle Paths (SEP)

Council’s current policy position is that every off-road path in the Cairns Region is to be of sufficient width for shared use and safe operation by pedestrians and cyclists. Accordingly, the minimum width for all paths is 2.0m.

Accordingly, works proposed in this Strategy Review reflect Council’s current policy. The Network Implementation Plan has allowed for paths to have a minimum width of 2.0m, together with
required signage and line marking advising users that the path is a shared facility. Existing path width was only proposed in ‘retrofit’ locations where a missing link of less than 200m was identified i.e. to allow for width continuity over a short distance.

<table>
<thead>
<tr>
<th>Facility Type</th>
<th>Facility Code</th>
<th>Example (Indicative Only)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Shared Path</strong></td>
<td><strong>SP</strong></td>
<td>Example – Gordonvale</td>
</tr>
<tr>
<td>Wide off-road path provided for the shared use by cyclists, pedestrians, wheeled recreational devices (WRD’s) including skateboards, roller skates, and rollerblades, as well as micro-electrics and wheelchairs.</td>
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<tr>
<td>Signs, lines and pavement symbols can be used on busy shared paths to reinforce shared use etiquette or minimise conflict potential.</td>
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<tr>
<td>Concrete construction preferred.</td>
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</tr>
<tr>
<td>Council design guidelines nominate 2.0m as the absolute minimum width of a shared path. The FNQ Design Manual allows for Council discretion in highly constrained situations, to determine if reduced width is acceptable.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increased widths should be implemented in high use activity zones e.g. major recreation/tourism paths. Details of path width ranges and application are presented in Appendix D.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| **Path Upgrade** | **UP** | As above (Gordonvale example) |
| Widening or reconstruction of an existing narrow footpath to provide a shared facility. |

| **Separated Path(s)** | **SEP** | Example – Brisbane |
| One side of the path is for cyclists, WRDs and micro-electrics, the other is for pedestrians. Wheelchairs may be on either side. |
| Path may have separate designated areas, or comprise 2 physically separated paths. Regulatory signage required. |
5.1.2. **On-Road Series**

The On-Road Series comprises four core forms of facility which are a distillation of various treatments included in the national and state guidelines:

- Exclusive Bicycle Lane (EBL)
- Shared Bicycle & Parking Lane (SBPL)
- Copenhagen Style Bike Lane (COP)
- Advisory Treatment (AT)

Although there are many factors which will influence the nature of on-road facilities (e.g. design speed, patronage, functional classification, parking demand etc), fundamentally, all on-road treatments are variations of these four forms.

<table>
<thead>
<tr>
<th>Facility Type</th>
<th>Facility Code</th>
<th>Example (Indicative Only)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exclusive Bicycle Lane</td>
<td>EBL</td>
<td>Example - Collins Ave, Edge Hill</td>
</tr>
<tr>
<td><strong>Standard Treatment</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Formally defined kerbside lane for dedicated use by cyclists, with full edge line marking, white pavement symbols and regulatory signage. Motorists may only enter this lane to park, enter or exit a property, or turn left. Motorists must give way to cyclists in these lanes. Parking in / over bike lane not permitted.</td>
<td></td>
<td>Example – Mulgrave Rd, Parramatta Park</td>
</tr>
<tr>
<td><strong>Coloured Lane Treatment</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Green pavement treatments may be considered for bike lanes in order to minimise conflict between cyclists and motor vehicles, particularly on State Controlled Roads, multi-lane roundabouts and where vehicles turn across the path of cyclists at major intersections. The coloured material used should be skid resistant, so it can be safely negotiated by cyclists when slowing or cornering. Due to high implementation and maintenance costs, consideration should be given to treating only specific sections of the bike lane e.g. approach to major intersections. The 'NSW Bicycle Guidelines' recommend limiting application of coloured treatments to critical locations to increase delineation, and provides a useful reference when considering use of this type of treatment. Extensive application of coloured lanes is not recommended in Cairns.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Facility Type</td>
<td>Facility Code</td>
<td>Example (Indicative Only)</td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>---------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Shared Bicycle / Parking Lane (Parallel)</strong></td>
<td>SBPL</td>
<td>This treatment is applied where kerbside parking is a permanent allocation of the road space (and is not used as a traffic lane during peak demand). The SBPL treatment comprises shared kerbside lane, with formally designated bike lane and adjacent parallel on-street parking space. Facility formally defined with edge lines, white bicycle symbols and regulatory signage. Facility to be of adequate width to cater for parked vehicle, bicycle design envelope and open car door. No loss of car parking.</td>
</tr>
<tr>
<td><strong>Shared Bicycle / Parking Lane (Angled)</strong></td>
<td></td>
<td>Shared kerbside lane, comprising formally designated bike lane and adjacent angled on-street parking space. Facility formally defined with edge lines, white bicycle symbols and signage.</td>
</tr>
<tr>
<td><strong>Copenhagen Style Bicycle Lane</strong></td>
<td>COP</td>
<td>Bicycle lane on the road that is physically separated from other road users e.g. median, island, barrier. Bike lane runs alongside the footpath, with cars parking on the outside of the bike lane, closest to the road. This style of bike lane has been used successfully in Europe. The first bike lanes of this type were constructed in Copenhagen in Denmark. Copenhagen Bicycle Lanes will be implemented by Council for the CBD-Aeroglen Bikeway Project.</td>
</tr>
</tbody>
</table>

Example – Brisbane

Example – McLeod St, Cairns CBD

Example – CBD to Aeroglen Bikeway (artist’s impression)

Example - Melbourne
Advisory Treatments (AustRoads and Bicycle Awareness Zones)

Implementation of full bicycle lanes is the preferred on-road facility treatment in the Cairns Region. However, there are certain locations where constraints exist and the ability to implement bicycle lanes is not possible without significant cost due to changes to lane widths, road widening, service relocation, removal of kerbside parking and/or land resumption. In these locations, use of an Advisory Treatment should be considered as interim bikeway measure, particularly on routes with high cycling demand.

As stated in TMR’s ‘Traffic and Road Use Management’ (TRUM) Note 1.39 (July 2009), in Queensland there are two different approaches to implementing Advisory Treatments:

- those listed in AustRoads; and
- the Bicycle Awareness Zone (BAZ) being implemented in other parts of Queensland.

The Advisory Treatment options listed in AustRoads include using:

- Wide kerbside lanes (3.7m min, where parking demand is minimal, and 10m-12m carriageway where parking demand is high). Signs and pavement logos are located at 200m intervals;
- Wide kerbside parking lanes defined by edge lines (3.3m – 3.7m parking lane width); and
- Advisory signage only.

The BAZ is a form of Advisory Treatment which can be applied where there is insufficient road width available to form a dedicated cycle lane. The BAZ is distinguished by a yellow bicycle pavement logo (typically used for advisory markings) located over a white edge line. The BAZ aims to increase awareness amongst motorists of the need to safely share the road space, recognising that cyclists are permitted to use any road in Queensland unless specifically signed otherwise.

Four forms of Advisory Treatment (AT) have been recommended in the Network Implementation Plan for this Strategy Review:

- AT Type 1 - Parking Lane BAZ (Centre)
- AT Type 2 - Wide Kerbside Lane BAZ (Logo and Sign only)
- AT Type 3 - Parking Lane BAZ (Left)
- AT Type 4 - Advisory Signage

While AustRoads suggests Advisory Treatments can be used on roads where the average annual daily traffic (AADT) volume is greater than 3,000v/d, particularly where a high standard path is not possible for commuting cyclists, the TMR TRUM Note 1.39 stipulates that a BAZ treatment should...
only be implemented where the AADT volume is less than 3,000v/d, which generally reflects roads with a speed environment of 50km/h or less. It is noted that BAZ treatments have been implemented extensively in South East Queensland, including many on roads with an AADT > 3,000v/d, and some with AADT in excess of 10,000 v/d.

For this Strategy Review, the Network Implementation Plan includes the provision of Advisory Treatments on links where significant constraints were identified, and which did not allow the implementation of a dedicated cycle lane, and where the AADT was equal to or below 3,000v/d.

