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5 Land use planning and urban design

5.1 Introduction

This land use planning and urban design chapter identifies the existing and future land use planning intentions and urban design considerations in the vicinity of the Cairns Transit Network. The *Far North Queensland Regional Plan 2009-2031* and *CairnsPlan* (the planning scheme for Cairns) sets a framework for the management of growth and development. The urban design assessment considers issues and opportunities of the transit network and discusses potential urban design treatments which will help the network integrate with the character of the surrounding area it will serve. It is important to understand the future land use planning intents and urban design considerations when considering station locations, as well as how the project could be developed and staging opportunities.

5.2 Methodology

A desktop analysis of relevant land use and urban design strategies applicable to the Cairns Transit Network is presented in this chapter. As delivery of the Cairns Transit Network will occur in stages in the future, the information presented in this chapter is at a high level and will need to be reviewed prior to stages being built. This high level assessment provides an understanding of the major uses, planning intents and potential urban design treatments for locations near the transit network, influencing station locations, corridor option treatments and mitigation measures.

For each section of the transit network, the existing situation within the corridor was reviewed to identify current land uses and characteristics that contribute to both positive and negative impacts on existing urban amenity. The land use planning intent, appropriate uses and other matters identified by the planning scheme were analysed at a high level where implications were perceived for the Cairns Transit Network. Furthermore, a judgement of what may be the future planning intent, considering the long-term nature of the Cairns Transit Network, was undertaken. However, this is only speculative and any future land use planning changes will be determined by future reviews of the *Far North Queensland Regional Plan 2009-2031* and Cairns Regional Council planning scheme. Potential issues and opportunities to be addressed at future detailed design phases were identified, plus the development of urban design treatments to mitigate potential impacts.

Planning intentions for land uses along the corridor can change as amendments to the planning scheme are continually undertaken to respond to changing needs and circumstances. Future analysis as part of detailed design and impact management will need to ensure that any implications for surrounding land use planning and design treatments are appropriately managed.

The planning and urban design assessment considered relevant documents and studies including:

- *Far North Queensland Regional Plan 2009-2031*
- *Far North Queensland Infrastructure Plan 2009-2031*
- *CairnsPlan* and proposed amendments
5.3 Analysis

5.3.1 Strategic analysis for Cairns

5.3.1.1 Far North Queensland Regional Plan 2009-2031

The Far North Queensland Regional Plan 2009-2031 is the overarching plan for the region that takes precedence over all over planning instruments. The Far North Queensland Regional Plan 2009-2031 identifies Cairns as the urban heart of Far North Queensland with the largest population in the region and a tourist destination of international significance. For Cairns, the Far North Queensland Regional Plan 2009-2031 identifies an estimated resident population in 2031 of approximately 311,000 people, based on the medium series projections. This will translate to approximately 4000 people moving to the region each year.

The Far North Queensland Regional Plan 2009-2031 identifies the need to improve the viability and attractiveness of more sustainable transport modes, including a network of transit corridors for further investigation. This Concept Design Report carries out those further investigations and identifies the land required to protect the corridors for future construction.

The Far North Queensland Regional Plan 2009-2031 identifies public transport targets of 10% and 20% of peak hour trips by 2016 and 2026 respectively for the southern corridor. This can only be achieved if public transport provides a viable and attractive alternative to the private motor vehicle.

5.3.1.2 Far North Queensland Infrastructure Plan 2009-2031

The Far North Queensland Infrastructure Plan 2009-2031 identifies regionally significant infrastructure projects that support the Far North Queensland Regional Plan 2009-2031, in addition to strategic initiatives and corridor projects for further investigation.

The Far North Queensland Infrastructure Plan 2009-2031 identifies the challenges the road network will face due to continued rapid population growth resulting in traffic congestion. The Far North Queensland Infrastructure Plan 2009-2031 proposes a number of responses to meet the challenge including:

“planning the Cairns Transit Network ahead of development to identify and protect corridors for a future bus rapid transit network and transit oriented communities” p8

The Far North Queensland Infrastructure Plan 2009-2031 highlights that the transit network will improve public transport in Cairns by giving buses priority and providing an alternative to the private motor vehicle.

5.3.1.3 State Planning Policies

Provisions of the Sustainable Planning Act 2009 enable the state government to prepare and adopt State Planning Policies (SPPs). SPPs have effect throughout the state except
where specified and present the state government’s position in relation to particular planning and development matters. SPPs of relevance to the transit network include:

- SPP 1/92 Development and the Conservation of Agricultural Land
- SPP 1/02 Development in the Vicinity of Certain Airports and Aviation Facilities
- SPP 2/02 Planning and Managing Development involving Acid Sulphate Soils
- SPP 1/03 Mitigating the Adverse Impacts of Flood, Bushfire and Landslide.

It is not the intention at this stage to assess the transit network against each of the applicable policies due to the strategic nature of the project. This phase of planning is focused on preserving the corridor. This type of more detailed analysis will take place in future detailed design phases. However, these policies have been reflected in the planning scheme and it will be necessary to address them at future detailed design phase.

5.3.1.4 CairnsPlan

*CairnsPlan* is the planning scheme for Cairns. A consolidated *CairnsPlan* commenced in March 2009 which brought together the planning intents for the former Douglas Shire and Cairns City Councils for the city for the next 15 years.

The urban growth initiatives identified in *CairnsPlan* with relevance to the Cairns Transit Network include:

- consolidation of existing and new urban areas
- development of the southern growth corridor west of the Bruce Highway between Edmonton and Gordonvale
- establishment of major service centres near Smithfield and Edmonton/Gordonvale.

Consolidation of existing areas is important for the Cairns Transit Network as a major proportion of the network travels through established urban areas. Encouraging the right mix and density in new urban areas such as the southern growth corridor is critical to maximise return in the form of patronage on the network.

*CairnsPlan* divides the city into numerous Planning Districts which are broken down into planning areas or zones. A brief summary of the planning areas is detailed below in Table 5.1.

**Table 5.1: CairnsPlan planning areas**

<table>
<thead>
<tr>
<th>Planning area</th>
<th>Intent/Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural 1</td>
<td>Areas of good quality agricultural land that are used for primary production including a wide range of agricultural and animal husbandry uses. Rural activities are to be protected from the intrusion of incompatible uses.</td>
</tr>
<tr>
<td>Planning area</td>
<td>Intent/Purpose</td>
</tr>
<tr>
<td>------------------------</td>
<td>-------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Rural 2</td>
<td>Areas are currently utilised for primary production and will continue to be used for this purpose for as long as possible. However, these areas may be suitable for future urban development as established by the <em>Far North Queensland Regional Plan</em>. New uses that will potentially be incompatible with future urban development will not be supported.</td>
</tr>
<tr>
<td>Low Density Residential</td>
<td>Predominantly detached dwellings on large lots catering for a rural or conservation style of residential living.</td>
</tr>
<tr>
<td>Residential 1</td>
<td>The predominant form of development is detached housing on single house lots.</td>
</tr>
<tr>
<td>Residential 2</td>
<td>Development of a wider choice of housing in terms of form and size is provided. Higher densities are located within reasonable walking distance to public transport, centres, community facilities and open space.</td>
</tr>
<tr>
<td>Residential 3</td>
<td>Development of medium density housing in a range of accommodation types, particularly in areas with a high level of accessibility to public transport, community facilities and employment nodes.</td>
</tr>
<tr>
<td>Tourist and Residential</td>
<td>Predominantly includes the development of tourist accommodation in a wide range of accommodation types.</td>
</tr>
<tr>
<td>City Centre</td>
<td>The city centre will have the widest range of higher order and specialised forms of retailing, business, administrative, community, indoor entertainment, leisure and cultural activities. The role of the city centre as the principal focus for Cairns, the region and regional tourism must be maintained.</td>
</tr>
<tr>
<td>Sub Regional Centre</td>
<td>Sub regional centres provide a range of services and function and develop as major employment nodes. They provide a range of retail, business and community facilities to meet the needs of the district.</td>
</tr>
<tr>
<td>District Centre</td>
<td>District centres provide a range of services including retail, business and community facilities and develop as employment nodes.</td>
</tr>
<tr>
<td>Local Centre</td>
<td>Local centres provide for local shopping facilities together with business and professional services that service the surrounding residential community.</td>
</tr>
</tbody>
</table>
### Planning area | Intent/Purpose
---|---
Cityport North | Cityport north is integrated with the Esplanade and waterfront and contains a range of tourist related activities and tourist accommodation. Mixed use development is facilitated at specific locations to promote activity and vitality. Establishment of high standard marina facilities to service the needs of recreational and commercial vessels is facilitated.

Cityport South | Integrated with the city centre and provides the major entertainment, indoor sporting and cultural requirements for the city to complement the Convention Centre. The tourism potential is to be optimised.

Commercial | Establishment of commercial, business and professional activities is facilitated. Commercial uses such as showrooms and display facilities which, due to their size or nature can not be accommodated in centres, is also facilitated.

Industry | Facilitation of a wide range of industrial uses to support the economy.

Community Facilities | The establishments of community facilities such as schools, hospitals, community centres and churches are conveniently located near the communities which they serve. Ongoing operation of existing community facilities is facilitated.

Sport and Recreation | Areas suitable for active recreational pursuits are provided. This includes commercial recreational facilities and sporting clubs.

Open Space | Provision of local, district and city wide parkland available for the use and enjoyment of residents and visitors to Cairns. Open space is predominantly undeveloped and may perform some environmental functions including riparian corridors, vegetated gullies and drainage paths.

Conservation | Areas identified as possessing significant values for biological diversity, ecological integrity, scenic amenity, as well as declared Fish Habitat Areas are protected.

