

# 100 Nine Mile Road, Fairy Bower (Lot 100 on SP18665)

Transport and Pavement Impact Assessment

**ROCKHAMPTON REGIONAL COUNCIL**

**AMENDED PLANS APPROVED**

**4 July 2024**

DATE

These plans are approved subject to the current  
conditions of approval associated with

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NOTE - It is acknowledged that there may be some minor discrepancies between the architectural layouts provided in this report and the associated architectural documentation. Whilst not ideal, the minor layout discrepancies should form no material impact to the proposed development from an engineering assessment perspective. Conservative engineering principals have been applied to the afforded earthworks areas, stormwater intent and servicing. As such, any concern should be suitable for conditioning as part of the detailed design process (i.e. finalised in Operational Works stage).

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# Executive Summary

McMurtrie Consulting Engineers (MCE) have been commissioned by Paul Waardyk to undertake a Transport and Pavement Impact Assessment for its proposed increase in annual haulage capacity up to 500,000 tonnes of material. The intended haulage operations are proposed through the Rockhampton township via Nine Mile Road, Ridgелands Road, the Bruce Highway and the Capricorn Highway. The haulage route between the Quarry and the Bruce Highway / Capricorn Highway roundabout comprises of both Council and State controlled roads. Analysis was undertaken to determine the level of impacts of the proposed increase in haulage capacity on the operation and safety of the surrounding road network. It is noted that the Quarry currently operates with capacity for extraction of up to 250,000 tonnes of material. As part of the approved yield the Quarry is levied to pay an annual contribution at a rate of \$0.4153 per tonne over Nine Mile Road (Council controlled). The proposal will also utilise Ridgелands Road, the Bruce Highway, and the Capricorn Highway which all form part of the State controlled network.

Based on the relatively small increase in traffic volumes, it is anticipated that the proposed haulage operations will have minimal impact on traffic operation along the critical sections of the route, including intersections. On the basis that the proposed haulage activities are generally over an established route, it is determined that the intersections along the route are generally designed to service the design vehicle combination intended for use by the proposal.

An assessment of the expected pavement impacts along the haulage route was undertaken for a Truck and Dog vehicle configuration, adopting a NHVR Common Heavy Freight Vehicle Configuration vehicle with haulage capacity of 36 tonnes. This assessment identified that the additional heavy vehicle movements associated with the proposed haulage operations are expected to result in an impact exceeding the recommended 5% impact trigger along Ridgелands Road.

For the purposes of the assessment, pavement impact contribution calculation along the Council controlled road section was undertaken by application of a comparable contribution levy as discussed in Section 1.3 (\$0.22) to the anticipated extraction level, with the marginal cost method adopted for the State controlled roads (SCR).

The following contribution values are calculated to be required to offset the identified pavement impacts of the proposed haulage operations.

Table A: Recommended project pavement contributions (route analysis)

Route Section	Vehicle Configuration	Haulage Volume (tonnes)	Jurisdiction	Contribution Calculation Method	Cents / tonne	Contribution
Nine Mile Road	Truck + Dog	250,000	RRC	Equivalent rate at \$0.22/t (Section 1.3)	22.00	\$55,000.00
Ridgелands Road	Truck + Dog	250,000	DTMR	Marginal Cost	7.53	\$18,833.94
Bruce Highway - 10F	Truck + Dog	250,000	DTMR	Marginal Cost	0	\$0
Bruce Highway - 10E	Truck + Dog	250,000	DTMR	Marginal Cost	0	\$0
Capricorn Highway - 16A	Truck + Dog	250,000	DTMR	Marginal Cost	0	\$0
<b>TOTAL</b>					<b>29.53</b>	<b>\$73,833.94</b>

In light of the information provided above, it can be considered that based on the provision of payment of suitable road maintenance contributions (based on the confirmed haulage scenario) to offset the expected increased maintenance and rehabilitation requirements, the proposed haulage operations will have a minor impact on the adjacent road network.

# 1 Introduction

## 1.1 Project Background

Paul Waardyk is proposing to establish an increased road haulage operation of up to 500,000 tonnes of material per annum (assumed 300 days), with material transported east from the Quarry via the Rockhampton township and distributing to the south and west at the Bruce Highway / Capricorn Highway roundabout. It is estimated that distribution of traffic at the Bruce Highway / Capricorn Highway roundabout will consist of approximately 60% of material transported to the south along the Bruce Highway, and the balance transported to the west along the Capricorn Highway.

The subject Quarry is formally identified as Lot 100 on SP318665 and has an area of approximately 60 hectares. The Quarry is currently operating under an approved haulage capacity of up to 250,000 tonnes of material per annum.

## 1.2 Scope and Study Area

MCE have been commissioned by Paul Waardyk to undertake a Traffic and Pavement Impact Assessment for the proposed annual haulage increase of up to 250,000 tonnes of material per annum, bringing the total extraction capacity to up to 500,000 tonnes per annum.

The subject analysis was carried out to determine the level of potential impacts of the Project on the existing road pavement along the transport route. The outcomes of the assessment will be used to inform discussion regarding the project with RRC and the DTMR, with the assessment methodology adopted for the analysis summarised via the key tasks listed below:

- Broadly identify the existing transport infrastructure which is of relevance to the Project;
- Estimate traffic generation associated with the proposed road haulage operation and the distribution of this haulage traffic on the identified road network;
- Assess the potential impact of the proposed road haulage operations on the surrounding transport infrastructure, in particular the pavements of the surrounding road network; and
- Identify potential mitigation and management strategies to be implemented during the proposed road haulage operations to offset the potential impact of the Project (if required).

As outlined above, the adopted methodology centres on establishing a background, “without development” traffic scenario for the identified transport route and comparing this with a scenario including the Project-generated traffic (i.e. the “with development” scenario).

The process allows for the assessment of the traffic impacts of the Project in terms of road safety, road link capacity, pavement and other transport infrastructure. Following this, if required, potential mitigation and/or management measures would be formulated to address the potential traffic impacts caused by the proposed Project.

### 1.2.1 Study Area

Haulage operation will distribute to the east from the Nine Mile Road / Fogarty Road intersection and navigate via the Rockhampton township distributing to the south and west at the Bruce Highway / Capricorn Highway roundabout. The following road sections are considered critical for the assessment along the proposed transport route:

- Nine Mile Road                      Council controlled road
- Ridgelands Road                    State controlled road
- Bruce Highway                        State controlled road
- Capricorn Highway                  State controlled road

The critical road sections listed above and associated intersections along the transport route are shown in Figure 1.1.