In constrained locations where the AADT exceeded 3,000v/d but was below 5,000 v/d, and the speed limit was 60km/h or less, an Advisory Treatment was proposed as an interim measure and should be subject to more detailed investigation. In these cases, it is desirable for a full bike lane to be achieved in future, where it can be delivered was part of a road upgrade/ maintenance project or if funding becomes available. Where the daily traffic volumes were in excess of 5,000 v/d, this Strategy has recommended a full bicycle lane as the preferred treatment, however, it is acknowledged that more detailed investigation will be needed to quantify road modifications, costs and timing.

<table>
<thead>
<tr>
<th>Facility Type</th>
<th>Facility Code</th>
<th>Example (Indicative Only)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ON-ROAD SERIES</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AT Type 1: Parking Lane BAZ (Centre)</td>
<td>AT 1 (BAZ)</td>
<td>Example – Brisbane</td>
</tr>
<tr>
<td>Bicycle symbols typically positioned at the centre or left of the white edge line at regular intervals</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Where space exists, the BAZ caters for bicycle movement and on-street parking demand.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>This form of treatment is locations where the available road width is less than 12m and kerbside parking exists.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| AT Type 2: Wide Kerbside Lane (logo and sign only) | AT 2 | Example – Brisbane |
| Lower use situations where expected location of cycle traffic is in an ordinary traffic lane. Bicycle pavement symbols typically located towards the left hand side of the lane, or in the middle of the lane where space is restricted for road cyclists. | | |
| Symbols only typically positioned at regular intervals. No edge lines. | | |
| This form of treatment is for locations where there is a wide lane without parking and the traffic lane is at least 3.7m wide (with minimal parking demand), increasing to 5m minimum where high parking demand exists. | | |
| The design requirements reflect Austroads requirements. | | |
### Facility Type

#### AT Type 3: Parking Lane BAZ (Logo Left)

Used in constrained locations where wide existing parking lane allows application of bicycle pavement symbols to be positioned to the left of the white edge line.

This form of treatment is used in locations where the available road width is more than 12m and kerbside parking exists.

The design requirements reflect Austroads requirements.

#### AT Type 4: Advisory Signage

Advisory treatment informing road users of the potential presence of cyclists using the route.

No special improvements provided apart from route signage to formalise route for on-street cycling. May include directional arrows/destination information on popular tourist/recreation routes.

Suitable in local streets carrying low traffic volumes (<3,000 vpd).

<table>
<thead>
<tr>
<th>Facility Code</th>
<th>Example (Indicative Only)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AT 3</td>
<td>Example - Balaclava St, Mooroobool</td>
</tr>
<tr>
<td>AT 4</td>
<td>(Signs)</td>
</tr>
</tbody>
</table>

### 5.2. Construction Unit Costs

To prepare the Network Implementation Plan, construction costs on a per metre basis were determined for each of the off-road and on-road facility treatments recommended for this review. Unit rates were calculated using data supplied by Cairns Regional Council. These are summarised in the table below, including a comparison between 2009 and 2003 rates (as used in CPMCTS 2004) to demonstrate the significant increases which have occurred over the last six years. It is noted that a flat rate was adopted.

#### Table 5.1 – Unit Construction Cost for Pedestrian and Cycle Facility Treatments (Off Road)

<table>
<thead>
<tr>
<th>Treatment Description</th>
<th>Width</th>
<th>2009 Rate ($/m)</th>
<th>2003 Rate (CPMCTS)</th>
<th>Value Difference</th>
<th>Percentage Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shared Path (concrete)</td>
<td>2.0m</td>
<td>$213/m</td>
<td>$92/m</td>
<td>+ $121/m</td>
<td>+ 131%</td>
</tr>
<tr>
<td></td>
<td>2.5m</td>
<td>$266/m</td>
<td>$92/m</td>
<td>+ $174/m</td>
<td>+ 189%</td>
</tr>
<tr>
<td></td>
<td>3.0m</td>
<td>$319/m</td>
<td>$92/m</td>
<td>+ $227/m</td>
<td>+ 246%</td>
</tr>
<tr>
<td>Separated Bicycle &amp; Pedestrian Path</td>
<td>The cost is the sum of two concrete paths of varying width</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A detailed breakdown of unit rates used for on-road treatments is presented in Appendix E.
6. Desired Standards of Service for Pedestrian and Cycle Facilities

Building the facility design guidelines presented in Section 5, this chapter discusses the Desired Standards of Service (DSS) for the Region’s walk and cycle facilities.

Developing the DSS will be an important planning tool for paths and bikeways, to meet the needs of existing and future residents (and visitors). The DSS will also provide a benchmark of provision for the Region that can be used by Council to ensure infrastructure delivery is equitable across different communities and of a reasonable standard.

Defining a broad DSS for the walk and cycle network reflects Council’s desire to:

- Set an approach to planned provision, based on the goal of sufficient infrastructure supply and quality.
- Ensure that walk and cycle network development occurs in a consistent and appropriate manner across the entire Region.
- Strengthen the nexus between route hierarchy classifications and the type of infrastructure provided 'on the ground'.

A preliminary DSS framework has been developed for the Cairns Region with regard to the differing access needs, conditions and opportunities of various ‘Settings’ in the Region. The main ‘Settings’ are seen as:

- Cairns CBD;
- Cairns Urban;
- Townships: Mossman, Port Douglas, Gordonvale;
- Villages: Babinda, Cooya Beach, Newell Beach, Wonga Beach, Cow Bay; and
- Other Smaller Communities.

Table 6.1 provides a summary of the infrastructure outcomes considered as the preferred DSS for the three main elements in the network hierarchy:

- Principal Routes on State Controlled Roads;
- District Routes; and
- Neighbourhood Routes.

It is noted that:

- The ‘Recreation, ‘Northern Beaches’ and ‘Esplanade’ route categories have not been included in the DSS table, in recognition of their special nature, function, location and
potential to attract external funding as ‘signature projects’. It is likely that infrastructure standards for these elements would be determined separately from the rest of the network.

- The DSS for on-road bikeways proposed within State Controlled Roads should be determined through liaison with TMR. Suggested standards are presented in Table 6.1, guided by Austroads and other technical references/policies.

Key considerations in formulating the DSS framework were:

- Existing network standards and performance in the Cairns Region.
- Suitability of proposed standards considering local conditions and land uses served by different Route categories.
- Setting realistic targets that can be achieved within existing funding thresholds.
- Trip needs of different walking and cycling user groups in the Cairns Region.
- Advice from Council officers.
- Acceptable standards from the community’s perspective.

Finally, the information in the DSS table should be considered as a preliminary summary only. It is recommended that Council develop the model further, informed by:

- Current or future planning and design guidelines identified in the Planning Scheme, design manuals and other adopted documents.
- Road network and hierarchy information.
- Traffic data e.g. volumes, speed.

This will also allow for more specific DSS criteria to be developed, monitored and refined over time, such as:

- Design factors e.g. pavement material, lighting, signage, wayfinding.
- Measures of service provision e.g. calculations of on-road/ off-road facility length per capita to provide a useful measure of how Cairns compares to other regions.
### Table 6.1 – Desired Standard of Service for the Cairns Region Walk & Cycle Network