### 5.3.2 Centre of the network

#### 5.3.2.1 Existing situation

*Description*

The city centre is a major destination for visitors and workers. The city contains a mix of shops, offices, entertainment and multi unit dwellings. It is characterised by a strong grid pattern of wide streets, awnings over footpaths protecting pedestrians from either the sun or rain, and in many locations, mature vegetation within the central median providing a green/soft relief from the harder building form. The city includes a mix of historic
architecture and contemporary buildings. Along the foreshore is the Esplanade parkland, a significant open space for the people of Cairns and visitors to the city. Pedestrian and cyclist connections along the Esplanade link to the Cityport precinct in the south east and Flecker Botanical Gardens and Centenary Lakes in the north west. The backdrop to the city is Trinity Inlet and the forested hill slopes of Yarrabah to the east.

The existing Lake Street transit mall between Spence and Shields Streets was constructed in 1987 and consists of four bus indents on both sides of the street with a turn around facility towards the public square at City Place (Shields Street). The existing transit mall is contained within half of this street and identified by signage and differences in road pavement materials and line marking. Central median parking is provided in the other half of Lake Street. Within the existing Lake Street transit mall, limited parking for private motor vehicles is provided which confuses the role of this section. The station furniture and general appearance is somewhat dated.

The images in Figure 5.1 illustrate the existing land use and environment within the Cairns City centre.

Planning scheme assessment

The city centre is included in the CBD-North Cairns Planning District. The planning areas or zones adjacent to the existing Lake Street transit station include the City Centre and Community Facilities (see Figure 5.2). The intent of the City Centre zone within the planning scheme is to maintain and strengthen the city centre as the principal focus for Cairns, the region and the regional tourism industry. The city centre is to accommodate the highest order and specialised forms of retail, business, administrative, community, cultural, indoor entertainment and leisure facilities. It is also intended that accommodation for both residents and tourists be provided. The majority of residential, retail, tourist and short term accommodation, business and commercial uses are supported in the City Centre zone with the exception of caravan/relocatable home park and showroom uses. Majority of industrial uses are deemed inappropriate. Community Facilities as the name describes are intended for community purposes including uses such as park, utility, institution and educational establishments. Facilitating the ongoing operation of community facilities is recognised within the planning scheme as important.

The Queensland Heritage Register and the planning scheme recognise a number of heritage sites within the city centre, particularly as the city centre contains some of the earliest surviving buildings in Cairns. Near the Lake Street transit mall, heritage sites worthy of particular mention that need to be considered from an urban design perspective, particularly in the form of station design include:

- Lake and Spence Street Corner – where the street junction is marked by prominent buildings on all four street corners including the former Adelaide Shipping Company building, the Central Hotel, Bolands building and the former National Bank
- 93-105 Lake Street – the former Cairns School of Arts
- 39-49 Lake Street – Central Court
- 87 Lake Street – Hides Hotel
• 131 Lake Street – Studio One is a double storey masonry building representing the development of Cairns city centre.

Figure 5.1: Images within the Cairns city centre

The scheme also recognises numerous properties fronting Lake Street between Spence and Aplin Streets as a local heritage place or part of a character precinct which requires any new development to respect the form, scale and architectural style.

The design of City Place must ensure a high standard of design that complements the character of the city centre and recognises its role as a premium station for both residents and visitors to Cairns. View lines from Lake Street to Wharf Street to the port facilities must be considered in its design. The planning scheme identifies Lake Street as a trunk route and Shield Street as a neighbourhood route as part of its pedestrian and cycle movement network. Both streets are critical to the movement of cyclists and pedestrians in the city centre and providing for safe, unimpeded movements in conjunction with delivery of the
transit network should be encouraged. This is discussed in greater detail in the Pedestrian and cycle access chapter 17.

![Zoning within the Cairns city centre](image)

**Figure 5.2: Zoning within the Cairns city centre**

Lake Street is included in the defined flood event 1:100 Average Recurrence Interval (ARI) and contains potential acid sulphate soils. Delivery of the station in the future will need to be cognisant of these matters.

In summary, it is critical for high-quality public transport to service the city centre as this location will have the highest intensity and mix of uses and hence the highest patronage numbers. The design of City Place must ensure that pedestrian and cyclist movement within and to/from the city is enhanced rather than hindered. Upgrade of the station architecture and furniture will need to be cognisant of the Character Area on Lake Street between Shield and Spence Streets, and maintain view lines to the city’s surrounding setting including Trinity Inlet and the forested hill slopes.

### 5.3.2.2 Future land use planning

Future land use planning which provides greater intensity within the Cairns city centre than the current zoning provisions is more likely to occur in the medium to long-term. Presently, numerous sites exist that could be further developed and hence the need for changes in zoning to allow for greater intensities may be difficult to demonstrate. Locations near City Place that may experience pressure for greater development include the waterfront near Trinity Inlet, capitalising on the stunning water and mountain views.
5.3.2.3 Issues and opportunities
Issues that need to be considered and addressed as part of detailed design include:

- any redevelopment of sites adjacent to City Place must ensure that integration and connectivity is provided and protected
- Redevelopment of land parcels near City Place should consider alternative vehicle and parking access away from Lake Street, to avoid potential conflicts
- access and servicing of properties on Lake Street between Aplin and Spence Streets requires detailed investigation and liaison with local traders and property owners
- design of City Place must ensure a high standard of design that respects the surrounding built form and views to the port facilities, Trinity Inlet and the vegetated hill slopes of Yarrabah
- the performance space at the intersection of Lake Street and Shield Street needs to be relocated within the city centre
- providing for the long-term future public transport demand requires additional space for both passengers and buses than currently provided which may impact on access to properties
- reduction in parking spaces in Lake Street between Spence and Shield Streets
- relocation of the existing taxi rank
- mitigating the impacts of potential flooding issues and acid sulphate soils.

Opportunities to be considered and explored in future detail design include:

- partnering with Cairns Regional Council on public urban realm improvements through the city with the upgrade of City Place
- provision of new facilities including furniture, shelter and landscaping to replace the dated Lake Street transit mall
- introduction of sustainable design solutions for City Place
- incorporation of street tree planting consistent with other planting species within the city centre
- investigate the provision of city cycle centre.

5.3.2.4 Potential urban design mitigation measures
A high priority for the Cairns Transit Network is the revitalisation of City Place with new bus stops and facilities to meet the operational needs of the network now and in the future. Potential mitigation measures may include:

- station architecture that protects passengers from the rain and sun. Where possible, this should be generous in its shelter and shade amenity, yet be respectful of the building vernacular inclusive of awnings or verandas nearby
- due to the extended operating hours of the city centre it is critical that the station design incorporate materials that are not disruptive to sight lines to maximise visibility. This
may include toughened glass or transparent materials where high visibility is required to access desirable views and assist passengers to orientate themselves

- landscaping elements to soften the look and feel of the station, which should be in keeping with the landscaping treatments within the city
- any new developments to ensure active frontages near the station are provided to deliver safe, accessible and vibrant streetscapes.

5.3.3 Northern corridor analysis

5.3.3.1 Section N1: Cairns City to Airport Avenue

Existing situation

Description

This section of the transit network extends from Aplin Street, Cairns City to Airport Avenue, North Cairns and is characterised by a grid street pattern.

The area predominantly contains a range of housing types including historical ‘Queenslander’ style housing and medium to high density multi-unit dwellings up to 15 storeys in height. The highest proportion of tourist accommodation, in the form of hostels, hotels and motels, is located towards the east near Cairns City and east of Sheridan Street.

Low scale commercial uses are predominantly located along Sheridan Street and sections of McLeod Street closer to the Cairns city centre. Some low intensity industrial development is scattered among detached housing in the area between Rutherford Street and Moffat Street which appears to be undergoing some transition.

There is a range of significant buildings within this section including Cairns Base Hospital, St Monica’s School and Church, St John’s Anglican Church, Cairns State High School and Tobruk Memorial Pool. Key open space areas include Munro Martin Park, Tobruk Memorial Park and the Esplanade with open space extending from Cairns city centre to North Cairns.

The images in Figure 5.3 illustrate the existing land use and environment of the Cairns City to Airport Avenue section.

Planning scheme assessment

This section is included in the CBD–North Cairns Planning District. The predominant zone adjacent to Lake Street is the Tourist and Residential Area (see Figure 5.4). This area is intended to be a higher density residential area accommodating a range of accommodation types for both tourists and residents. This includes multi-unit dwellings, apartments, hotel, motels and hostels. This zone supports the majority of residential and tourist uses, whilst retail, business and commercial uses are generally not supported or require impact assessment. A number of opportunities for redevelopment for these uses still exist within this area as many allotments are still occupied with a single detached dwelling.

Land within the Community Facilities zone includes the Cairns Base Hospital which is currently planning to expand, St Monica’s School and Cairns State High School. North of Lily Street land is included in the Sport and Recreation zone reflecting the Tobruk Memorial Park, Cairns Hockey Association and future regional tennis facilities.

Along Lake Street from Rutherford Street to Airport Drive, land is included in the Strategic Port land to the east and Industry zone to the west. Only low intensity industrial
development is supported due to the proximity of this area to the Cairns International Airport. Other notable zones in the vicinity of Lake Street include Open Space along the Esplanade and at Munro Martin Park, both significant open space resources for the City of Cairns. Commercial zoning is predominately focused along Sheridan Street capitalising on the high numbers of passing vehicles.

Figure 5.3: Images within Section N1: Cairns City to Airport Avenue

The planning scheme recognises a number of heritage sites in the vicinity of the transit network near Lake Street that need to be considered from an urban design perspective, including:

- Munro Martin Park which contains an entire city block between Minnie, Florence, Sheridan and Grafton Streets. This park was one of the first public parks in Cairns although originally a sports ground
- Saint John’s Anglican Church at 177-179 Lake Street. This large gothic style, masonry church was erected in 1926 after the previous timber church was destroyed in a
The building was designed by architects Hill and Taylor, prominent architects in Cairns in the inter war period.