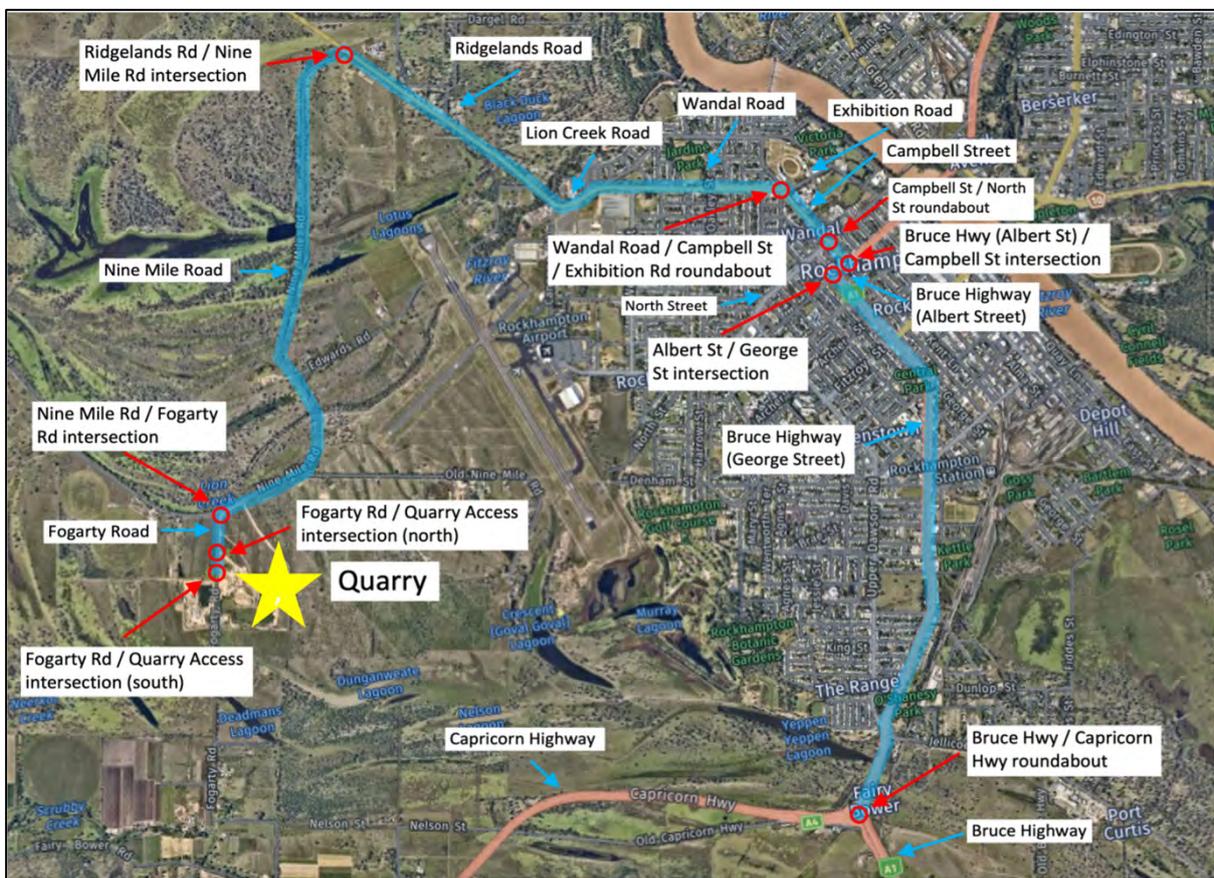


Figure 1.1: Study area [Source: Nearmap]

As identified above, all the roads other than Nine Mile Road are State controlled roads and are under the jurisdiction of the Department of Transport and Main Roads (DTMR). Nine Mile Road is under the jurisdiction of the RRC.

As discussed in Section 5, the proposal does not trigger the 5% threshold of background traffic loading past the Bruce Highway / Capricorn Highway intersection, therefore a detailed assessment of impacts is not considered to be warranted thereafter.

### 1.3 Data Sources

This assessment utilises background traffic data for Nine Mile Road provided by RRC and background traffic data and marginal cost tables for the State controlled section of the transport route from the DTMR. It is noted that pavement roughness data for Nine Mile Road was not made available. However, under the current approval issued in 2014 (D/278-2013) the subject Quarry currently operates under the agreed road maintenance levy of \$0.4153 per tonne adjusted with Consumer Price Index (CPI) for extraction of up to 250,000 tonnes of material per annum.

It is noted that an approval for the Quarry at 250 Fogarty Road (D/589-2013) issued in 2022 allowed for an increase in extraction from its original approval in 2014 applying a road maintenance levy of \$0.22 per tonne adjusted with CPI. Given that the haulage route over Nine Mile Road between the two Quarries is the same, the equivalent road maintenance levy of \$0.22 per tonne is considered to be equitable and should be applied for the proposed increase in extraction levels. Application of this over the proposed increase of 250,000 tonnes equates to a contribution of up to \$55,000 (adjusted to CPI) per annum.

A copy of the raw traffic counts for the relevant road segments is provided for reference as Appendix A, with a summary of the data received for the relevant sections of the road network provided below:

#### **DTMR AADT Traffic Count Reports**

- Ridgelands Road (2021)
- Bruce Highway (2021)
- Capricorn Highway (2021)

#### **DTMR Marginal Cost Data**

- Ridgelands Road (2021)
- Bruce Highway (2021)
- Capricorn Highway (2021)

#### **RRC AADT Traffic Count Reports**

- Nine Mile Road (2022)

## 2 Existing Conditions

### 2.1 Land Use and Zoning

As shown in Figure 2.1, under the RRC Planning Scheme, the lots adjacent to the haulage route are generally identified as Rural, Low density and Low-medium density residential zones. It is noted that the subject Quarry is adjacent to the Rockhampton Sands Quarry, with a shared access from Nine Mile Road via Fogarty Road.