<table>
<thead>
<tr>
<th>Setting</th>
<th>Route Category</th>
<th>Treatment</th>
<th>Off-Road</th>
<th>On-Road</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cairns CBD</td>
<td>Principal Route on State Controlled Route (SCR)</td>
<td>Continuous off-road path on one (minimum) or both sides (desirable) of road.</td>
<td>On-road facilities to be determined on a case by case basis by the State in accordance with TMR’s Cycling on SCR’s Policy (2004), PCNP-FNQ and other relevant design guidelines.</td>
<td>High standard of treatment required e.g. Exclusive Bike Lane, Shared Bicycle Parking Lane, Copenhagen Lane, Green Paint Treatment (for high conflict zones).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>In high activity commercial and tourist zones – off-road path with separate on-road provision for cyclists to minimise conflict potential.</td>
<td>BAZ treatments not acceptable on State Controlled Roads.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Where Principal Route in CBD services a school or other major facility with high volumes of novice/ vulnerable users – Shared Path required.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Path widths to provide for:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>a) Shared use and safe operation – 2.0m (min).</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>b) Increased width clear of obstructions in busy commercial and tourist zones e.g. footpath dining, street furniture – 3.0m (desirable).</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Treatments in CBD to be consistent with the ‘Cairns CBD Streetscape Masterplan’.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>District Route</td>
<td>Continuous off-road path on one (minimum) or both sides (desirable) of road.</td>
<td>On-road facility on both sides of road:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>In high activity commercial zones – off-road path with separate on-road provision for cyclists to minimise conflict potential.</td>
<td>a) Exclusive Bike Lane or Shared Bicycle Parking Lane (recommended) / BAZ treatment (min) on lower order roads.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Where District Route in CBD services a school or other major facility with high volumes of novice/ vulnerable users – Shared Path required.</td>
<td>b) BAZ treatments acceptable on lower order roads with parallel or no parking demand as a more cost effective solution, if the facility provides a parallel link (to busy corridors) for CBD and/ or Esplanade access.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Path widths to provide for shared use and safe operation – 2.0m (min).</td>
<td>c) Green Paint Treatment recommended in high conflict zones.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Treatments in CBD to be consistent with the ‘Cairns CBD Streetscape Masterplan’.</td>
<td>BAZ treatment on District Route acceptable as an interim measure only. Regulatory bike lane preferred – provide higher standard of treatment as opportunity presents (e.g. with road upgrade, available funding).</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Neighbourhood Route</td>
<td>Continuous off-road path on one side of road.</td>
<td>Treatments in CBD to be consistent with the ‘Cairns CBD Streetscape Masterplan’.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Where Neighbourhood Route in CBD services a school – Shared Path required.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Path widths to provide for shared use and safe operation – 2.0m (min).</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Treatments in CBD to be consistent with the ‘Cairns CBD Streetscape Masterplan’.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Setting</td>
<td>Route Category</td>
<td>Treatment</td>
<td>Off-Road</td>
<td>On-Road</td>
</tr>
<tr>
<td>--------------</td>
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<td>---------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| Cairns Urban | Principal Route on SCR | - Continuous off-road path on one (minimum) or both sides (desirable) of road.  
                   - Highway corridors and arterial roads in urban areas – continuous off-road path one side of road.  
                   - Where Principal Route services a school or other major facility with high volumes of novice/ vulnerable users – Shared Path required.  
                   - Path widths to provide for shared use and safe operation – 2.0m (min). | - On-road facilities to be determined on a case by case basis by the State in accordance with TMR’s Cycling on SCR’s Policy (2004), PCNP-FNQ and other relevant design guidelines.  
                   - High standard of treatment required e.g. Exclusive Bike Lane, Shared Bicycle Parking Lane, Copenhagen Lane, Green Paint Treatment (for high conflict zones).  
                   - BAZ treatments not acceptable on State Controlled Roads. |                                                                     |
|              | District Route  | - Continuous off-road path on one side of road.  
                   - Where District Route services a school or other major destination with high volumes of novice/ vulnerable users – Shared Path required.  
                   - Path widths to provide for shared use and safe operation – 2.0m (min). | - On-road facility on both sides of road:  
                   a) Exclusive Bike Lane or Shared Bicycle Parking Lane (recommended) / BAZ treatment (min) on lower order roads.  
                   b) Green Paint Treatment recommended in high conflict zones.  
                   - BAZ treatment on District Route acceptable as an interim measure only.  
                   Regulatory bike lane preferred – provide higher standard of treatment as opportunity presents (e.g. with road upgrade, available funding). |                                                                     |
|              | Neighbourhood Route | - Where Neighbourhood Route services a school – Shared Path on one side of the road.  
                   - Other off-road path requirements should be determined on a case-by-case basis, subject to local land uses and potential demand e.g. major employment node.  
                   - Path widths to provide for shared use and safe operation – 2.0m (min). | - On-road facilities to be provided on a case by case basis, subject to land uses served on-route.  
                   - BAZ treatment acceptable on lower order roads. |                                                                     |
| Townships    | Principal Route on SCR | - Main Street / Town Centre:  
                   a) Adjacent to retail frontage - Off-road path on both sides of road.  
                   b) In high activity zones – Exclusive Pedestrian Paths with separate on-road provision for cyclists to minimise conflict potential (desirable).  
                   - Other Locations (within Urban Footprint) - Continuous off-road path on one side of primary town access road.  
                   - Path widths to provide for shared use and safe operation – 2.0m (min). | - Within Urban Footprint:  
                   a) Full on-road facility on both sides of main street / primary town access road e.g. Exclusive Bike Lane, Shared Bicycle Parking Lane.  
                   b) BAZ treatments not acceptable on State Controlled Roads.  
                   - Outside Urban Footprint and Inter-Community Links:  
                   a) As opportunity presents in accordance with TMR’s Cycling on SCR’s Policy (2004), PCNP-FNQ and other relevant design guidelines. |                                                                     |
| Mossman      | District Route   | - Off-road path on one side of road.  
                   - Where District Route services a school – Shared Path required.  
                   - Path widths to provide for shared use and safe operation – 2.0m (min). | - On-road facility on both sides of road:  
                   a) BAZ treatment (min); or  
                   b) Higher standard of treatment subject to traffic volumes or if in a high conflict zone e.g. regulatory bike lane (desirable). |                                                                     |
<p>| Port Douglas  |                |                                                                         |                                                                         |                                                                         |
| Gordonvale   |                |                                                                         |                                                                         |                                                                         |</p>
<table>
<thead>
<tr>
<th>Setting</th>
<th>Route Category</th>
<th>Treatment</th>
<th>Off-Road</th>
<th>On-Road</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Townships</strong></td>
<td></td>
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</tr>
<tr>
<td>(cont)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mossman</td>
<td></td>
<td></td>
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<tr>
<td>Port Douglas</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gordonvale</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neighbourhood Route</td>
<td></td>
<td>▪ Where Neighbourhood Route services a school – Shared Path desirable.</td>
<td>▪ Typically not provided.</td>
<td>▪ Basic on-road treatment (e.g. Bike Route Signage) may be suitable for Neighbourhood Routes in ‘Township’ settings which:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ Other off-road path requirements should be determined on a case-by-case basis, subject to local land uses and potential demand e.g. major employment node.</td>
<td>▪ Subject to local land uses and potential demand e.g. major employment node.</td>
<td>a) Utilise popular desire lines for cycling which deliver a recreation opportunity; or b) Form part of an important town circuit/loop.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ Path widths to provide for shared use and safe operation – 2.0m (min).</td>
<td>▪ On-road facility on both sides of main street/ primary village access road:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>▪ Path widths to provide for shared use and safe operation – 2.0m (min).</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>▪ As opportunity presents in accordance with TMR’s Cycling on SCR’s Policy (2004), PCNP-FNQ and other relevant design guidelines.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>▪ BAZ treatments not acceptable on State Controlled Roads.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Villages</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Babinda</td>
<td>Principal Route on SCR</td>
<td>▪ Not applicable.</td>
<td>▪ As opportunity presents in accordance with TMR’s Cycling on SCR’s Policy (2004), PCNP-FNQ and other relevant design guidelines.</td>
<td>▪ BAZ treatments not acceptable on State Controlled Roads.</td>
</tr>
<tr>
<td>Cooya Beach</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Newell Beach</td>
<td>District Route</td>
<td>▪ Off-road path on one side of main street/ primary village access road in built up areas.</td>
<td>▪ On-road facility on both sides of main street/ primary village access road:</td>
<td></td>
</tr>
<tr>
<td>Wonga Beach</td>
<td>Neighbourhood Route</td>
<td>▪ Off-road path connecting main street/ village centre to local school(s).</td>
<td>▪ Path widths to provide for shared use and safe operation – 2.0m (min).</td>
<td></td>
</tr>
<tr>
<td>Cow Bay</td>
<td></td>
<td>▪ Other off-road path requirements should be determined on a case-by-case basis, subject to local land uses and potential demand e.g. major employment node.</td>
<td>▪ Subject to local land uses and potential demand e.g. major employment node.</td>
<td>a) BAZ treatment (min); or b) Higher standard of treatment as opportunity presents e.g. regulatory bike lane (desirable); or c) Special treatment in high conflict / activity zone.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ Path widths to provide for shared use and safe operation – 2.0m (min).</td>
<td>▪ Not typically provided.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>▪ Basic on-road treatment (e.g. Bike Route Signage) may be suitable for Neighbourhood Routes in ‘Village’ settings which:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>▪ Subject to local land uses and potential demand e.g. major employment node.</td>
<td>a) Utilise popular esplanades in Beach Villages to deliver a recreation opportunity; or b) Form part of an important village circuit / loop.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>▪ As opportunity presents in accordance with TMR’s Cycling on SCR’s Policy (2004), PCNP-FNQ and other relevant design guidelines.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Other Smaller Communities</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Principal Route on SCR</td>
<td></td>
<td>▪ Off-road path connecting to local school.</td>
<td>▪ Not typically provided.</td>
<td>▪ As opportunity presents in accordance with TMR’s Cycling on SCR’s Policy (2004), PCNP-FNQ and other relevant design guidelines.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ Other off-road path requirements should be determined on a case-by-case basis, subject to local land uses and potential demand e.g. major employment node.</td>
<td>▪ Subject to local land uses and potential demand e.g. major employment node.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ Path widths to provide for shared use and safe operation – 2.0m (min).</td>
<td>▪ As opportunity presents in accordance with TMR’s Cycling on SCR’s Policy (2004), PCNP-FNQ and other relevant design guidelines.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>District Route</td>
<td>▪ As above.</td>
<td>▪ Not applicable.</td>
<td>▪ Not applicable.</td>
</tr>
<tr>
<td></td>
<td>Neighbourhood Route</td>
<td>▪ Not applicable.</td>
<td>▪ Not applicable.</td>
<td>▪ Not applicable.</td>
</tr>
</tbody>
</table>
7. NETWORK PRIORITISATION