- Castle Holiday Flats 209 Lake Street, Cairns North. Built in the late 1950s or early 1960s, the building reflects the development in holiday accommodations in Cairns throughout the post war period.

The planning scheme controls building heights within this section to reinforce the role of the city centre; reinforce the amenity of North Cairns; and most importantly to ensure the operations of the Cairns International Airport are not affected. Land between Lily and Grove Streets is included in Precinct 4 which aims to restrict the development of tall buildings to no greater than 11.5 metres or 15 metres in particular circumstances. This is further reinforced.
in other overlay maps which discourage tall structures from impacting on airport operational airspace.

This section is relatively flat and is included in the Defined Flood Event 1:100 ARI recognising the flooding impacts that must be considered for any development including the transit network in this location. This includes the need to ensure adverse impacts on adjoining or external impacts are addressed.

The planning scheme identifies a future connection of Lake Street to Airport Avenue with reference to improved public transport access between the Airport, North Cairns and the city centre. Lake Street is also identified as a trunk route for pedestrians and cyclists up to Lily Street, where it deviates down to Sheridan Street and travels further north. Land for the future connection is recognised as containing vegetation of conservation value – category 1.

In summary, it is recommended that a number of stations be located near major attractors along this route including St Monica’s school, Cairns Private Hospital, Cairns Base Hospital and Tobruk Park. In particular, it is critical in the planning for the expansion of the hospital, that the transit station is integrated into the overall design to ensure a direct connection to the hospital for patients, visitors and workers. The mix of housing types, particularly multi unit dwellings and hence higher densities, is also supportive of locating the transit network along Lake Street. Connection of Lake Street across to Airport Drive is supported in the planning scheme. There may be some intensification of multi unit residential development close to the city centre, reinforcing the city node, but not further north.

Future land use planning

Future land use planning is unlikely to result in changes to the existing zoning to promote greater densities than currently allowed in the planning scheme due to the need to protect airport operations. Locations near the city edge may experience pressure for commercial activities, but this is unlikely to be supported due to the need to consolidate and protect the city centre core. Plans to expand the hospital are currently underway with construction scheduled for completion in 2014, hence significant expansion of the hospital is unlikely and not envisaged until the longer term. However, like other cites, there may be encouragement to locate medical related activities nearby that support the hospital in the longer term.

Issues and opportunities

Issues that need to be considered and addressed as part of detailed design include:

- minimise the loss of significant vegetation at the end of Lake Street where it will connect to Airport Drive
- design of the transit stations needs to respect the surrounding built form, cognisant of existing and future uses. It must be mindful of its setting and, where possible, maintain vistas to the surrounding scenic rim
- ensuring east west connectivity is maintained for vehicular movements between Sheridan Street and the Esplanade
- traffic impacts and circulation patterns with a central median bus operation down Lake Street
- changes to on street parking arrangements
mitigating the potential impacts of flooding issues and possible acid sulphate soils.

Opportunities to be considered and explored in future detail design include:

- wide road corridor and the ability to implement median running will not sever existing access to properties along Lake Street
- integration of the Cairns Base Hospital expansion with the future transit station at this location
- connections between the stations and other nearby attractors that will frequently utilise the stations. This includes Cairns State High School, commercial properties along Sheridan Street, any future redevelopment of land intended for light industrial development between O’Keefe and Rutherford Streets, and Cairns Private Hospital.

**Potential urban design mitigation measures**

Potential mitigation measures may include:

- station architecture that provides passengers with adequate weather protection from the rain and sun. This should be respectful of other awnings or verandas nearby
- design of pedestrian and cyclist paths and landscape treatments that will ensure the station is integrated into its surrounds
- incorporation of controlled intersections that will allow for safer and improved pedestrian and cyclist connections compared to roundabouts from the Esplanade to Sheridan Street
- toughened glass or transparent acrylic can be applied in places where visibility is required to access desirable views and assist passengers to orientate themselves
- detailed landscape planting themes could be introduced to strengthen the sense of place, provide place-making statements which draw upon the local vegetation character.

5.3.3.2 **Section N2: Airport Avenue to Skyrail**

**Existing situation**

*Description*

The primary feature within this section is the expansive flood plain of the Barron River Delta. To the south is the Cairns International Airport, a major generator of economic activity and employment. Industrial activities are generally located adjacent to the airport and alongside the Captain Cook Highway capitalising on exposure to the highway. To the west of the highway are both Aeroglen and Stratford residential areas which contain predominantly detached dwellings with Whitfield National Park as the backdrop. The heavy rail corridor generally follows the highway, veering west to Stratford to ultimately connect with Kuranda. This contains a number of services that operate daily.

Upon crossing the Barron River from south to north, the expansive delta is predominantly occupied by sugar cane fields with the presence of active cane rail tracks. However along the coastline are the beachside residential communities at Machans Beach, Holloways Beach and Yorkeys Knob.
This section accommodates the major tourist attractions of Skyrail and Tjapukai Aboriginal Cultural Park, both situated on the foothills of the Kuranda Range.

The images in Figure 5.5 illustrate the existing land use and environment of the Airport Avenue to Skyrail section.

![Figure 5.5: Images within Section N2: Airport Avenue to Skyrail](image)

**Planning scheme assessment**

South of the Barron River, land is included in the Freshwater–Stratford–Aeroglen Planning District. From Airport Avenue heading north is a small area of light industrial land adjacent to the highway which accommodates low intensity industrial uses which do not impact upon the nearby operations of the airport. East of the highway, land is included in the Strategic Port Land reflecting land used or owned for airport operations. To the west of the highway, land is included in the Open Space and Sport and Recreation zones which include sporting fields and part of the vegetated foothills of Mount Whitfield Environmental Park. Otherwise the majority of Mount Whitfield is included in the Conservation zone reflecting its environmental significance.

Aeroglen residential community is included in the Residential 1 zone. This is intended to accommodate detached housing on single house lots as the predominant housing form. The planning scheme envisages the established residential nature of Aeroglen to remain. To the south of Kamerunga Road at Stratford, land is also predominantly included in the Residential 1 zone. However, Stratford also contains a small pocket of land included in the Local Centre zone (reflecting a local convenience shopping centre) and Residential 3 zone providing a mix of medium density residential development at several sites along Stratford Parade in close proximity to the local centre.
The planning scheme includes the residential community at Aeroglen and at Stratford between Holmes and Hardwick Streets as Character Precincts. This recognises early outer suburbs of Cairns which retain a number of Queenslander style dwellings reflecting the early development of small isolated villages in the formative years of Cairns’ settlement. The purpose of identifying this precinct is to assist in maintaining the significance of these areas by retaining architecture and buildings that contribute to the overall character and ensuring new works are respectful to the character values.

Kamerunga Road is identified as a trunk route as part of the pedestrian and cycle movement overlay which provides a major connection to the west. This is to be reinforced with open space links along the Barron River with recreational facilities for pedestrians and cyclists to be provided.

Land north of the Barron River is included in the Barron–Smithfield District Planning Area. North of the Barron River, land is included in the Rural 1 zone. The Barron delta is to continue to be used for agricultural purposes due to the susceptibility of flooding and the presence of good quality agricultural land. The planning scheme recognises the need to maintain the rural sector, for the continuation and potential strengthening of primary industries as a major economic force for the city and region. This is also reinforced in the Far North Queensland Regional Plan 2009-2031 which recognises productive farm lands in the regional landscape features to be protected from inappropriate urban development so rural production values are maintained. Skyrail and Tjapukai Aboriginal Cultural Park are included in the Commercial zone. The planning scheme identifies that potential exists for expansion of these facilities and for other tourist attractions to establish in proximity to these attractions. Therefore a transit station at this location is warranted.

While removed from the transit network, all beachside communities have a single feeder road to the Captain Cook Highway and will benefit from the transit network. The beachside residential community of Machans Beach (approximately 2.5km from the transit network) is predominantly included in the Residential 1 zone with detached housing to remain the predominant form of housing in this community. Holloways Beach (approximately 3km from the transit network) contains both Residential 1 and Residential 3 zoning providing for a mix of housing types with medium density residential development (Residential 3) in the central part of the suburb. Yorkeys Knob (approximately 5.2km from the transit network) provides the greatest mix of residential living included in the Residential 1, Residential 3 and Tourist and Residential zone. Medium density and tourist accommodation is predominantly located closer to the waterfront. As these beachside communities are mostly surrounded by the Rural 1 zone, it is not envisaged that expansion and/or intensification of these communities within the established urban footprint will occur.

There are no heritage sites within this section, however, Machans Beach is recognised as a character precinct as it is the oldest beachfront suburb in Cairns. Overlays within the planning scheme that will be of particular relevance at the detailed design phase include the flood inundation and acid sulphate soils.

In summary, there exists little opportunity for change at Aeroglen and some minor opportunities for intensification at Stratford. The transit network through the delta is not about servicing adjacent residents, but providing a connection from the northern suburbs to the central business district and also providing an improved transit service for the beachside.
communities. The possibility for a park and ride facility here will be investigated further in future detail design and impact management planning. A station at Skyrail or within close proximity is also warranted at this location as it is a major tourist destination and has the opportunity to further grow and intensify. Zoning is shown in Figure 5.6.

Future land use planning

A greater intensity and mix of land uses to the south (particularly at Aeroglen) is unlikely due to the need to protect airport operations. There may be some opportunity for a greater mix of housing types at Stratford as it is located outside of the airline flight paths, within close proximity to the river and affords river views; has already allowed for a small mix of housing, and with the presence of a transit station may lend itself for some multi unit dwellings in the future. No expected planning changes are envisaged for land north of the Barron River on the delta. However the Far North Queensland Regional Plan 2009-2031 allows for small scale tourism activities such as the recently approved ‘Adventure Waters’ water park. The cumulative effects of these small scale tourism operations could have implications for public transport.