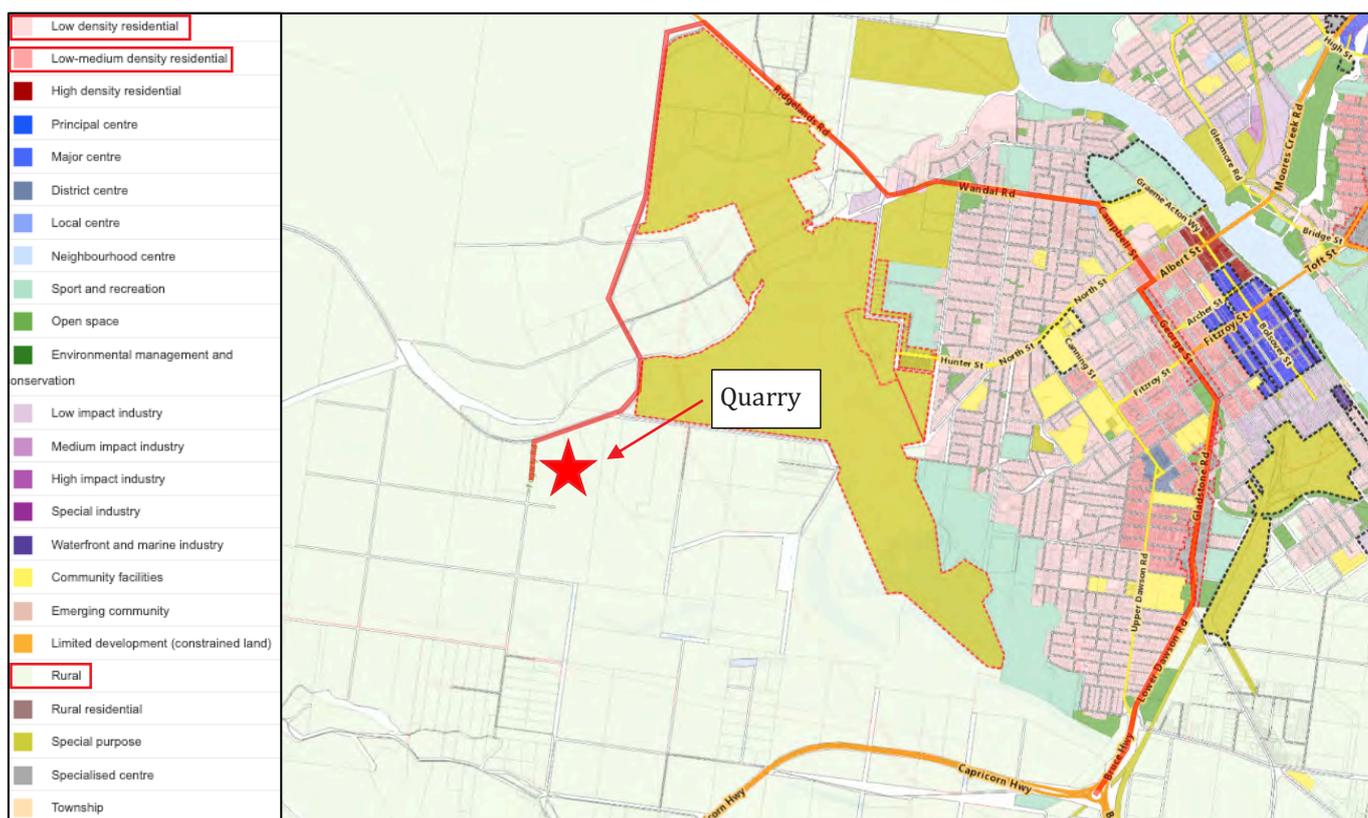


Figure 2.1: RRC zoning map [Source: RRC Planning Scheme]

### 2.2 Surrounding Road Network Details

#### 2.2.1 Project Transport Route

Based on operational data provided by the proponent it is understood that the proposed road haulage operations are anticipated to increase the hauling capacity by up to 250,000 tonnes of material per annum starting in 2023. This equates to total allowable haulage of up to 500,000 tonnes of material per annum. The project assumes 300 days of cartage annually, with Truck and Dog (3-axle truck and 4-axle dog) combination as the design haulage vehicle. The full amount of material is expected to be hauled over Nine Mile Road, Ridgelands Road south of the Ridgelands Road / Nine Mile Road intersection and part of the Bruce Highway and the Capricorn Highway. Cartage will be divided at the Bruce Highway / Capricorn Highway roundabout, approximately 14.5 kilometres from the site. It is anticipated that material will be distributed approximately 62.5% to the south with the balance (37.5%) to the west via the Capricorn Highway. This equates to a distribution of approximately 155,000 tonnes south of the roundabout and 95,000 tonnes to the west.

Based on existing haulage operations, utilising Truck and Dog combination, it is considered that the intersections along the transport route are able to cater for the design haulage vehicle, with no widening required along the road links or at each intersection. Nevertheless, a swept path assessment has been prepared at critical intersections, with vehicle paths presented as Appendix B.

Fogarty Road is a Council controlled road, however it is currently being maintained privately by the Quarries that gain direct access.

## 2.2.2 Road Links

### Fogarty Road

As mentioned above, Fogarty Road is a Council controlled rural access road under the jurisdiction of RRC, however it is not maintained by Council. It is located approximately 6.5 km west of Rockhampton and it mainly provides access to quarries at the northern end and a few rural properties further south. Conditions of the road change along its length, with an 8 metre wide undivided sealed road formation at the northern end adjacent to the quarries, and reducing to an unsealed rural track approximately 550 metres south of the Nine Mile Road / Fogarty Road intersection. Subsequently, approximately 1.8 km south of the Nine Mile Road / Fogarty Road intersection, Fogarty Road evolves into a sealed road. The assumed speed limit along northern end of Fogarty Road is consistent with the general speed limit outside of built up areas in Queensland, allowing travel up to 100 km/h.

Pavement conditions of Fogarty Road adjacent to the quarry are shown in Figure 2.2 below.

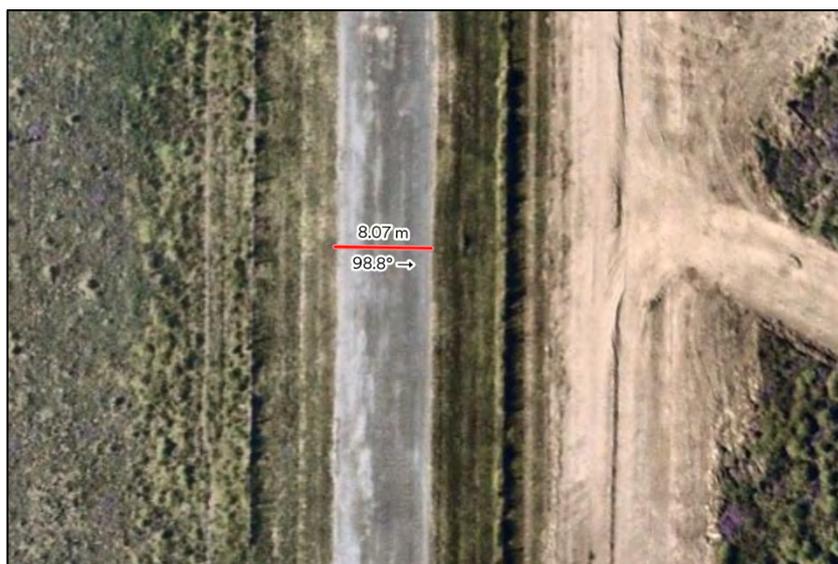


Figure 2.2: Fogarty Road conditions adjacent to the Quarry [Source: Nearmap]

### Nine Mile Road

Nine Mile Road is a rural arterial road under the jurisdiction of RRC, providing connection between Rockhampton and rural communities to the west. The road generally consists of a 6.5 metre wide sealed carriageway which widens to approximately 8 metres on the approach to Ridgелands Road / Nine Mile Road intersection. Along the section of the haulage route, Nine Mile Road is subject to a posted speed limit of 80 km/h.

Street view images of Nine Mile Road are provided in Figure 2.3.