7.1. Revised Route Prioritisation Framework

A key objective of this review was to prepare an updated Network Implementation Plan recommending priorities for Council’s funding allocation over the next 5 years, and provide guidance on improvements required for a further 15 years.

The prioritisation process is also underpinned by the aspirations of Council and the community, and importantly, the need for realistic and logical works sequencing within Council’s budgetary framework.

In simple terms, preparation a new Network Implementation Plan involved the following process:

- Determination of the most appropriate measure (i.e. facility treatment) for each section of the network, taking into consideration route function, location and ‘end user’ needs;
- Determination of indicative construction cost for each work item proposed; and
- Prioritisation of the works.

Establishing a priority framework for road-based infrastructure traditionally involves:

- Determination of criteria e.g. existing and future use, safety/crash history, constructability, ease of implementation etc;
- Determination of an assessment range applicable to each criterion; and
- Application of a weighting factor to calculate the overall ‘score’ for each section of pathway/bikeway.

While the approach traditionally adopted is robust, there are some limitations:

- There can be a disconnect between the prioritisation of isolated route sections and other objectives of forming a continuous network;
- The outcome could result in series of isolated route sections across the Region;
- Weighting of criteria tends to be subjective and can unintentionally skew towards places of higher population, higher density or around accident blackspots;
- Without existing network utilisation data for the Cairns Region, pedestrian and cycle demand is only indicative as such opportunities for latent demand may be overlooked;
- There is no consideration of differing streams of funding available to the Council or the announcement of new initiatives or signature projects (e.g. CBD to Aeroglen Bikeway); and
- The need for such a robust prioritisation becomes somewhat reduced when funding constraints limit the ability to implement the measures. (This has been the experience with Council where more detailed investigations highlighted significant cost impacts and consequently some of the proposed measures were not implemented).
7.1.1. **Key Considerations**

The background research presented in the Part A Report identified a range of broad strategic directions upon which the revised network plan has been based. Amongst others, these included:

- Provide for and go beyond a transport function;
- Incorporate active recreation and healthy living principles;
- Focus on safe and complete routes; and
- Continue to establish walking and cycling routes which capitalise on the Region’s tropical character, natural attractions and tourism appeal.

These helped shape the revised prioritisation framework for network improvements/ expansion up to 2030. Building on this, key considerations for route prioritisation have been:

- **Agency Responsibility:**
  - Council has a funding threshold. While the network was developed without consideration of agency responsibility, cycle works located on the State Controlled Roads or where recognised as a State funding responsibility, were not included as Council’s funding responsibility.
  - Therefore, Principal Cycle Routes on SCR’s (as recommended by the PCNP-FNQ) were generally not included in the Network Implementation Plan. The exceptions are short sections of pedestrian paths in SCR corridors and alternative scenarios for on-road bikeways in Port Douglas.

- **Safety:**
  - While crash data details were limited to location, severity and year (see Part A Report – Section 4.4), they did highlight critical routes to be investigated further to determine whether measures are required to address a safety issue.

- **Network Continuity and Connectivity:**
  - From the discussions with Council officers and stakeholder feedback, it is clear that walk and cycle network continuity is a highly desirable outcome. This was a significant issue in established communities and less of an issue in new residential areas where developers are required to address provisions for cyclists and pedestrians.
  - Measures which targeted completion of a missing link were considered to be of high priority.

- **Route Functionality (i.e. expected demand):**
  - While no utilisation data is available, the route functionality provides a guide as to the role of the route within the network. As such, the approach taken has been to prioritise recommend works sequentially based on the route functionality i.e. higher to lower order routes.

- **Cost Effective Measures:**
  - Priority was give to those locations where lower cost solutions could be implemented, whilst still achieving the Desired Standard of Service.
Emerging Communities:

- Walking and cycling infrastructure can be provided in emerging communities through the development process, thereby reducing the financial burden of Council. Therefore, route improvements in established communities were given a higher priority than emerging areas.

Other considerations included:

- The revised functional route hierarchy and their relationship with the various streams of funding available to Council to support network implementation; and
- The role of State Government in providing infrastructure within State Controlled Roads.

7.1.2. Funding Streams

The CPMCTS (2004) provided a detailed schedule of projects for the walk and cycle network. The network was based on a route hierarchy based on terminology similar to that applied when defining a functional road hierarchy – Trunk, District, Neighbourhood.

However, there was limited consideration of additional funding sources. The modified route hierarchy proposed by this review was designed to enable Council to better align with available internal funding sources, and to provide with more flexibility to respond to State or Federal government initiatives.

As such, the Network Implementation Plan has been structured into three funding streams:

- **Stream 1 - ‘Network Projects’**
  - This stream includes the Principal, District and Neighbourhood Routes for which Council has lead responsibility. The funding source for this stream would be from existing Council budget allocation.

- **Stream 2 - ‘Recreation Projects’**
  - This stream includes routes which have a major recreation focus and are generally located in parks or other public open space. The funding source for this stream would be from Council budget allocation (outside standard capital works), or integrated with other sport and recreation strategies where possible e.g. park master planning, external grants.

- **Stream 3 – ‘Signature Projects’**
  - This stream is for projects of special significance (e.g. sections of the Northern Beaches Route) which may be beyond the scope of typical funding by Council, and could be funded from other sources including developer contributions or State or Federal grants.

For funding of the Principal Cycle Network and other State Government projects:

- As noted previously, the State will establish its own route priorities for corridors under its control, however, Council may be able to influence the decision making process.
Where Council’s works program assigns State responsibility against a desired infrastructure solution, these are intended as suggested implementation measures subject to further planning and approval by TMR, in consultation with Council.

A funding arrangement for contributions to local government for elements of the PCNP-FNQ is not in place at the time of writing. In the short term, it is envisaged that funding will be sought on a case by case basis through various funding mechanisms and opportunities.

A continued cooperative approach between Council and State to deliver a safe and connected walk and cycle routes is recommended.

7.2. **Current Annual Budget**

7.2.1. **Cairns Regional Council**

It is understood that Council’s current budget allocation for provision of pedestrian and cycle facilities is approximately $700,000 per year. This funding comprises:

- $500,000 for ‘new’ works; and
- $200,000 for ‘renewal’ works.

In terms of definition:

- ‘New’ refers to works which require the construction of new infrastructure, whether a new concrete path or installation of a new regulatory sign.
- ‘Renewal’ refers to works which involve the replacement of existing infrastructure (e.g. repainting of faded line marking, replacement of traffic signs). It does not include situations where an existing walk/ cycle facility exists, but requires full reconstruction and/ or major road modification to achieve an upgraded facility.

Based on the current level of funding:

- There would be approximately $3.5M available over a 5 year period to 2015, a further $3.5M to 2020 and a further $7M to 2030.
- The notional rate of funding per capita is approximately $4.60/person (based on a current population of 152,000).

