

WORKS COMMITTEE – (INFRASTRUCTURE, WATER, WASTE AND WASTEWATER)	5
11 NOVEMBER 2020	

FEDERAL AND STATE ROAD PRIORITY PROJECTS – CAIRNS REGIONAL COUNCIL

H Visser | 81/1/13-01 | #6516274

RECOMMENDATION:

It is recommended that Council endorses the updated Federal and State road short to medium term priority projects for the Cairns Local Government Area

EXECUTIVE SUMMARY:

Cairns has a number of State and Federal roads that provide the main access routes into and across the Council area. There are a number of major and minor upgrades to these roads that are required now and in future years to ensure safe and smooth traffic flow for Cairns residents and visitors. While the planning and funding of these upgrades is not controlled by Council, it is important that the State and Federal Governments are aware of Council's priority road projects.

To assist this, a list of short to medium term priority road projects was developed in 2018 based on Council's current knowledge of the road network and planned projects. The identified projects represent the highest priority road infrastructure upgrades from a Council perspective and will result in improved benefit to road users and the local community. This list has been updated based on current progress with projects (Attachment 1).

The projects cover a range of road, bridge and intersection upgrades on the major transport corridors in Cairns including the Bruce Highway, Captain Cook Highway, Cairns Western Arterial Road, and Spence Street. Council has not attempted to provide cost estimates for these projects as we are not privy to the detailed information required to do so.

It is recommended that Council endorses these Federal and State road priority projects for the Cairns Local Government Area.

BACKGROUND:

For many years the Cairns' arterial road network has been underfunded in terms of capacity upgrades, and in areas such as the Northern Beaches, development has outpaced the State Government's delivery of road projects required to service growth. Duplication of the Bill Fulton Bridge is another project that was long overdue based on the average daily traffic volume transiting that section of the Cairns Western Arterial Road.

Council developed a list of priority road projects on Federal and State funded roads in the Cairns Region during 2018. These priorities were forwarded to TMR's District Director for consideration of road planning and construction programs at that time.

These road, bridge and intersection upgrades detailed in this report are required as soon as possible to ensure acceptable levels of service for Cairns motorist and residents and visitors to the region.

COMMENT:

It is acknowledged that the Smithfield Bypass, Ray Jones Drive, Cairns Western Arterial from Redlynch Intake Road to the Barron River, and the Bruce Highway upgrades from Edmonton to Gordonvale have commenced and will provide improved traffic flow once completed.

The identified proposed Federal and State road priority projects are detailed in the attachment and can be summarised as follows:

Bruce Highway

- McCoombe Street Extension - Providing the McCoombe Street connection will enhance access to the industrial area and improve pedestrian safety. This will also provide a more direct connection to CWAR.

Captain Cook Highway

- Grove Street to Airport Avenue upgrade - Increase of traffic lanes both inbound and outbound from 2 to 3. The provision of an additional inbound and outbound lane by widening this section of the Highway will improve the carrying capacity of the road and reduce congestion and travel time significantly.
- Mother of Good Counsel School improvements - Remove the 40km/hr school zone and replace with 60 km/hr zone. The site does not warrant a school zone based on TMR guidelines. Council has written to the Department of Main Roads requesting this change on several occasions.
- Airport Avenue intersection upgrade – The short-term solution is the creation of a second right turn lane on the Captain Cook Highway and the provision of additional right turn lanes out of Airport Avenue. The long-term solution is an overpass interchange allowing vehicle access to and from Airport Avenue without interruption of Captain Cook Highway traffic flow or another network wide solution.
- Whitfield Street intersection improvements - Remove and reduce access from Aeroglen via Whitfield Street. Alternate access is provided at a signalised intersection at Arnold Street approximately 1.4km north of Whitfield Street or via Aeroglen Drive approximately 1km to the south.

- Airport Avenue to Barron River Bridge - Increase of traffic lanes both inbound and outbound from 2 to 3. The provision of an additional inward and outward bound lane by widening this section of the Highway will improve the carrying capacity of the road and reduce congestion and travel time significantly.
- Barron River Bridge to the Caravonica roundabout - Increase of traffic lanes both inbound and outbound from 2 to 3 and replace the 2 roundabouts with a single access to Holloways Beach and Machans Beach. The provision of an additional inward and outward bound lane by widening this section of the Highway will improve the carrying capacity of the road and reduce congestion and travel time significantly. Removal of a roundabout will also assist in reducing congestion.