Issues and opportunities

Issues that need to be considered and addressed as part of detailed design include:

• impacts of flooding and acid sulphate soils associated with the Barron River delta
• environmental impacts associated with crossing the Barron River and Thomatis Creek
• crossing of the heavy rail line that runs parallel to Aeroglen Drive and at Stratford Parade to allow the transit network to head north, crossing the Barron River
• impacts to access arrangements for properties fronting Rinks Close, Stratford
• investigate the possibility and suitability of providing a park and ride facility on the delta to service all three beachside residential communities
• crossing the active cane rail corridor near the Captain Cook Highway
• access arrangements and viability of industrial land parcels near the intersection of Airport Avenue and Captain Cook Highway
• integration of the transit network with the future Captain Cook Highway Smithfield bypass near Skyrail.
Figure 5.6: Zoning within Section N2: Airport Avenue to Skyrail
Opportunities to be considered and explored in future detail design include:

- improvements to open space links along the Barron River at Stratford in conjunction with Cairns Regional Council as part of constructing a new bridge
- incorporation, where possible, of cycle connections as part of the transit network and ensuring connections west along Kamerunga Road, south of the Barron River are provided
- increased access to key tourist destinations
- consideration that parts of Stratford may provide opportunities for a greater variety of housing types including some multi unit dwellings near the local centre and future transit station, as it is removed from noise constraints associated with the airport and is scenically located near Mount Whitfield and Barron River
- delivery of a station at Skyrail or within close proximity, that allows for expansion of existing attractors or other tourist destinations to be located.

Potential urban design mitigation measures

While there is a significant amount of space within the road reserve from Airport Avenue to Barron River, potential mitigation measures may include:

- landscape solution to create a green corridor with vegetation planting producing a ‘green’ outlook
- combination of mounding and landscaping near residential properties fronting Magazine Street
- reconfiguring the road, transit network and / or heavy rail to fit within the existing wide corridor at Aeroglen to minimise impacts and access arrangements to properties (the Aeroglen Road reserve width varies from 17.6m to 34m and the Kuranda railway Line reserve width varies between 26 and 34.5m).

North of the Barron River to Skyrail, the transit network travels through rural land where urban design mitigation measures are not required.

5.3.3.3 Section N3: Skyrail to Trinity Park

Existing situation

Description

This section stretches from north of Skyrail, through Smithfield to Reed Road, Trinity Park with the vegetated foothills of the Kuranda Range providing the backdrop to the west. This section includes Smithfield shopping centre that provides for the retail needs of the northern suburbs and the communities of the north eastern tablelands that access Smithfield by the Kennedy Highway. Smithfield shopping centre is located to the west of the highway and includes a large enclosed shopping centre, surrounded by parking. There is a lack of active street frontage with the highway forming a major barrier with its associated traffic volumes and speed. A new town centre is proposed to the north east of the existing centre on greenfield land. To the east of the Captain Cook Highway, just north of the intersection with Kennedy Highway near Mount Milman Drive, land is currently undergoing transition from predominately rural activities to a mix of uses including detached residential dwellings and
commercial uses. North of the existing centre to the west of the highway is the existing Smithfield residential area which contains predominately older detached dwellings.

James Cook University, a major attractor, is located north of McGregor Road at the base of the Kuranda Range. It is positioned away from the highway with space to expand in the future. North of the University to the west of the highway are detached houses on large allotments directly at the base of the range.

North of McGregor Road on the eastern side of the highway, new residential estates have been built, containing predominately detached housing, one to two storeys in height, however CairnsPlan allows for higher intensity uses. South of Reed Road is Trinity Park State School and some community facilities including the Marlin Park swimming complex.

This section is intersected by the Kennedy Highway that provides a major connection to the communities on the Atherton tablelands.

The images in Figure 5.7 illustrate the existing land use and environment of Skyrail via Smithfield to Reed Road, Trinity Park section.

Figure 5.7: Images within Section N3: Skyrail to Trinity Park

Planning scheme assessment

This section of the transit network is partially within the Barron–Smithfield and Cairns Beaches Planning Districts (refer to Figure 5.8 for zoning). North of Skyrail to the west of the highway, land is included in the Open Space, Commercial and Residential 2 zones. The Open Space and Commercial land is presently undeveloped. The existing Smithfield shopping centre to the west of the highway is included in the Sub Regional Centre zone.
Sub regional centres are to develop as major community focal points providing a range of services and function as a major employment node. Sub regional centres are to provide for shopping facilities, together with a broad range of business, professional, medical, community facilities and entertainment/recreation facilities. Further north to McGregor Road is the existing Smithfield residential community which is predominantly included in the Residential 1 zone reflecting the detached housing within this area. Some Residential 2 zone exists near McGregor Road providing for a wider choice of housing in terms of form and size.

To the east of the highway between Kennedy Highway and McGregor Road is a patchwork of zones including Commercial, Residential 3, Community Facilities, Open Space and Residential 2. Commercial is anchored towards the intersection of the Kennedy Highway and Captain Cook Highway and contains a range of retail warehouse uses. The Commercial zone is also located near the McGregor Road intersection where the future Smithfield town centre is proposed. The planning scheme identifies the future Smithfield bypass of the Captain Cook Highway.
North of McGregor Road to the west of the highway is the James Cook University which is designated as Community Infrastructure and included in the Community Facilities zone. This encompasses a large area of land, far larger than the current campus providing the opportunity for expansion of the university. Surrounding the university, land is included in the Conservation zone. North of the university, still on the western side of the highway, land is included in the Industry zone and Low Density Residential. Land identified for Industry purposes is currently vacant. East of the highway and north of McGregor Road, land is included in the Local Centre zone reflecting the current convenience centre, surrounded by the Residential 3 zone which allows for medium density housing and the Open Space zone. Further north land is included in the Residential 1 (detached housing), Sport and Recreation (sporting ovals) and Community Facilities (school) zones.

An amendment to the planning scheme is presently underway to recognise the three nodes that make up the Smithfield town centre including James Cook University, the town centre core and the existing Smithfield shopping centre. The Town Centre will incorporate mixed use retail, commercial, business, residential, entertainment and community activities and facilities. This will provide guidance as to the form and intensity for the future Smithfield town centre.

The Captain Cook Highway including the Smithfield bypass are identified as trunk routes for pedestrian and cycle movements and will need to be considered in delivery of the transit network.

In summary, both sides of the Captain Cook Highway north of the Kennedy Highway have land uses that need to be serviced by the transit corridor. Connections to the transit stations and across the Captain Cook Highway will need particular attention to ensure integration is achieved. Major destinations at Smithfield include the existing sub regional centre, the future town centre and James Cook University. However, the provision of supporting uses adjacent to the university and transit station (except for the Industry land) is limited due to the adjacent Smithfield Conservation Park. North of McGregor Road to the east of the highway is identified for future residential uses and means to integrate with the transit network will need to be explored.

**Future land use planning**

There may exist opportunities adjacent to Skyrail for other tourist attractions to be located, reinforcing this hub as a tourist precinct. Proposed amendments to the planning scheme will facilitate a range of uses supporting Smithfield as a Sub Regional Centre. The small pocket of industrial land north of James Cook University may have merit to be developed for uses that support the University and promote further patronage of the transit service. This may include uses that have a nexus with the university such as research facilities and student accommodation.

**Issues and opportunities**

Issues that need to be considered and addressed as part of detailed design include:

- connections across the Captain Cook Highway for both pedestrians and cyclists that allow for land uses on both sides of the highway to be serviced by the transit network.
This is particularly relevant for the existing Smithfield shopping centre and future town centre

- integration of the transit network with future plans to construct the Captain Cook Highway bypass at Smithfield
- integration with long-term plans to upgrade the Kennedy Highway
- ability to service the large residential catchment to the east of the highway south of Reed Road
- integration of the transit network with James Cook University who are presently going through a master planning process
- the visual and physical impact of the transit network in conjunction with the highway may cause further severance and isolation between land uses and activities east and west of the highway
- noise and acoustics combined with the highway.

Opportunities to be considered and explored in future detail design include:

- transit stations to overcome segregation of uses posed by the presence of the highway at Smithfield, for example by providing pedestrian under/over passes
- ability to undertake joint delivery of the transit network and the Smithfield bypass of the Captain Cook Highway may result in savings and minimise disturbances during construction
- greenfield land adjacent to the university could be developed for further educational, research or multi unit residential development which will better support the transit station and offer greater patronage than industrial uses identified in the planning scheme
- providing for active uses that interact and look out along the Captain Cook Highway such as shops and cafes rather than blank walls of buildings, in particular with the planning of the Smithfield bypass of the Captain Cook Highway
- positioning of the station at Smithfield shopping centre will assist in establishing a stronger presence of the centre to the road which is currently lacking due to the inward facing nature of the design of the centre
- the structural design of the stations to ensure that key views and vistas to the vegetated mountain hill slopes are provided.

**Potential urban design mitigation measures**

The location of the transit network adjacent to greenfield land allows for future land uses to plan for the transit network and stations in its design to provide for purposeful land use transport integration. In particular, the future town centre and expansion of the university can ensure that development addresses the station and meaningful integration into the overall design occurs. Where the transit network is positioned close to established uses such as opposite the existing Smithfield shopping centre where some residential uses exist, potential mitigation measures may include:
• landscaping to create a green outlook towards the existing highway
• noise mound (or noise walls)
• use of crime prevention through environmental design (CPTED) principles within the station design and connections to the stations to maximise safety for pedestrians.

It is not envisaged that commercial properties will be seeking such treatments, wishing to maintain their exposure to passing traffic. It is likely that toughened glass or transparent materials will be used where visibility is required to ensure view lines are protected.