As outlined in Section 5.2, the 2009 construction rates for the ‘Off Road’ series reflect an increase of CPMCTS\(^5\) costs of between 50% to 200%, which is significant.

The 2009 unit costs for infrastructure treatments are as follows:

- Shared use path concrete path 2.0m wide: $213/m or **$277/m** if including 30% contingency.

---

\(^5\) Cost calculations for CPMCTS based on 2003 rates.
BAZ 1, 2 or 3 treatment, greater than 1,000m in length with signs in both directions and using existing line marking: $4.40/m (2003 rate was $3/m) or $5.26/m with 30% contingency.

BAZ 1, 2 or 3 treatment (less than 200m) with no signs just logos - $1.73/m or $3.74/m with 30% contingency.

Road widening of 1.5m to allow formalised on-road bicycle lane - $118/m or $154/m with 30% contingency.

What does this mean for a $500,000 annual budget?

The following three scenarios demonstrate the extent of treatment work (assuming all new) which could be completed when adopting the above construction rates, including the 30% contingency (order of magnitude costs):

**Scenario 1: Distributing funds evenly across 3 types of measures (i.e. $170K each)**

Under this scenario the extent of annual funding would be expected to deliver:

- 610m of 2.0m wide paths;
- 32km of BAZ treatment or on-road bike lane, width and edge line exists; and
- 1.12km of 1.5m on-road bike lane.

**Scenario 2: Only provide off-road paths**

Under this scenario the extent of annual funding would be expected to deliver:

- 2km of 2.0m wide paths = $554,000

**Scenario 3: Focus on providing treatment for cyclists**

- 1km of 2.0m wide paths  $277,000
- 13km of BAZ treatment or on-street bike lane, width and edge line exists  $ 70,000
- 1km of on-road cycle lane which involves road widening  $154,000

The above scenarios provide an indication of the capacity of the current budget allocation, and the need to seek alternate sources of funding where possible.

Acknowledging the budgetary constraints, separation of proposed works program into the three funding streams provides the opportunity for Council to group specific works, which could be eligible for additional funding from alternative sources.
Treatments categorised under the ‘Network Projects’ or ‘Recreational Projects’ funding stream are considered to be the typical works funded from annual budget allocations, with contributions sought from development through infrastructure charging schemes.

‘Signature Projects’ would be considered to fall outside the typical budget allocation of Council funding, given the special status of the route (e.g. supporting a tourism outcome) or specialised nature of infrastructure required.

### 7.2.2. Benchmarking Research

A simple benchmarking exercise was undertaken with five equivalent local government areas in Queensland, to compare funding levels for pedestrian and cycle infrastructure.

This sought to obtain information about:

1. Existing walk and cycle network coverage.
2. Current capital works budget for walk and cycle infrastructure.
3. Other funding sources or streams to support network development (Council and external).

Results are summarised in the following table.
### Table 7.1 – Benchmarking of Council Funding Levels

<table>
<thead>
<tr>
<th>Council Area</th>
<th>2009 Pop’n (Approx)</th>
<th>Total Network Length</th>
<th>Council Capital Works Budget (Annual Base)</th>
<th>Other Major Funding Sources</th>
</tr>
</thead>
</table>
| Rockhampton Region         | 112,000             | Unknown              | $200,000 *  
Notional funding rate per capita: $1.79/person *  
* Refers to off-road paths only |  
- Developer contributions.  
- No separate funding allocation for on-road bikeways – all on-road facilities funded under Council road improvement programs.  
- Council heavily reliant on State and Commonwealth funding assistance. |
| Mackay Region              | 113,000             | 278km (inc. off-road paths and bikeways)  
On-road facilities unknown | $835,000 *  
Notional funding rate per capita: $7.39/person *  
*Refers to off-road paths only |  
- Developer contributions.  
- Parks Department – some funding for paths through open space and recreation areas.  
- No separate funding allocation for on-road bikeway infrastructure – all on-road facilities funded under Council road programs:  
  - Trunk Roads;  
  - General Works; or  
  - Traffic & Road Safety.  
- State funding sources e.g. TIDS. |
| Gold Coast City            | 500,000             | 1,000km              | $3M (for shared off-road paths and on-road bikeways)  
Notional funding rate per capita: $6.00/person |  
- Developer contributions.  
- Separate maintenance budget - $100k-$200k p.a.  
- Councillor discretionary funds for pathway projects.  
- Parks Department – off-road paths through parks.  
- Numerous separate funding streams for ‘signature projects’ e.g. ‘Oceanway’ (off-road components of coastal corridor), ‘Darren Smith Cycle Route’ (on-road components of coastal corridor), green bridges etc.  
- Principal Cycle Network for SEQ (State) - $2.6M (09/10)  
- Other State funding sources e.g. TIDS. |
| Sunshine Coast Region      | 313,000             | Unknown - network length to be determined (post amalgamation) | $3M (for all off-road paths and on-road bikeways)  
Notional funding rate per capita: $9.58/person |  
- Developer contributions.  
- Separate maintenance budget.  
- Councillor discretionary funds for pathway projects - $1.2M ($100k x 12 Divisions).  
- Parks Department – off-road paths through parks, trails, coastal paths ($600k p.a.)  
- Cycle & Pedestrian Enabling Facilities Budget e.g. kerb ramps, ped refuges, crossing areas ($500k p.a.) |
<table>
<thead>
<tr>
<th>COUNCIL AREA</th>
<th>2009 POP’N (APPROX)</th>
<th>TOTAL NETWORK LENGTH</th>
<th>COUNCIL CAPITAL WORKS BUDGET (ANNUAL BASE)</th>
<th>OTHER MAJOR FUNDING SOURCES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>-------------------------------------------</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Budget for opportunistic low cost/ quick fix in-corridor treatments - $200k-$300k p.a.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Integration with Road Reseal &amp; Rehabilitation Program.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Principal Cycle Network for SEQ (State) - $3M (09/10)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Other State funding sources e.g. TIDS.</td>
</tr>
<tr>
<td>Redland City</td>
<td>137,000</td>
<td>Unknown</td>
<td>$3.8M (for all off-road paths and on-road bikeways)</td>
<td>Developer contributions.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Notional funding rate per capita: $27.74/person</td>
<td>Separate maintenance budget.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Community Benefit Fund (Councillor Discretionary Fund of $20k x 10 Divisions) – community benefit projects including short sections of path development.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Parks Department – strategic off-road paths through parks and other open space.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Integration of on-road bikeways with road works, resurfacing and intersection upgrades.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Principal Cycle Network for SEQ (State) - $1.59M (09/10)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Other State funding sources e.g. TIDS.</td>
</tr>
</tbody>
</table>

Note: All figures supplied by participating Councils are approximations only.
The main points and 'learnings' arising from the benchmarking were:

- Significant budget variation exists between the Councils surveyed, ranging from $200,000 (Rockhampton) to $3.8M (Redlands).
- For the Councils surveyed, the average rate of funding is $10.50/person. Excluding Redland City, this reduces to $6.19/person which is slightly higher than the Cairns Region's average of $4.60/person.
- In smaller Councils, funding (and priority) for on-road bikeway infrastructure is reduced, with cycling measures typically being opportunistic, packaged as part of other road programs.
- The Queensland Government makes a significant funding contribution in SEQ to support local government delivery of cycle routes under the ‘South East Queensland Principal Cycle Network Plan’. This reinforces the urgency for an acceptable funding model to be determined by TMR and FNQ Councils to facilitate PCNP implementation. It is also reasonable to assume that State funding levels for FNQ Councils are likely to increase in the short term, reflecting the State’s commitment to reach its cycling targets.
- A number of Councils interviewed agreed that good inter-departmental coordination is critical where funding is limited, to improve cost efficiencies and network development e.g. parks, road improvement programs, discretionary spending. In several cases, this was not occurring effectively.
- SEQ Councils have introduced various funding streams for special projects that are separate to standard capital works allocations e.g. major recreational and signature pathways, low cost treatments. For signature projects, this has been particularly successful in attracting State and Federal grants. A similar approach is recommended for elements of the Cairns network e.g. sections of the Northern Beaches Route.
- For Cairns Regional Council, these results highlight the need for additional sources of funding to be investigated.