Cairns Western Arterial Road and Anderson Street

- Pease Street / Reservoir Road intersection upgrade - To reduce the traffic conflict points on this major arterial intersection the ultimate solution for this intersection is an overpass arrangement. In the interim period additional traffic lanes are required to reduce congestion during peak times.
- Pease Street / Anderson Street intersection upgrade - Install traffic signals to better manage traffic flow and provide additional traffic lanes. These actions will reduce congestion during peak travel times at this intersection.
- Loridan Drive intersection upgrade - Construct a slip lane from Loridan Drive turning left on CWAR towards the City. This will improve traffic flow out of Brinsmead and reduce congestion during peak travel times.
- Barron River Bridge and road duplication - Increase of traffic lanes north of Redlynch Connector Road from 1 to 2 in each direction and the duplication of the Barron River Bridge and Kamerunga Road overpass.

Spence Street

- Sustainable public Transport corridor - Plan and construct a public transport solution linking southern suburbs and Cannon Park to the CBD.

Further details including existing conditions, traffic volumes, and capacity issues, refer to the attached document Federal and State Road Priority Projects Briefing Paper (#5963050).

OPTIONS:

Option 1: (Recommended)

It is recommended that Council endorse the Federal and State road priority projects for the Cairns Local Government Area

Or

Option 2:

That Council does not endorse these projects and requests officers provide further information on the projects and issues identified.

CONSIDERATIONS:

Corporate Plan:

The Federal and State road projects tabled in this report align with the Strategic Goal of Liveability, and the Strategic objective of Improving Transport.

CONSULTATION:

These road projects have been discussed with various stakeholders and presented as Council priorities.

ATTACHMENTS:

Attachment 1 – Federal and State Road Priority Projects Briefing Paper – DM5 #5623515.



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Federal and State Controlled Roads in the Cairns Regional Council Area – Council Priorities

October 2020 (updated)

#5623515v11

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1. Introduction

The Cairns Regional Council area has the following National and State controlled roads providing the main arterial vehicle access into and across the City (see map in attachment 1):

1. Federally controlled Bruce Highway (BH) providing access from the South to the southern edge of the CBD
2. State managed Captain Cook Highway (CCH) providing access through the CBD and to the North
3. State managed Cairns Western Arterial Road (CWAR) providing access to the Western suburbs connecting through to the CCH near Yorkeys Knob
4. State managed roads linking through the central city suburbs including Mulgrave Road, McCoombe/Alfred/Pease Streets, Anderson Road
5. State managed old highway now known as Aeroglen Road/Stratford Parade/Kamerunga Road connecting Aeroglen to Redlynch.

Council is of the firm belief that the National Highway should be extended from the current termination at Draper Street South of the CBD, to north past the Port and Airport to the Kennedy Highway at Smithfield.

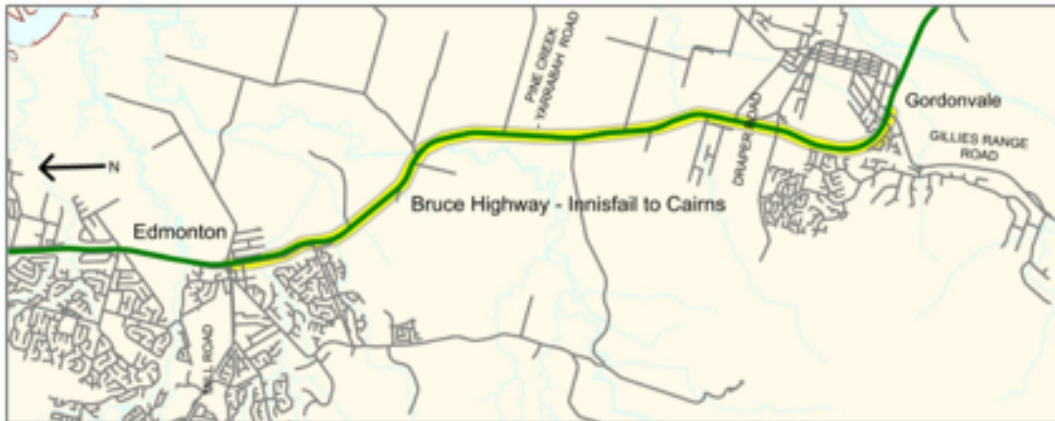
There are a number of major and minor upgrades that are required now and in future years to ensure safe and smooth traffic flow and connectivity for Cairns residents and visitors. The planning and funding for these upgrades is not controlled by Council. The following summary of desired upgrades provides a picture of the priorities of Council for the Federal and State controlled roads.