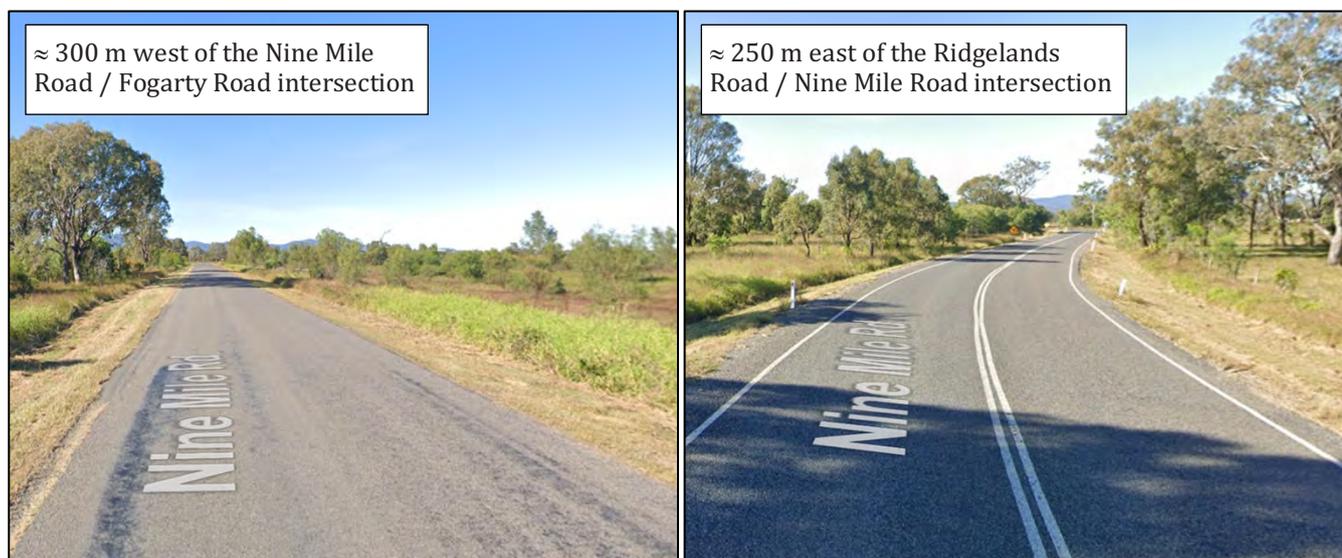


Figure 2.3: Nine Mile Road pavement conditions in year 2022 at various locations [Source: Google Street View]

### Ridgелands Road (Lion Creek Road, Wandal Road)

Ridgелands Road is a major arterial road connecting Ridgелands (northwest of Rockhampton) with Rockhampton and forms part of the State controlled road network under the jurisdiction of the DTMR. Ridgелands Road is identified as Lion Creek Road as it approaches Rockhampton (approximately at the Canoona Road intersection), and changes to Wandal Road to the east of the Western Street intersection.

Ridgелands Road (Wandal Road) forms the western leg of the Wandal Road / Campbell Street / Exhibition Road roundabout, with a dual approach separating left and right turn movements. At the approach to the roundabout Ridgелands Road (Wandal Road) comprises of a divided carriageway facilitating centre island parking and dedicated bicycle lanes on both sides of the road.

Posted speed limit on Ridgелands Road varies, prior to reaching Rockhampton, between 80 and 100 km/h and reduces to 60 km/h within Rockhampton.

Images of Ridgелands Road at various locations are shown in Figure 2.4.

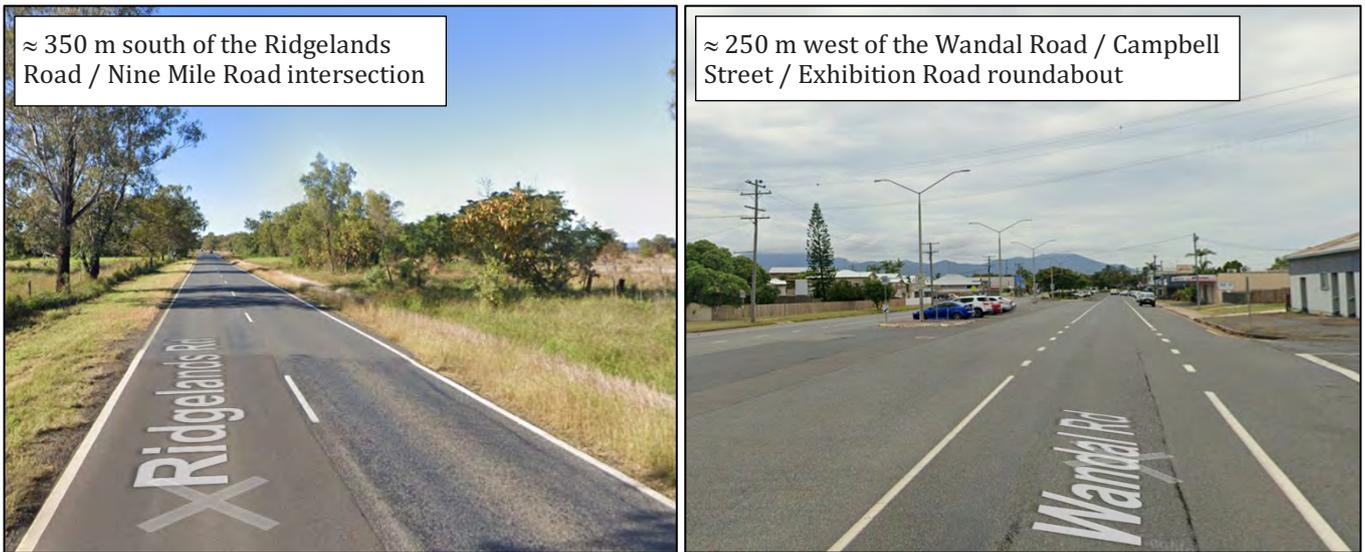


Figure 2.4: Ridgeland Road pavement conditions in year 2022 at various locations [Source: Google Street View]

### Campbell Street

Campbell Street has a collector road function providing north south throughfare through Rockhampton. Between the Wandal Road / Campbell Street / Exhibition Road roundabout and Albert Street / Campbell Street intersection it forms part of the State controlled road network under the jurisdiction of the DTMR (as part of Ridgeland Road). South of the Albert Street / Campbell Street intersection, Campbell Street is under the jurisdiction of RRC.

Along the haulage route, Campbell Street consists of a 22 metre wide undivided carriageway with a single lane of traffic in each direction and parking lane on both sides of the road. Campbell Street is subject to a speed limit of 60 km/h.

Street view images of Campbell Street are provided in Figure 2.5.



Figure 2.5: Campbell Street pavement conditions in year 2022 [Source: Google Street View]

### Bruce Highway (George Street, Albert Street)

The Bruce Highway is a major highway stretching from Brisbane to Cairns and is under the jurisdiction of the DTMR. The section of the Bruce Highway that forms part of the haulage route through Rockhampton is also referred as George Street and Albert Street. The posted speed of the Bruce Highway is generally 100 km/h and reduces at the approaches to major intersections and township areas where the speed limit is typically reduced to suit roadside conditions. Throughout Rockhampton the Bruce Highway is generally subject to a posted speed limit of 60km/hr.