7.3. Prioritisation Process

Prioritisation of routes in the ‘Network Projects’ funding stream involved a four phase process:

**Phase 1:**
- The first phase involved reviewing those treatments listed in the CPMCTS 2004 (as either ‘immediate’ or ‘high’) and the Douglas Shire Bicycle Strategy (1999) which were not yet implemented.

**Phase 2:**
- The second phase involved a sieve process for determining whether a proposed work item was of a ‘high’ priority. The criteria applied was based on the objectives of providing
network continuity and sequentially expanding the network focussing on the routes of highest hierarchical order first.

- For the ‘Principal Routes’ the sieve criteria applied included:
  - Excluding on-road cycle treatments on the SCR from the Council’s implementation plan.
  - Prioritising shared pedestrian / cycle paths which were within the SCR corridor, identified by the community as a ‘high’ need and of minimal cost (< $150,000).
  - Prioritising all pedestrian only treatments.

- For the ‘District’ and ‘Neighbourhood’ routes, the sieve criteria included:
  - High crash history along the route.
  - Formation of a missing pedestrian or cycle link in the network.
  - Part of a link to a major land use.
  - Low cost – e.g. less than $100K.
  - Identified by the community as a location where works were required.
  - Ability to implement immediately (i.e. no land resumption, no additional studies).
  - Status as a PCNP-FNQ link.

**Phase 3:**

- The third phase involved prioritising the ‘District’ and ‘Neighbourhood’ routes using equally weighted criteria including:
  - Route Functionality (District was ranked higher than Neighbourhood);
  - Continuity and connectivity;
  - Safety;
  - Proximity to high pedestrian/ cycle trip generating land uses; and

**Phase 4:**

- The fourth phase involved conducting a visual check of the prioritised treatments over the 5 year intervals to ensure the objectives of network continuity and completing the higher order corridors of the network which serviced major activity land uses was achieved.

### 7.4. Funding Allocation

Over 456 proposed works were identified for inclusion in the 20 year Network Implementation Plan.

Approximately 6% of the proposed works were not costed as they involve extensive detail engineering investigation, design and/or significant infrastructure upgrading (e.g. bridges, culverts, retaining walls, boardwalks). These projects were either given a low priority or noted as being a State funding responsibility.

Works in the ‘Network Project’ stream alone, excluding those not costed, are expected to be in excess of $33M in 2009 dollars, with approximately 90% of the proposals being categorised as ‘new’ works.
This suggests that based on current budget levels, available funding will be able to cover almost 50% of the identified work over the 20 year period through to 2030. Allowing for inflation, the estimated proportion of work is likely to decline.

Therefore, to support walk and cycle network implementation, it is recommended infrastructure delivery be structured to allow for various streams of funding from other sources, including State and Commonwealth governments and the private sector. Furthermore, Council should ensure maintenance programs (e.g. asphalt overlays) include a process to package recommended changes to line marking as part of maintenance budget allocations.

To facilitate opportunities to secure funding from other sources, the Network Implementation Plan has been divided into three streams of treatments – Signature, Recreation and Network:

- ‘Signature Projects’ were not prioritised given these projects will be funded and delivered separately from standard infrastructure works.
- ‘Recreational Projects’ have been costed and listed separately from the ‘Network Projects’.
8. **Estimated Network Costs**

Cost estimates are indicative only and based on 2009 construction rates provided by Cairns Regional Council. Furthermore, a 30% contingency has been added given the strategic nature of this study. Full scoping of works and costs is recommended prior to implementation.

The Network Implementation Plan in Appendix B details proposed works for Principal (off-road), District, Neighbourhood and the Northern Beaches Routes. Recommended works will occur in a number of stages, so they can be implemented in a logical and coordinated sequence over time, as follows:

- **High Priority** – Works recommended for completion within first 5 years (2010 - 2015).
- **Medium Priority** – Works recommended for completion within years 5 to 10 (2015 - 2020).
- **High Priority** – Works recommended for completion within years 10 to 20 (2020 – 2030).

While the Network Implementation Plan provides a guide as to the sequential expansions of the existing walk and cycle network, the overall network plan will provide the Council with the opportunity to ‘bring forward’ delivery of projects if funding from other sources becomes available (e.g. development related).

Some routes require detailed engineering, planning, environmental and/ or property acquisition investigations, and/ or detailed design to determine cost. In these cases, proposed works were not costed (beyond the scope of this strategic study), and where assigned a priority which acknowledges the necessity for future investigation prior to implementation.

Furthermore, for Recreation Routes located in non-road corridors (e.g. open space), were costed, however due to their strategic nature and information limitations the costing is very preliminary – these also require further engineering investigation by Council prior to implementation.

As discussed in Section 7.1.2, the ability exists for Council to structure their pedestrian and cycle funding programs into three separate funding streams:

- **Stream 1**: Network Projects (i.e. Principal, District, Neighbourhood and those elements of the Northern Beaches Route which can be implemented more cost effectively to provide a local access function).
- **Stream 2**: Recreation Projects (i.e. Recreation Routes); and
- **Stream 3**: Signature Projects (i.e. Key routes of special importance to the region or tourism profile).

The establishment of streams of funding would allow Council to:

- Proportion funding across ‘Network’ and ‘Recreational’ Projects; and
Give consideration to nominating specific routes for ‘signature’ status so the facilities can be implemented in isolation from those routes which are typically considered the sole responsibility of Council.

As discussed in Section 4.1, proposed works have been assigned to Council’s existing contribution catchment areas, to assist with inclusion of costs in the Priority Infrastructure Plan.

8.1. ‘Network’ Projects (Stream 1)

The following table summarises the estimated treatment costs for ‘Network Projects’, in terms of priority allocations over a 20 year planning horizon.

The costs included in Table 8.1 have been extracted from the information included in Appendix B and rounded given the strategic nature of this review.

<table>
<thead>
<tr>
<th>Priority</th>
<th>Timeframe</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>2010-2015</td>
<td>$8,140,500</td>
</tr>
<tr>
<td>Medium</td>
<td>2015-2020</td>
<td>$12,010,100</td>
</tr>
<tr>
<td>Low</td>
<td>2020-2030</td>
<td>$12,939,500</td>
</tr>
</tbody>
</table>

Total $33,090,100

(Note: Costs in 2009 dollars)

8.2. Cost by Route Hierarchy

Acknowledging the updated strategy gives focus to establishing those routes which are of a higher order within the hierarchy, Table 8.2 below summarises the priority of the ‘Network’ treatment costs for each route on a hierarchical basis. Estimated costs for Recreational Projects are also shown. Costs have been extracted from the information included in Appendix B and rounded given the strategic nature of this review.

<table>
<thead>
<tr>
<th>Route Hierarchy</th>
<th>High</th>
<th>Medium</th>
<th>Low</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principal Routes on SCR’s</td>
<td>$1,239,500</td>
<td>$2,671,700</td>
<td>$1,853,700</td>
<td>$5,764,900</td>
</tr>
<tr>
<td>District</td>
<td>$4,436,700</td>
<td>$5,890,200</td>
<td>$2,661,900</td>
<td>$12,988,800</td>
</tr>
<tr>
<td>Neighbourhood</td>
<td>$2,412,300</td>
<td>$3,029,500</td>
<td>$6,896,900</td>
<td>$12,338,700</td>
</tr>
<tr>
<td>Northern Beaches</td>
<td>$52,000</td>
<td>$418,700</td>
<td>$1,527,000</td>
<td>$1,997,800</td>
</tr>
<tr>
<td>Recreational</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>$7,963,500</td>
</tr>
<tr>
<td>Total Cost</td>
<td>$8,140,500</td>
<td>$12,010,100</td>
<td>$12,939,500</td>
<td>$41,053,600</td>
</tr>
</tbody>
</table>

(Note: Costs in 2009 dollars)
8.3. ‘Recreational’ Projects (Stream 2)

These Projects are intended to identify major Recreational Route opportunities that may be eligible for special funding as high profile ‘signature projects’ in the Region. However, there will continue to be considerable crossover of use in all elements of the network, for example, district and neighbourhood routes will also provide a recreation function.

The Recreational Route costs included in Table 8.2 above, are preliminary and based on the provision of at least a 2.0m wide shared concrete path. More detailed engineering, environmental and town planning investigations are required to confirm the cost and feasibility of these projects.