Should delivery of the transit network occur concurrently with construction of the Captain Cook Highway bypass of Smithfield (currently being reviewed by the Department of Transport and Main Roads), the opportunity to use space within the existing highway road reserve to create a more pedestrian friendly ‘main street’ environment with an improved public realm should be actively pursued.

5.3.3.4 Section N4: Trinity Park to Palm Cove

Existing situation

Description

This section is characterised by a narrow coastal strip with beaches to the east and steep, vegetated mountain ranges to the west which make up part of the World Heritage Wet Tropics Area. The small beachside communities of Kewarra Beach, Clifton Beach and Palm Cove have a distinct feel and provide for residential living and tourist accommodation/facilities. Tourist facilities include Cairns Tropical Zoo, motels, small scale retail and restaurants and are predominantly located in close proximity to the beaches.

Within this section is a range of residential living including rural residential living to the west of the Highway and some new residential estates including detached housing and multi unit dwellings to the east. Remnant vegetated areas to the east of the highway are located north of Kewarra Beach and Clifton Beach communities. Other major uses include golf courses and parkland particularly along waterways, sporting ovals, small local shopping centres and schools. The images in Figure 5.9 illustrate the existing land use and environment of the Trinity Park to Palm Cove section.

Planning scheme assessment

This section of the transit network is within the Cairns Beaches Planning District (refer to Figure 5.10). To the east of the highway, north of Reed Road to Trinity Beach Road, new residential estates have and are being built (i.e. Bluewater development) on land included in the Residential 2 zone. This is intended to provide for a wider choice of housing. The Residential 1 zone which includes existing detached dwellings is located to the north east. North west of Trinity Beach Road, land is included in the Sport and Recreation zone which recognises the district sporting ovals, with the Residential 2 zone abutting this land until Poolwood Road.

From Poolwood Road the transit network runs within the Captain Cook Highway road reserve. To the west of the highway land is included in the Residential 1 and 2 zones (although predominately consists of detached housing); the Sport and Recreation zone reflecting the golf course; with some large pockets of rural residential living in the Low
Density Residential zone. Land to the west of the highway is surrounded by the Conservation zone recognising the importance of the vegetated hill slopes limiting further growth to the west.

Figure 5.9: Images from Section N4: Trinity Park to Palm Cove

To the east of the highway north of Poolwood Road is a mix of residential zones including Residential 1 and 2 (again predominately detached housing but on smaller lot sizes), some pockets of Residential 3 and Tourist and Residential zones. This is reflective of this location’s proximity to the beach. Other zonings prevalent include Open Space (parkland), Local Centre (shopping centre); and Community Facility (school). Palm Cove contains the largest amount of tourist accommodation adjacent to the beach with intentions that this be consolidated. Further urban expansion is not supported. Remaining greenfield land at Palm Cove is intended to accommodate permanent residents and is included in the Residential 2 zone to provide for a range of housing types. Both Clifton Beach and Kewarra Beach are
intended to remain primarily for conventional residential living, as this is evident by the fact that the area is dominated by parcels of land zoned Residential 1 and Residential 2. Directly north of Palm Cove, land is included in the Wet Tropics Area and is the end of the urban footprint of Cairns.

There are no heritage sites within this section.

Figure 5.10: Zoning from Section N4: Trinity Park to Palm Cove
The pedestrian and cycle overlay identifies the Captain Cook Highway as the trunk route for pedestrian and cyclist movement. This will need to be considered in conjunction with the transit network as the transit network may provide more desirable pedestrian and cycle opportunities.

In summary, the transit network within this section services the northern end of the urban area of Cairns. It is predominantly a residential area with the highest concentration of land included in the Tourist and Residential zone apart from Cairns city centre. This is due to the proximity to the beaches and the backdrop of the vegetated hill slopes of the Wet Tropics World Heritage Area to the west. While connections from the transit network to the beachside residential communities will need to occur, connection to tourist areas particularly in Palm Cove will also have the benefit of attracting tourists, and thus improving patronage.

Future land use planning

It is envisaged that the future planning intent will be similar to the existing planning provisions. However considering this section's location between the beaches and the vegetated hill slopes of the World Heritage Area, it is recognised that there may be pressure for change to allow further tourist uses.

Issues and opportunities

Issues that need to be considered and addressed as part of detailed design include:

- kerbside running of the transit network north of Poolwood Road will result in stations on both sides of the highway. Pedestrians crossing the highway will require detailed investigation
- majority of properties adjacent to the Captain Cook Highway do not have direct property impacts. There are, however, a few properties that directly access the highway where access issues require further attention
- noise and acoustics combined with the highway.

Opportunities to be considered and explored in future detail design include:

- future upgrades of the Captain Cook Highway could be undertaken concurrently with the delivery of the Cairns Transit Network kerbside lanes, thus minimising disturbance and potential cost savings
- design of stations that allow for pedestrians and cyclists to cross the highway improving east–west permeability
- the structural design of the stations to ensure that views and vistas to the vegetated mountain hill slopes are provided
- location of transit stations near road intersections with the Captain Cook Highway provides the opportunity for traffic signals to be incorporated and improved pedestrian connectivity across the highway.

Potential urban design mitigation measures

Between Reed Road and Poolwood Road, the transit network has been secured as part of a development approval of the Bluewater Estate and landscaping treatments could be used to soften any impacts. North of Poolwood Road, the transit network will be located within the
kerbside lanes of the Captain Cook Highway. As the majority of uses along the highway have service streets or face away from the highway, only minor mitigation measures such as landscaping are considered necessary within this section.

5.3.4 Southern corridor analysis

5.3.4.1 Section S1: Cairns City to Moody Creek

Existing situation

Description

The Cairns City centre is the major destination within Cairns and includes the greatest mix and intensity of uses including retail, commercial, entertainment, administrative and residential for both residents and tourists.

Near the city end of Spence Street are a range of commercial office blocks up to 10 storeys in height and retail uses and high rise multi unit dwellings for both residents and tourists. This includes the Cairns Central shopping centre which is a large box centre, inwardly orientated with little relationship to the street and the Cairns Regional Council building with its landscaped gardens and parking focused towards the rear of the building. An existing and an approved homemaker centre are also located adjacent to the Council building. Behind the Cairns Central shopping centre between Palm Avenue and Bunda Street appears an area in transition with a mixture of detached Queenslander timber and tin housing, and some low scale office and business uses. At the intersection of Severin and Little Spence Streets is Barlow Park which contains a number of sporting ovals.

Generally, between Buchan Street and Lazarus Street are other pockets of timber and tin detached housing with some multi unit dwellings, warehousing and business uses. The dispersed pockets of timber tin housing reflect the long established nature of this part of Cairns. From Lazarus Street to Moody Creek and south of Mulgrave Road are a range of warehousing and light industrial uses. This is particularly evident further west, away from Cairns city centre.

A grid street pattern exists with streets such as Spence and Hartley Streets possessing a wide street reserve. Spence Street, in particular, has an old railway corridor (now designated as a “non-rail transport corridor”) which is owned by the state government. The old railway corridor is within a central, grassed median bound on either side by road. Some businesses hold leases with the Department of Transport and Main Roads for car parking or material storage within this corridor. The heavy rail line crosses Spence Street near Cairns Central station which is used by both passenger and freight services connecting Cairns to the southern cities and ports.

To the east is both Moody and Chinaman Creeks which connect to important ecological habitats and areas of Trinity Inlet.

The images in Figure 5.11 illustrate the existing land use and environment of the Cairns City to Moody Creek section.

Planning scheme assessment

This section is included in both the Inner Suburbs Planning District to the north of Spence Street and the Portsmith-Woree Planning District south of Spence Street (see Figure 5.12).
Figure 5.11: Images from Section S1: Cairns City to Moody Creek
West of Bunda Street land is mostly included in the Commercial zone on the fringe of the city centre that allows for business or professional offices. The exception is Barlow Park which is included in the Sport and Recreation zone and a small pocket of residential adjacent to Buchan Street which is identified for Residential 3 providing for high density housing. Two small pockets of residential land near Barrett, Edgar and Kidston Streets are included in the Residential 2 zone providing for a wider choice of housing in terms of form and size. Between Nelson and Little Spence Streets is a pocket of Residential 1 zone which reflects the character housing at this location with little intention for change.

The predominant zoning from Lazarus Street to Chinaman and Moody Creeks to the west, and south of Spence Street is Industrial providing for a wide range of industrial activities. This is part of the Portsmith–Woree major employment area that contains the Cairns Seaport, major rail and road freight terminals. At the end of Spence Street near both Chinaman and Moody Creeks, land is included in the Conservation zone reflecting the mangrove/wetland area that forms part of the Trinity Inlet ecosystem and the Community Facilities zone which contains the Council depot. Other notable zonings include the Centre and Commercial zones along Mulgrave Road that run parallel to Spence Street and a major route into the city centre.

The cultural heritage overlay recognises character precincts north of Spence Street between Bunda and Severin Streets on land intended for commercial purposes. The schedule of heritage sites also recognises a large area bound by Severin Street, Martyn Street to Spence Street as containing character of a range of inner suburban dwellings dating from...
the inter war period. While no house by itself contains individual heritage significance, jointly they provide heritage value and exemplify aspects of early living areas within Cairns.

As per the city centre and North Cairns, this section is relatively flat and is included in the Defined Flood Event 1:100 ARI recognising the flooding impacts that must be considered for any development including the transit network in this location. This includes the need to ensure any adverse flooding impacts on adjoining or external properties are addressed.

Spence Street is recognised as a Sub Arterial Road within the road hierarchy and performs a district route for pedestrians and cyclists movement. The former Spence Street rail corridor is identified to be retained for a future public transport corridor or for other transport purposes.