Between the Albert Street / Campbell Street intersection and the Bruce Highway / Capricorn Highway roundabout, the Bruce Highway generally provides a sealed divided carriageway, with up to two lanes in each direction of travel. Through Rockhampton the Bruce Highway generally comprises of a 22 metres wide carriageway with dedicated parking lanes and bicycle facilities on each side.

Average pavement conditions of the Bruce Highway are shown in Figure 2.6.

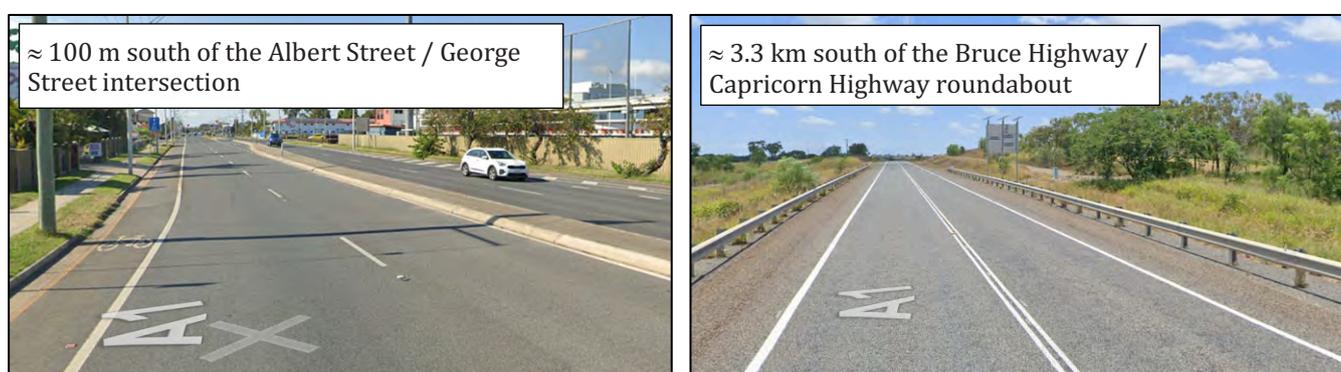


Figure 2.6: Bruce Highway pavement conditions in year 2022 at various locations [Source: Google Street View]

### Capricorn Highway

The Capricorn Highway is a SCR located in Central Queensland providing east-west connection between Rockhampton and Barcaldine. The Capricorn Highway generally provides a sealed pavement width of 6.5 metres with one lane in each direction of travel. The posted speed limit over the Capricorn Highway is generally 100 km/h and reduces at the approaches to major intersections and township areas where the speed limit is typically reduced to suit roadside conditions.

Average pavement conditions of the Capricorn Highway along nominal areas of the transport route are shown in Figure 2.7.

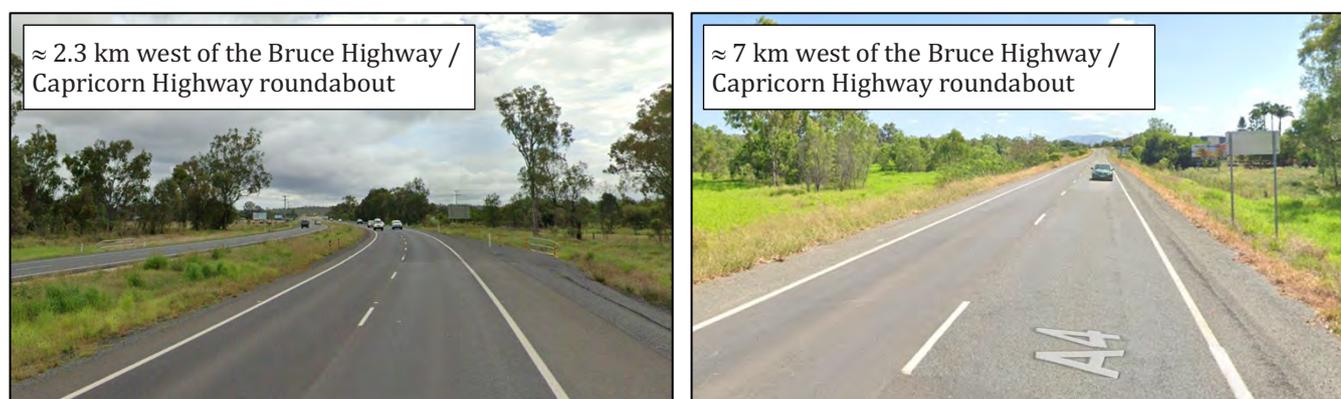


Figure 2.7: Capricorn Highway pavement conditions in year 2022 at various locations [Source: Google Street View]

## Road Link Haulage Restrictions

Majority of the State controlled section of the transport route is restricted for use by trucks larger than a B-Double (up to 26 metres in length), whilst there is no restriction data available for Nine Mile Road. The proposed haulage operation will utilise Truck and Dog vehicle configuration which is permitted to travel on all relevant road links. Road link haulage restrictions are diagrammatically presented in Figure 2.8.