While not included in the 5 Year Plan given the Recreational Routes, consideration may be given to providing an additional 10% to the annual funding over the next 5 years to bring forward lower cost Recreational Routes (e.g. less than $100,000) which may complement the other routes within the Strategic Network.

Opportunities for integration of Recreation Routes with other Council projects should also be supported, particularly through Council’s Parks & Recreation Strategic Plan, master planning for parks and foreshores, and planning for off-road tracks and trails.

8.4. Five Year Plan

Table 8.3 provides a summary of the treatments to be implemented within the first five years of the 20 year delivery program. The information has been extracted from the full Network Implementation Plan in Appendix B.

The Five Year Plan is based on ranking all the ‘high’ priority treatments in the route hierarchy – this enables a short term goal of establishing those ‘high demand’ routes in terms of pedestrian/ cycle use and routes which have critical missing links.

The Network Implementation Plan indicates that development of the walk and cycle network will cost in excess of $30M over a 20 year planning horizon.

Acknowledging the current level of Council funding (approximately $700,000 p.a. for new and renewal works) and the benchmarking results in Section 7.2.2, this Strategy Review recommends that Council consider a significant funding increase, to deliver the desired outcomes for the growing Region. It will also be critical for Council to increase its access to alternative funding sources, to help implement the recommended network within the 20 year horizon.
Accordingly, the value of works in the Five Year Plan has been incrementally stepped up, to allow Council to progressively increase the funding levels over the first five years, to a level that is three times the current funding by FY 2014/15.
### Table 8.3: Five Year Works Program Summary – Cairns Region Walk and Cycle Network

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<thead>
<tr>
<th>Route ID</th>
<th>Suburb</th>
<th>Route Name</th>
<th>Works Category</th>
<th>Treatment Code</th>
<th>Hierarchy</th>
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<th>2014/15</th>
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**Yearly Total**: $994,090 $1,403,194 $1,583,970 $2,055,180 $2,104,048

5-Year Total: $8,140,482

(Note: Costs in 2009 dollars. The figures have not been rounded for the five year plan.)
9. **Other Actions to Support the Walk and Cycle Network**

A range of non-infrastructure actions are recommended to support walk and cycle network development. These are grouped as follows:

- Signage and Wayfinding;
- Data Collection;
- Partnerships;
- Training and Resources;
- Trip Facilities;
- Miscellaneous Actions; and
- Strategy Implementation and Review.

Non-infrastructure actions have been assigned the following priorities:

- High;
- Medium;
- Low; and
- Ongoing (continuous implementation and review).

The cost of implementing all non-infrastructure actions would be beyond the responsibility and/ or capacity of Council to fund in its own right. To this end, external funding contributions should be sought where possible.
### Strategy 1 – Signage and Wayfinding

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<tr>
<th>STRATEGY / ISSUE</th>
<th>RECOMMENDATIONS</th>
<th>PRIORITY &amp; RESPONSIBILITY</th>
</tr>
</thead>
</table>
- Signs should serve different purposes within the network, and be erected to display the following information:  
  - Distance and Direction – Assist pedestrians and cyclists to navigate their way around the network e.g. distance of routes; direction to a destination.  
  - Identification – Showing that a destination, point of interest or specific route has been reached.  
  - Regulatory – Enforced by law.  
  - Warnings and Safety – On potential risks or hazards not directly obvious to network users, and warning signage for approaching motorists where appropriate.  
- To support network signage, also consider local ‘wayfinding’ initiatives without visually cluttering the streetscape, such as:  
  - Deploy local area maps at strategic locations across the network.  
  - ‘Branding’ of major recreation/touring routes e.g. Northern Beaches Route, CBD-Aeroglen Bikeway.  
  - Erect signs showing major detours/alternative routes around major barriers for pedestrians and cyclists. | Medium (CRC) (TMR) |
| 1.2 Update the ‘Cairns Cycling & Walking Guide’. | - Review Council’s cycling and walking guide maps (published in 2005), to continue to provide an important source of information for residents and visitors:  
  - Extend map coverage to the former Douglas Shire area.  
  - Update location of existing off-road and on-road facilities.  
  - Show location of recognised ‘bicycle friendly’ routes e.g. quiet parallel streets providing alternative routes to highways and major roads.  
  - Present the guide in a more useable format for those ‘on the go’ e.g. compact booklet, series of maps for different parts of the Region.  
  - Provide additional information on road rules, walking and cycling tips, key destinations etc. | High (CRC) |
<table>
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<th>Strategy / Issue</th>
<th>Recommendations</th>
<th>Priority &amp; Responsibility</th>
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</table>
| **1.3 Improve active living outcomes provided by the walk and cycle network.** | - Integrate ‘active living’ themes with network signage on popular walking circuits and esplanades e.g. 10,000 Steps.  
- Consider the integration of interpretive signage and public art features located along major pathways to improve visual amenity, create a stronger sense of place and appealing public spaces that encourage walking and cycling activity.  
- Monitor final release of Queensland Health’s document ‘Supportive Environments for Physical Activity & Healthy Eating’ (SEPAHE) – a guide to assist local government to create environments supportive of active and healthy living.  
- Consider implementation of SEPAHE tools in future planning scheme reviews and other Council projects as appropriate. | Medium Low Medium Medium (CRC) (QHealth) |
| **Strategy 2 – Data Collection** | | |
| **2.1 Maintain an up-to-date asset inventory for the walk and cycle network.** | - Continue to maintain Council’s 2008 Footpath Inventory for off-road paths in the Cairns Region.  
- Compile a new inventory of on-road bikeways for the whole Cairns Region, including facilities on Council and State controlled roads (last updated 2005). | Ongoing High (CRC) |
| **2.2 Monitor cycle and pedestrian accidents.** | - Conduct an annual review of official cyclist and pedestrian accident data from the State Government’s Road Crash Database, to identify crash clusters in the Cairns Region and develop countermeasure strategies in cooperation with TMR. | Medium (CRC) (TMR) |
| **2.3 Conduct regular counts of pedestrian and cyclist trip activity.** | - Establish an annual cyclist and pedestrian monitoring program to provide an understanding of changes in demand for cycle and walking facilities, and walking and cycling patterns. The program should include the following activities:  
  - Identify key points in the cycle network and pedestrian environment and undertake counts (with manual or automated detectors) at these points several days a year. AADT can be estimated based on these counts. There can be significant fluctuations in volumes of pedestrians and cyclists depending on the weather and time of year, and this variability should be accounted for when estimating AADT along a given route.  
  - Include pedestrians and cyclists in all traffic counts of motor vehicles that are undertaken by or for Council within the Region e.g. counts conducted as part of a Development Application, planning and traffic studies.  
  - Include school cycle and pedestrian counts – send an annual survey to all schools.  
  - Consider carrying out annual cyclist and pedestrian intercept surveys at key locations. | Low (CRC) (TMR) (Others) |
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<th><strong>Recommendations</strong></th>
<th><strong>Priority &amp; Responsibility</strong></th>
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<td><strong>PRIORITY &amp; RESPONSIBILITY</strong></td>
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<td>3.1 Cairns Cycling and Pedestrian Focus Group.</td>
<td>* Continue the important work of the Cairns Cycling and Pedestrian Focus Group to guide Strategy implementation and other relevant cycle/ pedestrian projects in the Region.<em>&lt;br&gt;</em> Monitor the need for different stakeholder representation on the Focus Group as required.<em>&lt;br&gt;</em> Consider establishing a sub-committee of the Focus Group to represent the former Douglas Shire area.*</td>
<td>Ongoing (CRC) (State Government) (Community)</td>
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<td>3.2 Deliver enhanced walk-cycle integration with parks and open space.</td>
<td>* Integrate an assessment of pathway and trail opportunities as part of any future master planning for strategic parks, sport and recreation precincts.<em>&lt;br&gt;</em> Where opportunity presents, address “missing links” in foreshore pathways and park-based recreational links through implementation of the Cairns Parks &amp; Recreation Strategic Plan, other open space studies, and consolidation of Council’s greenspace system.*</td>
<td>Ongoing (CRC)</td>
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<td>3.3 Establish a strong and cooperative Local-State partnership in network planning and delivery.</td>
<td>* Continue to articulate pathway and bikeway priorities to the TMR where facilities are proposed within State Controlled Road corridors, to help accelerate improvements and to ensure projects are considered in the TMR programming for road upgrades/ construction.<em>&lt;br&gt;</em> Continue to adopt a multi-agency approach to the funding and delivery of paths and bikeways aimed at improving local walking and cycling activity, through different Council and State Government departments (including partnerships with non-transport agencies).<em>&lt;br&gt;</em> With TMR as the lead agency, work in cooperation with other FNQ Councils to advance the Principal Cycle Network Plan:*&lt;br&gt;  - <em>Establish a PCNP-FNQ Coordination Committee.</em>&lt;br&gt;  - <em>Formulate a funding model for State contributions to Local Government for elements of the PCN, which is acceptable to all parties.</em>&lt;br&gt;  - <em>Encourage integration of ‘Local’ and ‘State’ network development through:</em>&lt;br&gt;    - <em>Current works programs.</em>&lt;br&gt;    - <em>Road maintenance activities.</em>&lt;br&gt;    - <em>Priority infrastructure planning.</em>&lt;br&gt;    - <em>Forward planning projects – precinct and master planning, strategic land use planning, transport, sport, recreation, environment, tourism etc.</em>&lt;br&gt;    - <em>Development assessment processes and land use planning instruments.</em>&lt;br&gt;    - <em>Providing local input and knowledge to detailed design for the three PCNP-FNQ Link Concept Plans located within the Cairns Region (Mossman to Port Douglas; Ellis Beach to Palm Cove; and Smithfield to Palm Cove).</em></td>
<td>Ongoing (CRC) (TMR) (High (TMR) (CRC) (State Government) (FNQ Councils))</td>
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| 3.4 Integrate walk and cycle facilities with strategic projects. | • Continue to advocate for a high level of service to be delivered for cyclists and pedestrians as part of major strategic projects underway in the Cairns Region, notably:  
  o Bruce Highway Upgrade Project.  
  o Cairns Transit Network Project.  
  o Mount Peter Master Planning Project.  
  o Cairns Region Parks & Recreation Strategic Plan.  
• Make provision for high quality pedestrian and cycle access, as part of strategic land use and infrastructure projects, and support active transport modes with suitable end-of-trip facilities at major destinations e.g. future public transport stations. | High (CRC) (TMR) (Sport & Recreation Services) |
| 3.5 Support other agencies in their promotion of walking and cycling. | • Continue to support the initiatives of other agencies and organisations which positively promote walking and cycling in the Cairns community, such as:  
  o Promotion of local ‘Bike Bus’ and ‘Walking Bus’ activities, building on the success of Trinity Beach State School’s Bike Bus program.  
  o Relevant links on Council’s website e.g. local Heart Foundation Walking Groups; local TMR office; Bicycle Queensland.  
  o Bike Week activities. | Ongoing (Stage Government) (Schools) (Private Sector) (CRC) |