In summary, the transit network through this section services one of Cairns’ major employment nodes for commercial/business and industrial uses. Connections to the centre and commercial uses along Mulgrave Road need to be provided. The intent for this corridor to be used for public transport is identified in the planning scheme.

Future land use planning

It is envisaged that the land use planning intent within this section will remain the same for some time apart from some further commercial development closer to the city centre. However, in the longer term there may be merit for change given this area’s proximity to the city centre, Earlville shopping centre and the transit network. This is particularly the case for the area between Mulgrave Road and Spence Street which may be developed for more intensive forms of mixed use development, including commercial development and multi unit dwellings, rather than the service industrial uses that currently exists.

Issues and opportunities

Issues that need to be considered and addressed as part of detailed design include:

- design of the transit stations to respect the surrounding built form and where possible maintain vistas to the Trinity Inlet to the south and the vegetated hill slopes to the west
- connections to Mulgrave Road where a number of commercial and centre activities are located
- integration and connections with the proposed Central Park Cairns master planned residential, commercial and tourism development on Spence Street
- traffic impacts and circulation patterns with a central median bus operation down Spence Street
- potential reduction of on street parking along Spence Street within the city centre
- loss of leases for car parking or material storage within the old railway corridor
- impacts associated with crossing of both Chinaman and Moody Creeks, including impacts on vegetation
- crossing of the heavy rail line near Cairns Central and possible delays
- no net worsening of flooding impacts to adjacent properties.

Opportunities to be considered and explored in future detail design include:
• strengthening connections from the Cairns Central station and the proposed Central Park development
• improved pedestrian and cyclist connections across Moody and Chinaman Creeks providing for greater connectivity throughout the area
• improvements to the public realm along Spence Street
• integration of stations with Cairns Regional Council and Cairns Central shopping centre
• integration of the station with Barlow Park that will provide for this facility to be better appreciated and utilised
• incorporation of street tree planting that is consistent and connects with the city centre
• prospect of strengthening and intensifying land use opportunities within this section, particularly between Mulgrave Road and Spence Street.

Potential urban design mitigation measures

Potential mitigation measures may include:
• station architecture that provides passengers with adequate weather protection from the rain and sun
• design of pedestrian and cyclist paths along Spence Street, improving integration to its surrounds
• inclusion of transparent panels to retain views to the mountain range and towards the city centre
• crime prevention through environmental design in predominately industrial areas outside business hours
• incorporation of controlled intersections that will allow for safer and improved pedestrian and cyclist connections between Mulgrave Road and the industrial/employment area to the south
• detailed landscape planting themes could be introduced to strengthen the sense of place, provide place making statements which draw upon the local vegetation character. Particularly towards the city centre end, the landscaping could tie in with the existing vegetation species within the city centre, strengthening the connections.

5.3.4.2 Section S2: Moody Creek to Earlville

Existing situation

Description

This section extends from Chinaman and Moody Creeks to Mulgrave Road along the back of the existing retirement village and is focused upon connecting with Earlville shopping centre. Earlville shopping centre is a large inward facing shopping centre located on the Bruce Highway where it turns east into Mulgrave Road heading towards the city centre. The centre is predominantly retail, one level and surrounded by car parking. It currently contains 125 retailers including a full line supermarket, discount department stores and cinema.
Surrounding the centre are some commercial uses on Mulgrave Road that favour the exposure to passing traffic; a range of housing types including detached, attached and multi unit dwellings one to four storeys in height; small pockets of light industrial/service industry on Ishmael Road and Commercial Place; a pony club behind industrial properties near Telford Street; the Cannon Park racecourse to the south; and both Moody and Chinaman Creeks to the east and associated vegetation.

Crossing Mulgrave Road to the west is predominantly established residential areas of detached housing on single lots, interspersed with small pocket parks. The images in Figure 5.13 illustrate the existing land use and environment of the Moody Creek to Earlville section.

Source of aerial imagery: Cairns Regional Council

**Figure 5.13: Images from Section S2: Moody Creek to Earlville**

Planning scheme assessment

This section is included in the Inner Suburbs Planning District (see Figure 5.14). Earlville shopping centre and uses fronting Mulgrave Road on both sides are included in the Sub Regional Centre zoning which is intended to provide for retail, commercial, administrative, community and entertainment services relative to its location and size. The scheme highlights that it is intended that this centre continue to be strengthened and consolidated, while significant expansion is not envisaged. Along Mulgrave Road from Ishmael Road heading east to Dillon Street is Commercial zoning reflecting the commercial activities adjacent to the centre.
Behind the centre adjacent to Ishmael Road is a combination of Residential 3 zoning providing for medium density residential living due to its proximity near the Earlville Centre; Industry zoning; and Sport and Recreation zoning which includes the pony club and racecourse.

A significant portion of the Earlville shopping centre site is identified within the 100 year flood inundation. Construction of the transit network must ensure flooding impacts are addressed.

No heritage values have been identified within this section.

The Bruce Highway and Mulgrave Road are identified as state controlled roads with Ishmael Road identified as a collector road. Both routes are also identified as part of the pedestrian and cyclist movement network.

Earlville is recognised as a Sub Regional Centre, second in the centres hierarchy after Cairns city centre. Earlville is also indicted as a secondary hub for a public transport interchange for services to travel north-south or east to the city centre. The intention for this centre is to be more than just retail, highlighting this location as a major destination. Earlville is one of only three centres (others being Smithfield and Edmonton) to be given this status in the Cairns centre hierarchy. This reinforces the importance of providing efficient public transport connectivity via the Cairns Transit Network.

**Future land use planning**

It is not envisaged that the status of this centre within the centres hierarchy will change. However, in the longer term the opportunity for further community, administrative, commercial and retail that consolidates and strengthens the existing centre is likely to occur. What may change is the mix of uses behind the centre, particularly around Ishmael Road. This may include pressure on industrial uses and the pony club to relocate and for uses...
more supportive of the centre such as mixed use retail, commercial and multi unit dwellings to be developed. This may even include Ishmael Road being transformed into a ‘main street’ that is more pedestrian focused.

**Issues and opportunities**

Issues that need to be considered and addressed as part of detailed design include:

- property impacts near Ishmael Road
- potential noise impacts to the adjacent multi unit dwellings, particularly the retirement village on Ishmael Road
- integration of the transit station with the existing Earlville centre, with regard given to the centre’s access and exit locations
- flooding impacts and the need to ensure no net worsening by the presence of the transit network
- minimising the loss of significant vegetation communities near Chinaman and Moody Creeks which form part of the natural ecosystem of Trinity Inlet.

Opportunities to be considered and explored in future detailed design include:

- strengthening the centre as a destination with a public transport interchange
- working in partnership with the centre owner as part of any expansion of Earlville shopping centre to deliver an integrated outcome
- attracting uses that have extended operating hours such as cafes, restaurants, bars and gyms that are in keeping with the intent of the zone and provide for increased surveillance and improved safety and life adjacent to the station
- provision of pedestrian/cyclist connections over Moody and Chinaman Creeks that provide for greater connectivity
- long-term possibility to create a pedestrian focused main street on Ishmael Road that supports the existing centre, providing for a mix of uses, public urban space and public realm improvements that ‘tie’ the different parts of the centre together.

**Potential urban design mitigation measures**

Potential mitigation measures may include:

- station architecture that provides passengers with adequate weather protection from the rain and sun. Where possible, this should be generous in its shelter and shade amenity and be continuous to link in with the Earlville shopping centre
- attracting uses that extend the operating hours to provide for greater life and vitality of the centre outside of core retail times. Hence, the station design should incorporate materials that are not disruptive to sight lines which may include toughened glass or transparent acrylic. This is particularly the case where visibility is required to access desirable views and assist passengers to orientate themselves
- landscaping elements to soften the look and feel of the station in a relatively hard, urban environment
• reinstatement of vegetation and landscaping where the transit network crosses both Chinaman and Moody Creeks that incorporates native species
• redevelopment of the centre to provide active frontages near the station to ensure delivery of safe, accessible and vibrant station environment.

5.3.4.3 Section S3: Earlville to Edmonton

Existing situation

Description

The southern suburbs from Earlville to Edmonton are primarily located to the west of the Bruce Highway. The exception is the residential neighbourhood of White Rock east of the Bruce Highway. The residential suburbs to the west of the highway are bordered by the vegetated hill slopes of the coastal ranges and form a linear strip of urban development to Edmonton. The hill slopes are a dominant feature within this section.

The southern suburbs contain predominantly detached housing with a number of relatively new estates built within the last 20 years. Some multi-unit dwellings however exist at Woree and White Rock. Rural residential is located south of White Rock east of the highway. Other uses within this section include shopping centres, the Cannon Park racecourse, golf course, schools and open space. This area is relatively established with only a few greenfield locations remaining.

Planning is presently being undertaken to upgrade the Bruce Highway within this section in conjunction with the Cairns Transit Network. Adjacent to the Bruce Highway is the North Coast Rail Line that serves the towns along the Queensland coastline. The cane rail line is located within the residential neighbourhood and used during harvest season.

The presence of vegetated watercourses west of the highway provides linkages from the mountains to the wetlands of Trinity Inlet, creating a number of west-east green corridors through the area. Apart from the vegetated hill slopes, the urban area is relatively devoid of vegetation, particularly in new residential estates where houses occupy the majority of the allotment.

There is relatively little employment in this section and some neighborhoods are essentially ‘dormitory suburbs’ lacking even local convenience shops. Access between neighborhoods is problematic with a poorly linked local road network. This also impacts on walking and cycling.

The images in Source of aerial imagery: Cairns Regional Council Figure 5.15 illustrate the existing land use and environment of the Earlville to Edmonton section.