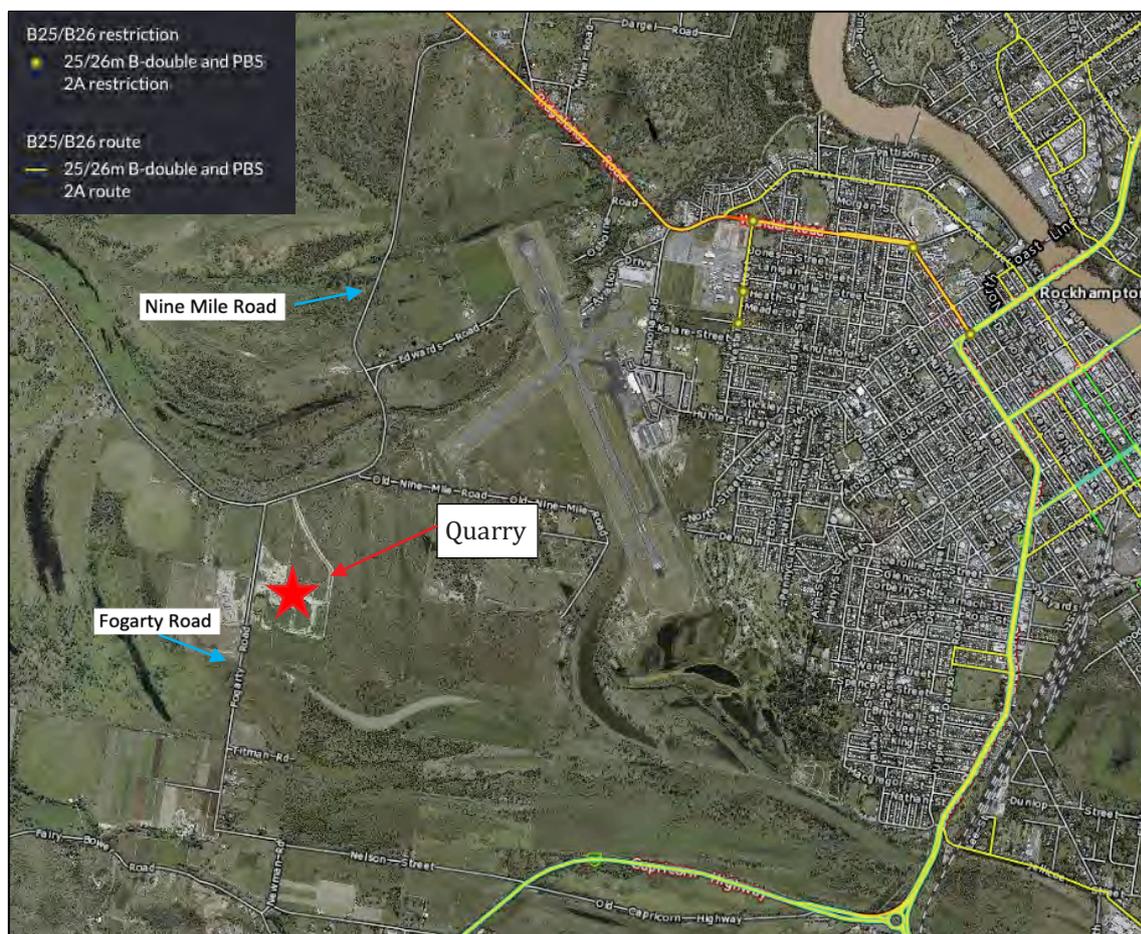


Figure 2.8: Heavy vehicle restrictions along the transport routes [Source: Queensland Globe]

## 2.2.3 Intersections

In addition to the above-mentioned road links, there are eight intersections identified to be relevant to the project as they will cater for the main turning movements of the vehicles associated with the proposed haulage operation:

- Fogarty Road / Quarry Access intersection north,
- Fogarty Road / Quarry Access intersection south,
- Nine Mile Road / Fogarty Road intersection,
- Ridgelands Road / Nine Mile Road intersection,
- Wandal Road / Campbell Street / Exhibition Road roundabout,
- Campbell Street / North Street roundabout;
- Albert Street / Campbell Street intersection,
- Albert Street / George Street intersection and
- Bruce Highway / Capricorn Highway roundabout.

A desktop review of each of the above intersections has been carried out using aerial imagery software (Nearmap). Details of each intersection are provided below, with directional diagrams and swept paths provided as Appendix B.

### Fogarty Road / Quarry Access Intersection North and South

Both access intersections are basic T junctions appropriate for large multicomination vehicles. The northern access is provided to facilitate ingress into the Quarry, with an internal ring road provided for egress to be gained at the secondary intersection further south. Aerial image of both intersections is shown in Figure 2.9.

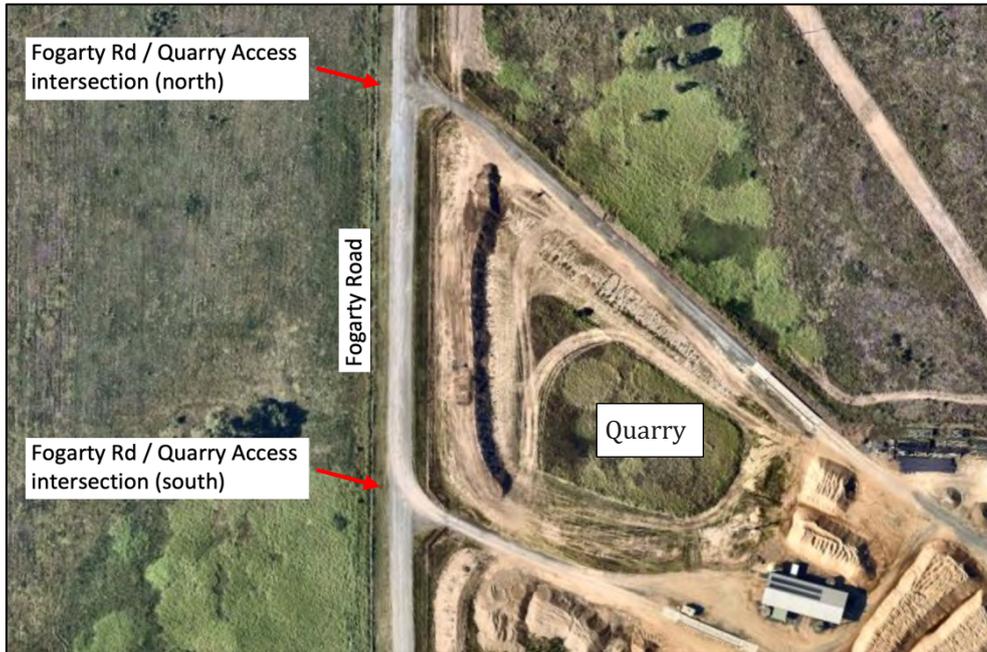


Figure 2.9: Fogarty Road / Quarry access intersections [Source: Nearmap]

### Nine Mile Road / Fogarty Road Intersection

Nine Mile Road / Fogarty Road intersection is a priority-controlled T intersection with Nine Mile Road having the primary function. Given the rural function of the intersection and relatively low background traffic demand, only basic treatments are provided from Nine Mile Road. Aerial image of the intersection is shown in Figure 2.10.



Figure 2.10: Nine Mile Road / Fogarty Road intersection [Source: Nearmap]

### Ridgелands Road / Nine Mile Road Intersection

Ridgелands Road intersects with Nine Mile Road via a priority-controlled T junction with Ridgелands Road forming the primary approach of the intersection. The intersection is designed with basic turn treatments, with a formal passing lane provided on the southbound approach allowing through traffic to pass a vehicle propped on Ridgелands Road turning to Nine Mile Road. Aerial image of the intersection is shown in Figure 2.11.



Figure 2.11: Ridgелands Road / Nine Mile Road intersection [Source: Nearmap]

### Wandal Road / Campbell Street / Exhibition Road Roundabout

Wandal Road / Campbell Street / Exhibition Road roundabout is a dual lane roundabout with a central diameter of approximately 30 metres. The roundabout forms part of an approved multi combination transport route and is therefore suitable for use by large multicomination vehicles. Aerial image of the roundabout is shown in Figure 2.12.



Figure 2.12: Wandal Road / Campbell Street / Exhibition Road roundabout [Source: Nearmap]

### Campbell Street / North Street Roundabout

Campbell Street / North Street roundabout is a single lane roundabout between the Wandal Road / Campbell Street / Exhibition Road roundabout to the north and the Albert Street / Campbell Street intersection to the south. The subject roundabout provides an island diameter of 20 metres and mountable outer ring allowing for use by large multicombination vehicles. Aerial image of the roundabout is shown in Figure 2.13.