2. Bruce Highway (BH)

The BH provides 6 lanes from Robert Road at Edmonton in the Southern suburbs through to Ray Jones Drive in Woree. Close to 50,000 vehicles on average travel daily along the busiest section of the BH with about 28,000 of these continuing towards the City Centre. There has been a recent upgrade of the BH (Cairns Southern Access Corridor – Stage 1) and planning has commenced for upgrades of the remaining sections of the BH as outlined below. Council wishes these projects to remain on track with current commitments from Federal and State Governments.

Both Federal and State Governments should also continue to progressively implement future upgrades as various sections of the BH reach capacity in line with the findings of the Cairns Bruce Highway Upgrade Master Plan 2010. The proposed high speed cycleway should also be implemented as soon as possible.

2.1 Edmonton to Gordonvale **(In progress)**



Average daily traffic volume: 18,000 vehicles per day

Issue: Road reaching capacity and safety issues.

This section of the Highway provides the single access road from the south to Edmonton. The Highway is currently 2-lane non-divided with multiple access points. Traffic congestion is frequently experienced and safety improvements are required to reduce the number of accidents that occur.

Solution:

Cairns Southern Access Corridor – Stage 3 will create a 4 lane highway from Edmonton to Gordonvale duplicating the current 2 lanes and provide for improved safety and traffic flow over this 10km long section of the National Highway.

Preliminary cost estimate:

Council understands the Federal and State Governments have committed \$481 million to this project with construction targeted at 2021 – 2022.

2.2 McCoombe Street Extension

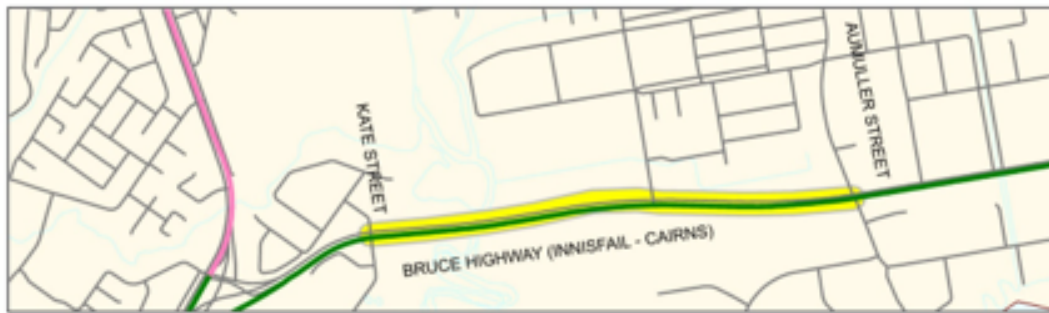


Issue: Access and safety

Limited access to industrial area between Ray Jones Drive and Mulgrave Road and pedestrian safety around Stockland Shopping centre.

Solution: Providing the McCoombe Street connection will enhance access to the industrial area and improve pedestrian safety. This will also provide a more direct connection to CWAR.

2.3 Ray Jones Drive from Kate Street to Aumuller Street **(In progress)**



Average daily traffic volume: 26,126 vehicles per day

Issue: Traffic congestion and safety issues

This section of the BH provides one of 2 main accesses into the Cairns CBD. The road is currently 4 lanes and traffic congestion is common during peak hours and also at other times generally during daylight hours.

Solution:

Cairns Southern Access Corridor – Stage 4 will provide an increase of traffic lanes from 4 to 6 to reduce congestion in the section of road between Kate Street and Aumuller Street.

Preliminary cost estimate:

It is understood that the Federal and State Government have in principle committed \$135 million to this project with construction targeted at 2018 – 2023.

Completed:

TMR has started construction during 2018.

2.4 Kenny Street and Draper Street roundabout **(In progress)**



Average daily traffic volume: 18,919 vehicles per day

Issue: Traffic congestion and safety issues

This is creating a bottle neck on the network, as most of the traffic want to turn right to continue on the State/Federal Highway. The roundabout also does not cater for pedestrians.