Planning scheme assessment

This section is included in several planning districts, however the majority is located within the White Rock–Edmonton Planning District. From Cannon Park racecourse, south to Anderson Road, east of the highway, land is included in the Portsmith–Woree Industrial Planning District. West of the Highway, north of Forest Gardens, land is included within the Inner Suburbs Planning District (refer to Figure 5.16 for zoning).
Heading south from Earlville is considered part of the southern growth corridor which will ultimately extend to Gordonvale on the western side of the Bruce Highway. This is recognised as the major growth corridor for the city.

Source of aerial imagery: Cairns Regional Council

**Figure 5.15: Images from Section S3: Earlville to Edmonton**

The Cannon Park racecourse and Cairns golf club at Bayview Heights are the two major uses included in the Sport and Recreation zone. White Rock is predominantly included in the Residential 1 zone, Forest Gardens included in the Residential 2 zone and Mount Sheridan and Bentley Park suburbs predominantly included in the Residential 1 zone. South of the established urban area of White Rock, land is currently occupied by many houses on large acreage allotments. This land which is included in the Residential 2 zone is currently undergoing change as development in line with intent of the zone is being pursued.

Other major uses adjacent to the Bruce Highway includes District Centre zoning reflecting the Mount Sheridan shopping centre, community facilities for schools and utilities and Industry zoning at Queerah on the eastern side of the Bruce Highway adjacent to Swallow Road, where the Queerah explosives magazine is located.
Figure 5.16: Zoning from Section S3: Earlville to Edmonton
There are no heritage places or precincts identified within this section.

The Bruce Highway is identified as the trunk route for cyclists, with a district route for cyclists also running parallel to the highway in many parts. This will need to be considered in the current planning for the Bruce Highway upgrade.

**Future land use planning**

It is not envisaged that the future planning intent will differ significantly. There remains some potential for additional residential development to the east of the Bruce Highway currently used for rural residential living. There may possibly be merit that this land be identified for Residential 3 rather than Residential 2 to provide for a wider choice of housing styles which will be serviced by a high quality transit station. Other locations near stations may also be redeveloped for higher densities particularly if any remnant land becomes available after construction of the highway upgrade and transit network. Otherwise the natural attributes of the area (the wetlands of Trinity Inlet and the coastal mountain ranges) which are outside the urban footprint preclude further development from occurring.

**Issues and opportunities**

Issues that need to be considered and addressed as part of detailed design include:

- planning for the needs of the Bruce Highway in conjunction with the transit network and heavy rail line
- property impacts adjacent to the Bruce Highway due to the space requirements for transport infrastructure
- access arrangements to properties and neighbourhoods adjacent to the highway
- integration for pedestrians and cyclists to the stations across the Bruce Highway as the ultimate width of the corridor which contains the Bruce Highway, Cairns Transit Network and heavy rail line could form a major barrier
- local bus service connections into the residential neighbourhoods which are predominantly located to the west of the Bruce Highway
- possible redevelopment around stations.

Opportunities to be considered and explored in future detail design include:

- ability to provide driver layover and turning facilities at Cannon Park racecourse and also service major events at this facility
- planning in conjunction with the Bruce Highway upgrade which may result in some joint cost savings
- integration with attractors such as Mount Sheridan shopping centre, Bentley Park and White Rock schools
- station at Mount Sheridan will reinforce the centre’s function as a focus for business and retail in the suburb. Furthermore, the location of the station at the centre’s edge does not sever the centre, but enhances access to this destination.
Potential urban design mitigation measures

Mitigation measures such as landscaping or mounding within this section may be appropriate to address any potential impacts. Detailed landscape planting themes could be introduced to strengthen the sense of place and provide place making statements which draw upon the local vegetation character.

Stations along the Bruce Highway will be predominantly located at controlled interchanges to allow for integration across the highway. Due to the width of the total corridor, ample timing for pedestrians to cross or half way safety points must be considered.

5.3.4.4 Section S4: Edmonton to Gordonvale

Existing situation

Description

This section commences at the future Edmonton town centre (commonly referred to as Mann’s farm) which is currently used for growing sugar cane. South of the future Edmonton town centre are housing estates (Sugarworld Gardens) containing brick and tile detached housing and a recently constructed supermarket. This is generally the end of the current urban area of Cairns, as between Edmonton and Gordonvale to the south is Mount Peter, which predominantly contains large expanses of farmland used for sugar cane production. This includes the presence of active cane rail which is used during the harvest season. To the west is the continuation of the vegetated foothills of the mountain range, while expansive areas of farmland are situated to the east of the Bruce Highway. The images in Figure 5.17 illustrate the existing land use and environment of the Edmonton to Gordonvale section.

Planning scheme assessment

This section is included in both the White Rock-Edmonton and Rural Lands Planning Districts (refer to Figure 5.18). The site of the Edmonton town centre is presently included in the Rural 2 zone, effectively a holding zone for areas expected to accommodate future growth (however amendments are currently underway). The future Edmonton Sub Regional business and industry area to the east of the highway is intended to provide employment opportunities for the district in the form of retail, business and industry facilities for the southern urban corridor.

The Edmonton town centre will service the existing population and future population growth as the major regional activity centre within the southern growth corridor. Amendments to the planning scheme are presently being undertaken to provide more detailed guidance for the future Edmonton town centre. Planning for Edmonton centre has been designed to maximise the efficient use of land with a high level of access to public transport – known as Transit Oriented Communities. It will contain a variety of uses including retail, service businesses, and a range of accommodation types, facilities and services.

South of the Edmonton town centre site, land is included in either the Residential 1 or 2 zones reflecting the established urban area that exists. A local centre surrounded by Residential 3 adjacent to the Bruce Highway is the exception. Rural land south of Petersen Road within Mount Peter is included in the Rural Lands Planning District and reflects the current agricultural practices; however this is part of the long-term southern urban corridor.
Figure 5.17: Images from Section S4: Edmonton to Gordonvale
Mount Peter is recognised in the *Far North Queensland Regional Plan 2009-2031* as a priority urban growth corridor expected to accommodate 42,500 people. Planning for the Mount Peter Master Planned Area is currently being undertaken in partnership between Cairns Regional Council and the state government. This includes the Department of Transport and Main Roads to ensure that the needs for public and active transport are secured in the planning for this area. This includes identifying the preferred location for the Cairns Transit Network through this greenfield area, station locations and integration with surrounding land uses.

According to the broad sequence of development identified within the planning scheme and the *Far North Queensland Regional Plan 2009-2031*, some development at Mount Peter is expected to commence in the medium term (5-15 years) depending on the level of housing demand. Urban development is recommended to be restricted to those areas adjacent to the established urban development nodes at Edmonton and Gordonvale. However, it is the longer term (15+ years), when the majority of development is envisaged, including job creation to reduce commuter and community travel for employment and services. The planning scheme includes measures to ensure that the potential for future urban development is not compromised. This includes restricting subdivision or fragmentation of
larger land parcels and ensuring land uses are compatible with urban development in the longer term.

**Future land use planning**

Planning for the future land use development over the next 30 years is occurring now. Current master planning will form the basis of more detailed plans for inclusion in the planning scheme with an accompanying infrastructure charges plan for funding. The scale of growth expected at this location represents one of the largest master planning exercises in Queensland.

**Issues and opportunities**

Issues that need to be considered and addressed as part of detailed design include:

- protecting the transit corridor through the master planning process
- integration of the transit station with the future Edmonton town centre
- crossing of active cane rail tracks particularly during harvest time
- crossing of local waterways which predominantly run east-west and minimising disturbance to fauna and flora communities.

Opportunities to be considered and explored in future detail design include:

- ensuring the land is dedicated for the transit corridor as development occurs
- ensuring purposeful integration of the transit stations with future surrounding development
- minimal impacts to properties due to large expanse of greenfield land and space within the existing road corridor (i.e. Mount Peter Roads)
- connection of the transit network from Mount Peter into Gordonvale
- provision of pedestrian and cyclist facilities as part of the master planning process.

**Potential urban design mitigation measures**

As the transit network corridor will be secured through the master planning process at Edmonton town centre and Mount Peter, the opportunity to ensure the network is well integrated with land uses, ensures minimal urban design mitigation measures need to be incorporated. At the Edmonton town centre, the ability to enhance pedestrian movements and active frontages around the station assists in delivering accessible, safe and vibrant environments. Through the master planning, the stations can be positioned in suitable locations, be integrated well into their surrounds and have common plantings and design responses blending the stations into the new developments. Where the transit network goes through existing communities along Walker and Chay Roads the transit network will integrate with Cairns Regional Council’s proposed road upgrade with appropriate landscaping and design treatments to be provided.
5.3.5 Western corridor analysis

5.3.5.1 Section W1: Cairns Base Hospital to Manoora

Existing situation

Description

This section commences at the Cairns Base Hospital which links in with the northern corridor. The area is a well established urban area containing a range of housing types including historical ‘Queenslander’ style housing, pensioner housing, detached post-war housing, public housing and some multi unit dwellings. The majority of multi unit dwellings are located closer to the Esplanade and city.

Low scale commercial uses are located along Sheridan Street which forms a major gateway into the city centre from the north. Other non residential uses include Raintrees shopping centre, small scale local shopping facilities and local parks dispersed throughout.

Other notable uses include the Cairns cemetery, and educational facilities including the Cairns State High School, Tropical North Queensland TAFE, Trinity Bay State High School and Cairns West State School. Cairns Central Swamp, a large area of remnant vegetation is located between Severin Street and English Street that borders the northern boundary of the TAFE. The images in Figure 5.19 illustrate the existing land use and environment of the western suburbs from Cairns Base Hospital to Manoora.