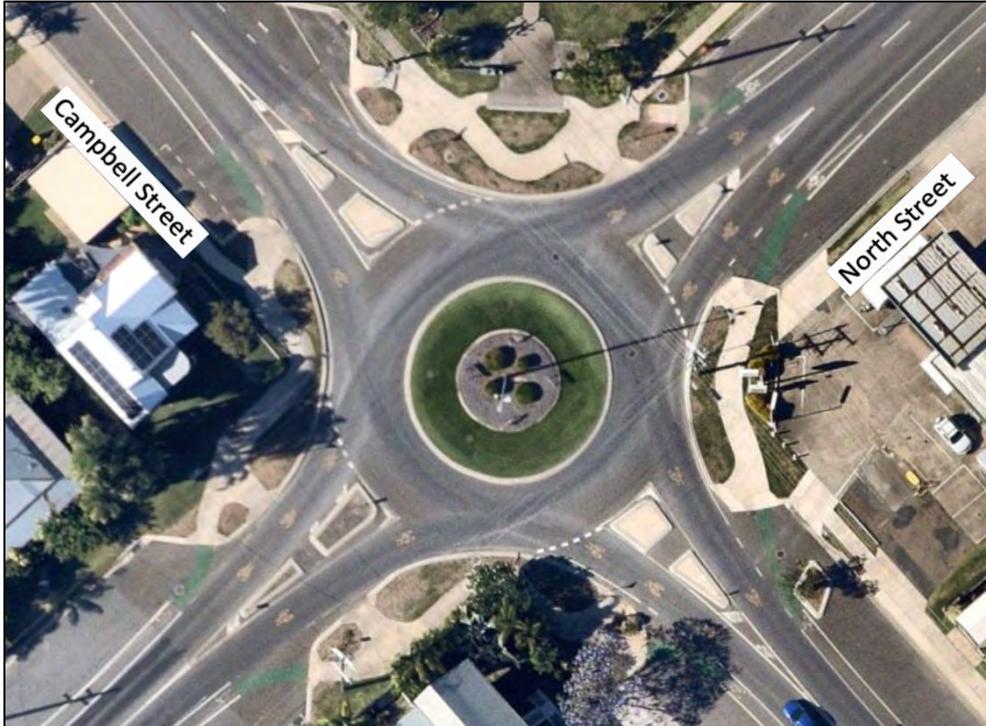


Figure 2.13: Campbell Street / North Street roundabout [Source: Nearmap]

### Albert Street / Campbell Street Intersection

The Albert Street / Campbell Street intersection is a four-way signal controlled intersection, with dedicated right turning lanes on each approach. Left turn movements are generally provided via a stand-up lane shared with a through traffic lane on each leg. Aerial image of the intersection is shown in Figure 2.14.

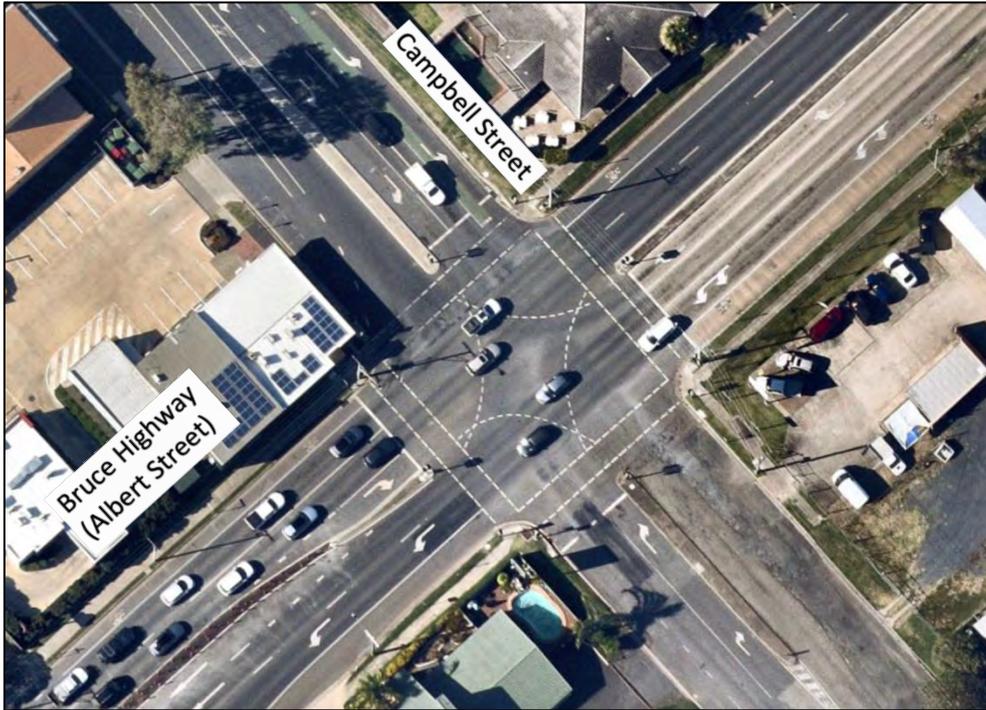


Figure 2.14: Albert Street / Campbell Street intersection [Source: Nearmap]

### Albert Street / George Street Intersection

The Albert Street / George Street intersection is a four-way signal controlled intersection with a sweeping left turn from Albert Street. The northbound approach on George Street provides dual right turn lanes. Right turn movements from the western approach on Albert Street are restricted. Aerial image of the intersection is shown in Figure 2.15.