Solution:

Replace the current roundabout with a signalised intersection.

Completed:

TMR has started construction during 2018.

3. Captain Cook Highway (CCH)

The CCH starts at the corner of Florence Street and Sheridan Street in the Cairns CBD. The road is predominantly 2 lanes in each direction north from the CBD to just north of the Kewarra Beach roundabout where it becomes single lane in each direction north from this location to Port Douglas. The CCH provides the main route for residents travelling to and from the CBD and the northern beaches, although an alternate route is possible via the CWAR. Average daily traffic volumes range from 12,500 vehicles per day in the far northern suburbs to over 45,000 vpd. Close to 40,000 vehicles per day transit along the Aeroglen North Cairns section. The following improvements are required to improve the ever-increasing traffic congestion on this road.

3.1 Captain Cook Highway (Sheridan Street) from Grove Street Cairns CBD to Airport Avenue North Cairns



Average daily traffic volume: 39,989 vehicles per day

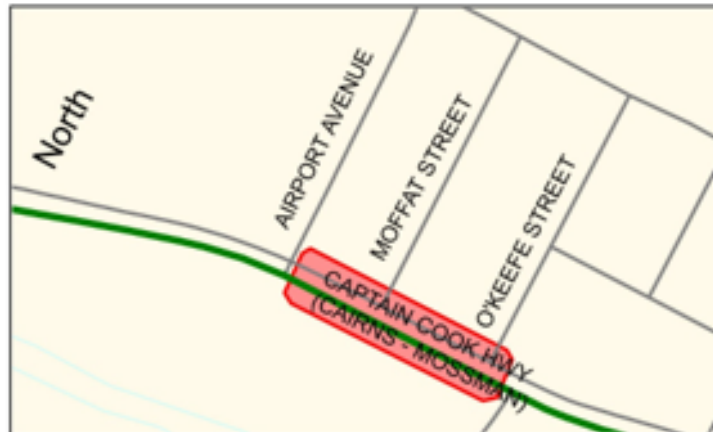
Issue: Traffic congestion and safety issues

The section of the Captain Cook Highway (Sheridan Street) from Grove Street to Airport Avenue conveys the majority of the CBD bound traffic to and from the Northern Beach suburbs of Cairns. During peak hours in particular there is significant traffic congestion along this 2km long corridor.

Solution:

Increase of traffic lanes both inbound and outbound from 2 to 3. The provision of an additional inward and outward bound lane by widening this section of the Highway will improve the carrying capacity of the road and reduce congestion and travel time significantly.

3.2 Mother of Good Counsel School Captain Cook Highway (Sheridan Street) North Cairns



Average daily traffic volume: 40,000 vehicles per day

Issue: Congestion, safety and frustration for road users

Slowing of traffic on school days from 60 to 40km/hr is not warranted. Council has undertaken significant works in and around the school in recent times to improve traffic flow and safety for school children.

Solution:

Remove the 40km/hr school zone and replace with 60 km/hr zone. Council has written to the Department of Main Roads requesting this change.

3.3 Intersection of Airport Avenue and Captain Cook Highway (Sheridan Street) North Cairns



Average daily traffic volume: 40,000 vehicles per day

Issue: Intersection congestion with access to and from the airport from the Highway and safety

Significant intersection allowing signalised vehicle access and exit from Airport Avenue via a single traffic lane in each direction to/from the Captain Cook Highway. Delays caused to traffic heading towards and exiting the North Cairns/CBD area particularly during peak hour flows.

Proposed solution:

Short-term solution is the creation of a dual lane entry/exit from Airport Avenue and the Captain Cook Highway.

Long-term solution is overpass interchange allowing vehicle access to and from Airport Avenue without interruption of Captain Cook Highway traffic flow.