**Strategy 4 – Training and Resources**

| 4.1 Review Council’s resourcing and training needs to support active and sustainable transport in the growing Cairns Region. | • Consider the establishment of a new or expanded role within Cairns Regional Council for an Sustainable Transport Officer, to:  
  o Represent Council and provide a single point of contact for sustainable transport matters – walking, cycling, car pooling and public transport.  
  o Promote Cairns as an accessible, active and healthy Region.  
  o Coordinate walk and cycle infrastructure delivery, and integration with other Council projects and the TMR network.  
  o Promote initiatives to change travel behaviour and increase the number of households who walk, cycle, car pool or use public transport for at least some of their journeys.  
  o Develop and coordinate program initiatives with other agencies – Department of Communities (Sport & Recreation Services), Queensland Health, Education Queensland, Queensland Police, Department of Transport & Main Roads, tourism agencies, Heart Foundation Walking Groups, bicycle user groups etc.  
• Investigate a training program for relevant officers across various Council departments (e.g. infrastructure, planning, sport and recreation, engineering, environment) on planning and design for pedestrians and cyclists. This is required to support more integrated planning outcomes, more cost effective solutions in infrastructure delivery, and to raise awareness of pedestrian and cyclist needs. | Medium (CRC) Low (CRC) |
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| 5.1 Continue to provide good support facilities to encourage walking and cycling trips. | ▪ Continue to improve end-of-trip facilities for cyclists and pedestrians at their destinations, and ‘on-trip’ facilities to support major walk and cycle routes e.g. secure bicycle parking, shaded rest stops, seating, drinking water points.  
   ▪ Increase supply of bicycle parking racks in high use activity precincts/ key centres.  
   ▪ Investigate the potential for installation of undercover bicycle parking hubs with secure bike lockers at strategic locations:  
     o Cairns CBD  
     o Cairns Central Shopping Centre  
     o Stocklands Shopping Centre  
     o Smithfield Shopping Centre  
     o Cairns Airport  
   ▪ Keep the community informed on planning for a CBD Cycling Centre as part of the new Cairns Public Transit Centre. It is desirable for the CBD Cycling Centre to provide high standard end-of-trip facilities to support commuter cycling, walking and jogging in Cairns’ sub-tropical climate e.g. secure bike parking, showers, lockers, change rooms, ironing and hair drying facilities. | Ongoing (CRC) (Others)  
  High (CRC)  
  Medium (CRC) (Others) |
| 5.2 Apply consistent policy for bicycle parking at new developments.             | ▪ Bicycle parking provisions in the *Douglas Shire Planning Scheme* are generally much higher and more use-specific than those in the *CairnsPlan*. It is recommended that the higher levels of bicycle parking in the *Douglas Shire Planning Scheme* be adopted throughout the whole Cairns Region, as part of any future amalgamated planning scheme. | Timed with Planning Scheme Review (CRC) (Developers) |
### Strategy 6 – Miscellaneous Actions

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<td>6.1 Re-evaluate CBD parking policies to reduce car dependency and support on-road cycling.</td>
<td>- Consider targeted conversion of angled parking bays to parallel parking in the Central Business District to create additional space for on-road bikes lanes, as part of any future CBD Parking Strategy.</td>
<td>Timed with CBD Parking Strategy (CRC)</td>
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| 6.2 Facilitate ongoing communication with local residents. | - Continue to facilitate community feedback in respect to walk and cycle network performance, safety and needs, through:  
  - Community representation on the Cairns Cycling and Pedestrian Focus Group.  
  - Inclusion of cycling and pedestrian issues in Community Satisfaction Surveys that may be conducted by Council from time to time.  
  - A ‘community feedback’ link on Council’s website to report maintenance or safety matters needing Council action. Also provide opportunities for feedback through Council’s Customer Service Centres. | Ongoing (CRC) (Community)                 |
|                                                       |                                                                                 |                                           |
| 6.3 Consider alternative approaches to roll-out of on-road bikeways. | - Fully investigate practical application of Bicycle Awareness Zones in the Cairns Region, through liaison with other Queensland Councils to assess their experience with BAZ implementation e.g. Brisbane, Sunshine Coast, Gold Coast. | Medium (CRC) (Local Government)           |

### Strategy 7 – Strategy Implementation and Review

<table>
<thead>
<tr>
<th>STRATEGY / ISSUE</th>
<th>RECOMMENDATIONS</th>
<th>PRIORITY &amp; RESPONSIBILITY</th>
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<tbody>
<tr>
<td>7.1 Maximise the effectiveness of the Cairns Cycling &amp; Walking Strategy through regular reviews, to adapt to changing circumstances.</td>
<td>- Adopt the recommendations of the Cairns Cycling &amp; Walking Strategy Review.</td>
<td>High (CRC)</td>
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<td>- Integrate the Cairns Cycling &amp; Walking Strategy Review with the Cairns Plan, Douglas Shire Planning Scheme, and other relevant strategies and plans.</td>
<td>Ongoing (CRC)</td>
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<td>- Reconvene the Project Steering Committee in late 2010 to assess progress of study recommendations.</td>
<td>High (CRC)</td>
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<td>Review progress of the Network Implementation Plan annually, to ensure that the recommended works program is advancing and consistent with community needs, land use patterns, Council resources and other available funding.</td>
<td>Medium (CRC)</td>
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<td>Conduct a major review of the full Strategy by 2015.</td>
<td>Low (CRC)</td>
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