Figure 5.19: Images from Section W1: Cairns Base Hospital to Manoora

Planning scheme assessment

This section is predominantly included in the Inner Suburbs Planning District, however a small section near the Cairns Base Hospital is included in the CBD–North Cairns Planning District (refer to Figure 5.20). Near the hospital, land is predominantly included in the Tourist and Residential zone which is intended for a range of tourist accommodation. Immediately west of Dunn Street is a substantial pocket of land included in the Residential 3 zone providing for the development of medium density housing within close proximity to the city. Residential 3 is also located adjacent to Pease Street and near Raintrees shopping centre. Between the TAFE campus and Pease Street, the predominant zoning is Residential 1 reflecting the detached housing on single lots.

Raintrees Centre is a District Centre that services the community and provides for a range of services including retail, business and community facilities. It is not envisaged that there will be significant expansion of this centre or other centres within this Planning District with the
The intention that existing centres be consolidated. The Commercial zone is located adjacent to Pease Street capitalising on the bypassing traffic along this major arterial road.

**Figure 5.20: Zoning for Section W1: Cairns Base Hospital to Manoora**

The Conservation zone reflects the remnant vegetation of the Cairns Central Swamp. The Sport and Recreation zone is located on sporting ovals at Gatton Street. The Cairns Base Hospital, TAFE and schools are all included in the Community Facilities zone.

The cultural heritage overlay highlights a number of local heritage places in the vicinity of the transit network including Cairns State High School and Pioneer Cemetery. Two character precincts within the vicinity of the transit network are located between Dunn Street and Severin Street; and Buchan Street and Aumuller Street. A character precinct is also proposed along Martyn Street. These pockets contain characteristics of Cairns at a particular stage of its development, and retention and sensitive maintenance is sought to conserve this example of the earlier character of Cairns.

This section is relatively flat and is included in the Defined Flood Event 1:100 ARI. The flooding impacts must be considered for any development including the transit network in this location. This includes the need to ensure adverse impacts on adjoining or external impacts are addressed. This section also contains potential acid sulphate soils.

Grove Street is identified as a sub arterial route and then downgraded to a collector road, west of Draper Street west. Gatton and Hoare Streets are classed as sub arterial routes, with Pease Street identified as a state government controlled road. All these routes also perform a role in the pedestrian and cycle movement proposed for Cairns.

**Future land use planning**

It is not envisaged that the future planning intent throughout this area will differ significantly due to the established built up nature. There may be a greater take up of a range of housing types in the Residential 3 zone, however this will need to be cognisant of the character precinct requirements.
Issues and opportunities

Issues that need to be considered and addressed as part of detailed design include:

- kerbside bus/transit lanes on Gatton and Hoare Streets and access to private properties
- design of the transit stations needs to respect the surrounding built form, cognisant of existing and future uses. It must be cognisant of its setting and, where possible, maintain views to the vegetated backdrop of Cairns to the west
- north-south vehicular movements across the transit network to be maintained
- crossing of the heavy rail line and possible delays
- changes to any on street parking arrangements, particularly near educational establishments
- mitigating any potential impacts of flooding issues and acid sulphate soils
- local bus connections to Raintrees shopping centre, a major attractor within this neighbourhood
- pedestrian connections from Cairns Base Hospital station to Cairns State High School.

Opportunities to be considered and explored in future detail design include:

- strengthening pedestrian connections from the Cairns Base Hospital to nearby attractors
- improved pedestrian and cyclist connections along the length of the transit network providing for greater connectivity throughout this established area
- integration of stations with both Tropical North Queensland TAFE and Trinity Bay State High School
- incorporation of street tree planting that is consistent and connects with the northern corridor
- opportunity to review the urban design of Hoare and Pease Street, to create a more pleasant landscaped thoroughfare or “main street”
- prospect of strengthening and intensifying land use opportunities within this section.

Potential urban design mitigation measures

Potential mitigation measures may include:

- station architecture that provides passengers with adequate weather protection from the rain and sun
- use of crime prevention through environmental design principles within the station design and connections to the stations to maximise safety for pedestrians
- toughened glass or transparent materials can be applied in places where visibility is required to access desirable views and assist passengers to orientate themselves
• incorporation of signalised intersections at various locations will allow for safer and improved pedestrian and cyclist connections across the transit network
• landscape planting themes could be introduced to strengthen the sense of place, provide place-making statements which draw upon the local vegetation character.

5.3.5.2 Section W2: Manoora to Skyrail

Existing situation

Description

This section commences at the start of Reservoir Road at its intersection with Pease Street and travels through the established residential area of Manoora. This predominantly includes detached housing on single lots, but also includes the Sunland Caravan Park. Bushland, the quarry and the reservoir form somewhat of a boundary between the older established suburbs and the recently developed Kanimbla and Brinsmead residential areas.

From Kanimbla, the transit network generally travels through the low lying areas and floodplains of the Barron River and Freshwater Creek. The floodplains are primarily used for agricultural purposes, in particular sugar cane fields. Residential communities within the Redlynch valley are effectively located within a large cul-de-sac and can only enter and exit from Redlynch Road which connects to Brinsmead Kamerunga Road that runs from north to south east.

The Brinsmead Kamerunga Road provides a second crossing of the Barron River. This road also connects the small residential communities of Kamerunga and Lake Placid before connecting to Skyrail and Tjapukai Aboriginal Centre tourist facilities. To the west are the vegetated foothills which form the western boundary and scenic backdrop to the floodplain. The images in Figure 5.21 illustrate the existing land use and environment of the Manoora to Skyrail section.

Planning scheme assessment

This section is included in the Inner Suburbs Planning District to the south, Redlynch Valley Planning District from Brinsmead Kamerunga Road to Barron River and Barron-Smithfield Planning District from Barron River to Skyrail (refer to Figure 5.22).

From the intersection of Reservoir Road with Pease Street, land is predominantly included in the Residential 2 and 3 zones providing for a choice of housing types. This includes the Sunland Caravan Park. The reservoir is included in the Community Facilities zoning surrounded by Residential 1 zoning which is currently used for quarry activities. Residential 1 zoning predominates in the recently developed suburbs of Kanimbla and Brinsmead.

At Freshwater Creek, land is included in the Rural 1 zone reflecting the agricultural activities. This is further reinforced in the Far North Queensland Regional Plan 2009-2031 which protects productive lands outside of the urban footprint. To the west of Brinsmead Kamerunga Road at Redlynch Connection Road, urban uses exist with the presence of Residential 1, 2 and 3 zoning providing for a mix of housing types and Community Facilities reflecting educational uses.
Figure 5.21: Images from Section W2: Manoora to Skyrail
Figure 5.22: Zoning for Section W2: Manoora to Skyrail
The planning scheme identifies opportunities for integrated development of commercial, community and service facilities in and adjacent to Redlynch Village. The small scale retail and commercial facilities within the village have been identified for retention as should the character of the village which is based largely on the character of the Red Beret Hotel. This is also recognised as a character precinct in the cultural heritage overlay. On the Redlynch Connection Road is a centre which provides for the retail needs of this community.

North of the Barron River in the Barron–Smithfield Planning District, the Rural 1 zone is located to the east of Brinsmead Kamerunga Road reflecting the current sugar cane fields. To the west is a combination of Open Space, Residential 1 and 3, Low Density Residential, Community Facility and Commercial zoning at Lake Placid. The commercial zoning reflects the tourist attractions of Skyrail and Tjapukai Aboriginal Centre.

As the Brinsmead Kamerunga Road is located within the Barron River delta, the planning scheme identifies potential acid sulphate soils to be considered and flooding with the majority of the corridor located within the defined flood event1:100 ARI.

The majority of Reservoir Road and Cairns Western Arterial Road is identified as a trunk route for pedestrians and cyclists that needs to be considered in the planning of the transit network.

Future land use planning

It is not envisaged that the future planning intent throughout this area will differ significantly due to the need to retain good agricultural soils and recognised flooding associated with the Barron River delta. There may, however, be additional tourist facilities concentrating near Skyrail, reinforcing this location as a tourist node.

Issues and opportunities

Issues that need to be considered and addressed as part of detailed design include:

- flooding impacts associated with the delta and the requirement to ensure no net worsening of flooding impacts to surrounding uses adjacent to the transit network
- access arrangements for properties fronting Reservoir Road and potential loss of on street parking with the introduction of the transit network
- design of the stations/stops within the delta and the backdrop of the vegetated mountain range to the west
- potential improvement of cycling infrastructure as part of transit network planning
- pedestrian and cycle connections across Cairns Western Arterial Road which is very wide road corridor
- integration of stations and connections into established built up areas such as Brinsmead
- heavy rail and cane rail crossing.
Opportunities to be considered and explored in future detail design include:

- local bus connections from the transit network into Redlynch Valley
- potential for park and ride near Redlynch
- improved pedestrian and cyclist connections along the length of the transit network providing for greater connectivity throughout this established area
- station integration with surrounding residential areas
- incorporation of street tree planting that is consistent and connects with the northern corridor.

**Potential urban design mitigation measures**

Potential mitigation measures may include:

- station architecture that provides passengers with adequate weather protection from the rain and sun
- use of crime prevention through environmental design principles within the station design and connections to the stations to maximise safety for pedestrians
- stations located near signalised intersections that will allow for safer and improved pedestrian and cyclist connections across Reservoir Road and Cairns Western Arterial Road
- detailed landscape planting themes could be introduced to strengthen the sense of place, provide place-making statements which draw upon the local vegetation character
- toughened glass or transparent materials can be applied in places where visibility is required to access desirable views and assist passengers to orientate themselves.

## 5.4 Future investigations

Planning and design of the Cairns Transit Network may change over time, as will planning legislation and approval processes. However, it must be recognised that the Cairns Transit network is a long-term that will be delivered in stages over a number of years. Over this time, there will be changes to planning intentions and urban design treatments within Cairns. A detailed review of actual land uses, land use zoning and urban design treatments needs to be undertaken in future detailed design phases to inform impact management strategies. This will be undertaken in consultation with key stakeholders and the community.
5.5 References

Cairns Regional Council, Cairns Plan, commenced 1 March 2009

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