3.4 Intersection of Whitfield Street and Captain Cook Highway (Sheridan Street) North Cairns



Average daily traffic volume: 32,213 vehicles per day

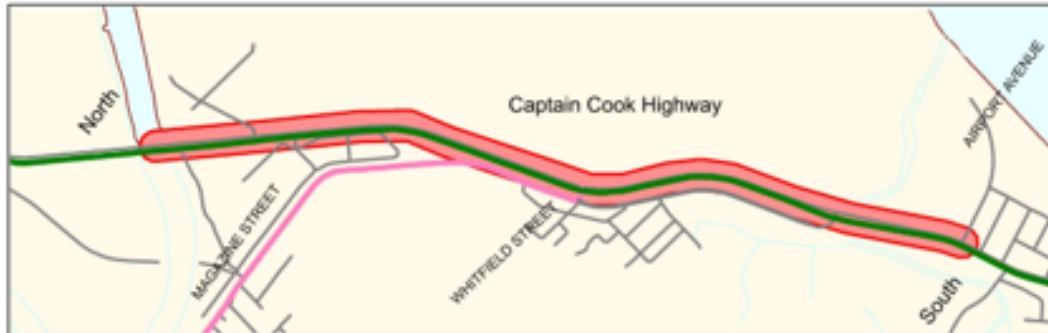
Issue: Traffic congestion and safety issues

Four legged signalised intersection access to Aeroglen interrupts Highway traffic flow.

Solution:

Remove and reduce access from Aeroglen via Whitfield Street. Alternate access is provided at a signalised intersection at Arnold Street approximately 1.4km north of Whitfield Street or via Aeroglen Drive approximately 1km to the south.

3.5 Captain Cook Highway (Sheridan Street) from Airport Avenue to the Barron River at Aeroglen



Average daily traffic volume: 32,213 vehicles per day

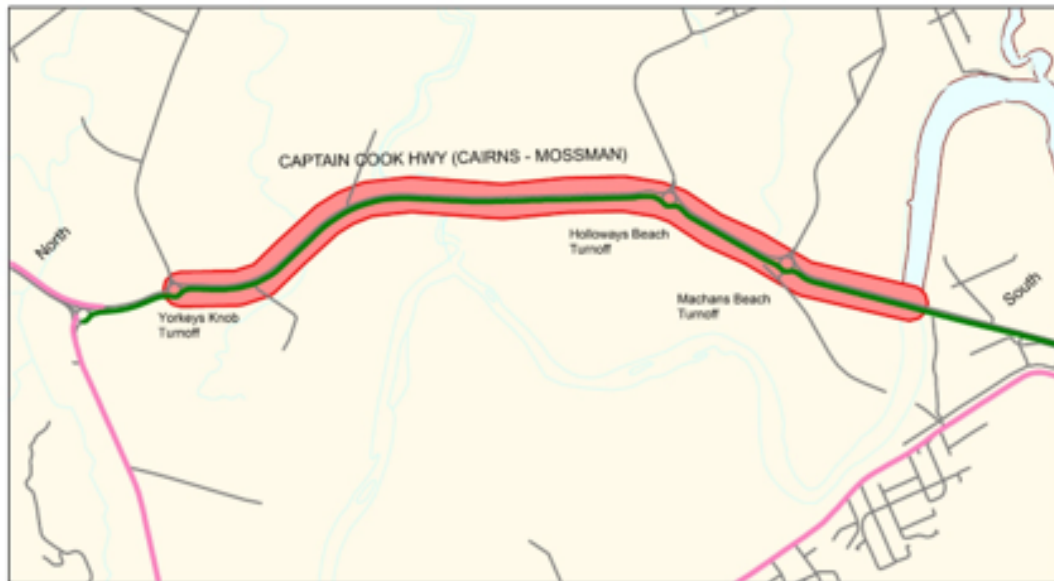
Issue: Traffic congestion and safety issues

The section of the Captain Cook Highway (Sheridan Street) northbound and southbound from Airport Avenue to the Barron River, and southbound from the Barron River to Saltwater Creek, conveys the majority of the CBD bound traffic to and from the Northern Beach suburbs of Cairns. During peak hours in particular there is significant traffic congestion along this 3.8km long corridor.

Solution:

Increase of traffic lanes both inbound and outbound from 2 to 3. The provision of an additional inward and outward bound lane by widening this section of the Highway will improve the carrying capacity of the road and reduce congestion and travel time significantly.

3.6 Barron River to Yorkeys Knob



Average daily traffic volume: 31,000 vehicles per day (south of Yorkeys Knob roundabout)

Issue: Traffic congestion and safety issues

This section of the highway has 2 lanes in each direction. There are 2 roundabouts providing access to Holloways and Machans Beach which add to traffic congestion.

Solution:

Increase of traffic lanes both inbound and outbound from 2 to 3 and replace the 2 roundabouts with a single access to Holloways Beach and Machans Beach. The provision of an additional inward and outward bound lane by widening this section of the Highway will improve the carrying capacity of the road and reduce congestion and travel time significantly. Removal of a roundabout will also assist in reducing congestion.

3.7 Smithfield Bypass **(In progress)**



Average daily traffic volume: 45,453 vehicles per day

Issue: Traffic congestion and safety issues

This section of the Captain Cook Highway conveys the majority of the CBD bound traffic to and from the Northern Beach suburbs of Cairns in addition to traffic from the Kennedy Highway servicing the Tablelands. During peak hours in particular there is significant traffic congestion along this section of the road. There are 4 major roundabouts on this section of the road at the intersection of McGregor Road, Kennedy Highway, CWAR and Yorkeys Knob which add significantly to the congestion issues.

Solution:

The State Government has committed to construct the 3.8km long Smithfield bypass from McGregor Road to Yorkeys Knob roundabout. The addition of 2 lanes east of the current highway alignment will allow vehicles to bypass the above roundabouts.

Preliminary cost estimate:

It is understood that the State Government has committed \$152 million to this project with construction anticipated to start in 2018.

Completed:

TMR has started some construction during 2018. Detail design to be finalised by June 2019.

3.8 Signals on Clifton Road **Done**



Average daily traffic volume: 12,657 vehicles per day

Issue: Safety issues on the highway, at the bus stop, several crashes

This section of road has one lane per direction and is a busy section of the highway. There have been various crashes at this location.

Solution:

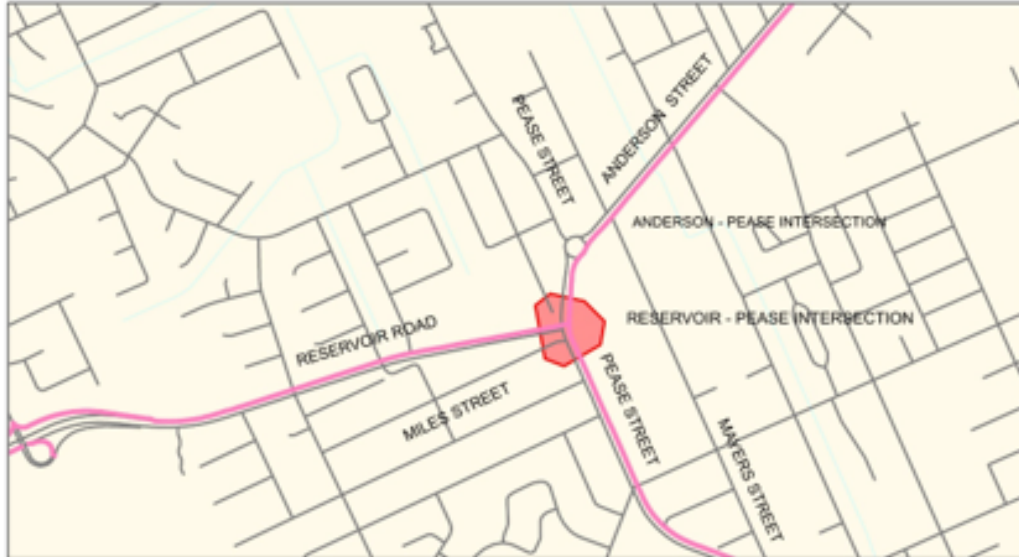
Provide an underpass or implement signals at Clifton Road.

Completed:

TMR constructed signals during 2018.

4. Cairns Western Arterial Road (CWAR)

4.1 Cairns Western Arterial Road (Reservoir Road) and Pease Street intersection



Average daily traffic volume: 36,550 vehicles per day

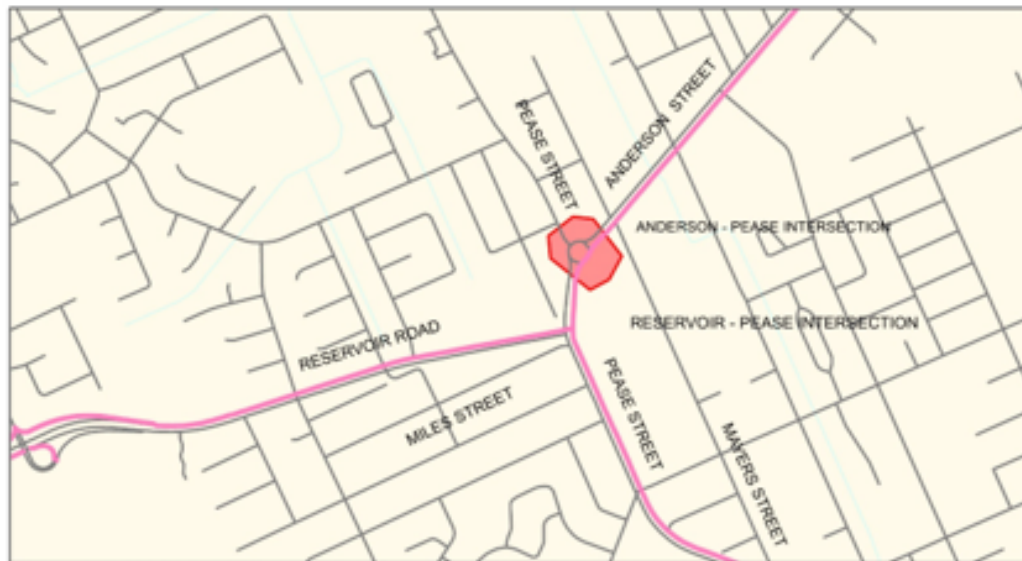
Issue: Traffic congestion and safety issues

This 3-way intersection of 2 major arterial roads is the main transit path for vehicles travelling from the western suburbs of Cairns to the CBD, North Cairns or southern suburbs of Cairns, and vehicles travelling from south to north across Cairns. There are significant traffic volumes at this intersection both during peak travel times and also generally throughout daylight hours. Traffic congestion is frequent.

Solution:

To reduce the traffic conflict points on this major arterial intersection the ultimate solution for this intersection is an overpass arrangement which will require property acquisition.

4.2 3-way intersection of Pease St and Anderson St



Average daily traffic volume: 21,368 vehicles per day

Issue: Traffic congestion and safety issues

This intersection is in close proximity to the Cairns Western Arterial and Pease Street intersection and currently has a roundabout in place. During peak traffic times the intersection experiences significant traffic congestion and traffic back-up along all 3 limbs of the intersection.

Solution:

Install traffic signals to better manage traffic flow which will reduce congestion during peak travel times.

4.3 Loridan Drive



Average daily traffic volume: 31,777 vehicles per day

Issue: Traffic congestion and safety issues

This intersection is a very busy intersection and the side roads are creating capacity and safety issues on the main road.

Solution:

Construct a slip lane from Loridan Drive turning left on CWAR. This will improve traffic flow which will reduce congestion during peak travel times.

4.4 Duplication of Barron River Bridge and Road



Average daily traffic volume: 20,091 vehicles per day

Issue: Traffic congestion and safety issues

This section of CWAR, north of Redlynch Connector Road, is single lane in each direction and conveys vehicles wishing to travel north from the inner west and western suburbs of Cairns. This is also the flood free road into Cairns, when CCHW is flooded.

Solution:

Increase of traffic lanes, north of Redlynch Connector Road, from 1 to 2 in each direction and the duplication of the Barron River Bridge and Kamerunga Road overpass.

5. Spence Street

5.1 Sustainable Mass Transport Corridor – Spence Street



Average daily traffic volume: 10,000 vehicles per day





















Issue: Very important corridor into the city, linking and in line with the Cairns Transit Network

Solution: Plan and construct a mass transport solution linking southern suburbs and Cannon Park to the CBD.

Attachment 1:



PROJECTS LEGEND

	2.1 Edmonton to Gordonvale Upgrade (Off Map)		3.5 Airport Avenue to Barron River		5.1 Sustainable Mass Transit Corridor - Spence Street
	2.2 McCoombe Street Extension		3.6 Barron River to Yorkeys Knob		Project Complete
	2.3 Ray Jones Drive Upgrade		3.7 Smithfield Bypass		Project In Progress
	2.4 Kenny Street and Draper Street Roundabout		3.8 Signals in Clifton (off map)		Project Not Started
	3.1 Sheridan Street 6 Lining		4.1 Pease Street and Reservoir Road Intersection		
	3.2 Mother of Good Counsel School		4.2 Anderson Street and Pease Street Intersection		
	3.3 Airport Avenue Intersection		4.3 Loridan Drive		
	3.4 Whitfield Street Intersection		4.4 Duplication of Barron River Bridge and road		