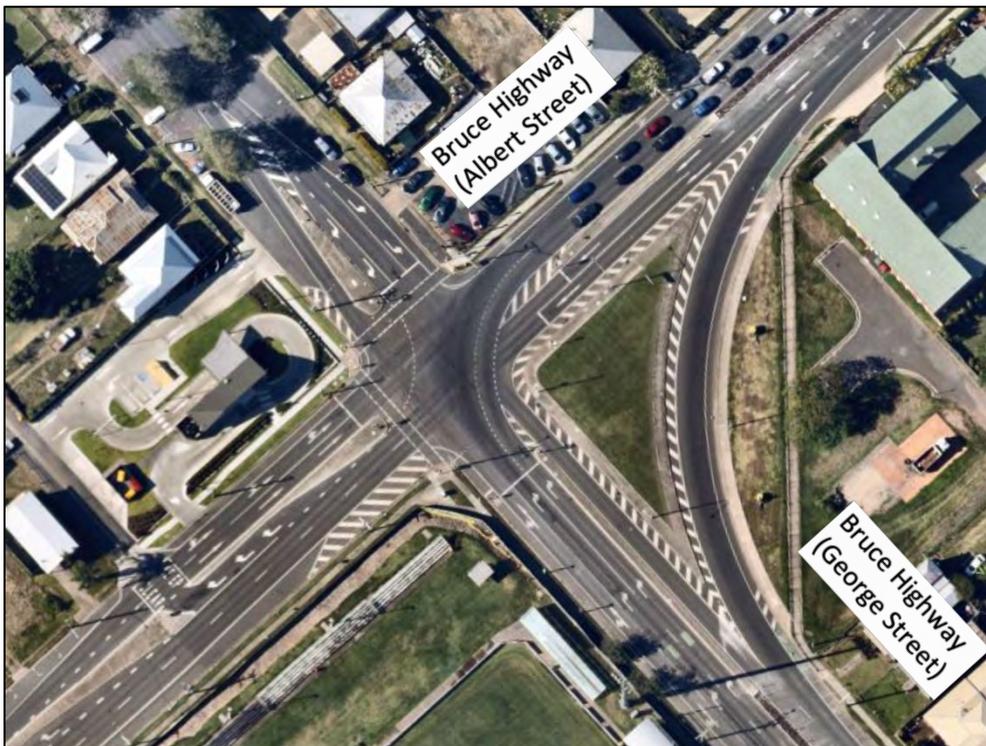


Figure 2.15: Albert Street / George Street intersection [Source: Nearmap]

### Bruce Highway / Capricorn Highway Roundabout

The Bruce Highway / Capricorn Highway roundabout is a major roundabout with all approaches having divided multi-lane carriageways. Left turn movements on the northern and western legs are provided separately through a service road arrangement adjacent to the roundabout. Aerial image of the roundabout is shown in Figure 2.16.



Figure 2.16: Bruce Highway / Capricorn Highway roundabout [Source: Nearmap]

## 2.3 Traffic Volumes

### 2.3.1 Road Link Volumes

The background traffic volumes for the relevant sections of the road network were established using the available Annual Average Daily Traffic (AADT) segment traffic count data provided by DTMR and RRC (refer Appendix A), noting that the data provided includes traffic counts from various years, and for periods of different intensities along the haulage route.

Therefore, to establish an appropriate estimate of traffic volumes for links, the following assumptions were adopted:

- For Nine Mile Road, the AADT estimated at year 2023, an average of 470 vehicles per day (vpd) including 38.6% heavy vehicles has been adopted as the base daily link volume. The data received was collected in 2022.
- The provided traffic volumes from the DTMR spreadsheet have been adopted along the State controlled Ridgelands Road, the Bruce Highway and the Capricorn Highway.

The road link traffic volumes for each of the road segments relevant to the proposed road haulage operation are shown in Tables 2.1 - 2.3.

Table 2.1: Forecast future background AADT traffic volumes for Nine Mile Road

ROAD	Base Data Year	Base Data		Growth	2023 Estimate (Average)	
		AADT	% HV		1%p.a.	AADT
Nine Mile Road	2022	465	38.6		470	38.6

Table 2.2: Background AADT traffic volumes for Ridgelands Road

Road ID	AADT Segment		Base Data Year	Base Year (2021) AADT					
	Start (km)	End (km)		Gaz	% HV	A-Gaz	% HV	TOTAL	%HV
<b>Ridgelands Road</b>									
511	0.000	0.170	2021	3444	10.19	2257	9.54	5701	9.93
511	0.170	0.225	2021	3444	10.19	2257	9.54	5701	9.93
511	0.225	0.245	2021	2998	10.14	2672	9.48	5670	9.82
511	0.245	0.730	2021	2998	10.14	2672	9.48	5670	9.82
511	0.730	0.785	2021	2998	10.14	2672	9.48	5670	9.82
511	0.785	1.130	2021	2315	8.98	2161	8.19	4476	8.60
511	1.130	2.175	2021	2315	8.98	2161	8.19	4476	8.60
511	2.175	4.720	2021	1917	12.91	1773	9.61	3690	11.30

Table 2.3: Background AADT traffic volumes for Bruce Highway and Capricorn Highway

Road ID	AADT Segment		Base Data Year	Base Year (2021) AADT					
	Start (km)	End (km)		Gaz	% HV	A-Gaz	% HV	TOTAL	%HV
<b>Bruce Highway</b>									
10E	108.938	114.088	2021	2771	28.9	2680	34.22	5451	31.52
10E	114.088	114.388	2021	2771	28.9	2680	34.22	5451	31.52
10E	114.038	116.961	2021	5521	20.99	4881	18.37	10402	19.77
10E	116.961	119.737	2021	10455	11.84	8768	17.84	19223	14.58
10E	119.737	121.051	2021	11216	9.93	8479	15.93	19695	12.52
10F	0.000	0.730	2021	9346	16.71	7254	15.44	16600	16.16
<b>Capricorn Highway</b>									
16A	0.000	0.738	2021	8289	10.79	7503	25.98	15792	18.00
16A	0.738	5.495	2021	8289	10.79	7503	25.98	15792	18.00
16A	5.495	5.690	2021	8289	10.79	7503	25.98	15792	18.00
16A	5.690	5.970	2021	2746	26.34	2672	27.92	5418	27.11
16A	5.970	9.390	2021	2746	26.34	2672	27.92	5418	27.11
16A	9.390	10.000	2021	2746	26.34	2672	27.92	5418	27.11

### 2.3.2 Intersection Volumes

Intersection data has been requested from DTMR for the critical intersections along the transport route between and including the Ridgeland Road / Nine Mile Road intersection and the Bruce Highway / Capricorn Highway roundabout, however, this data has not been made available from the respective asset owner.

Nevertheless, based on the low daily and peak traffic volumes estimated for the proposed increase in haulage operation it is considered that there will be little to no impact on the capacity of each intersection along the haulage route between the Bruce Highway / Capricorn Highway roundabout and Quarry access.

A swept path analysis at each of the critical road sections along the haulage route identified in Section 1.2.1 has been prepared in accordance with Austroads and AS2890. The analysis adopts the largest design vehicle anticipated as part of the proposed haulage operation. As shown as Appendix B, each of the intersections will be able to service the intended design vehicle.

## 2.4 Intersection and Network Performance

### 2.4.1 Road Links

Based on the daily traffic volumes identified for each section of the road network relevant to the project (refer Tables 2.1, 2.2 and 2.3), it is anticipated that all relevant road sections along the transport route can be considered to be currently operating satisfactorily and within capacity, with all existing mid-block traffic volumes identified considered well within the design capacity of respective roads.

As noted in Section 2.3 above, existing carriageways along the transport route provides a sealed road, which is considered appropriate for use by large multi-combination vehicles as identified in DTMR Route Assessment Guidelines for Multi-Combination Vehicles.

### 2.4.2 Intersections

No turning movement data was made available by RRC and DTMR. However, based on the peak hour traffic volumes estimated for the proposed operation and the current provision of dedicated turn treatments and geometry at the respective intersections, it is anticipated that the current configuration of each intersection will operate well within acceptable limits for each intersection under the existing (2023) traffic conditions with and without the proposal.

The Fogarty Road / Quarry access intersections are designed to suit the largest design vehicle intended to facilitate the proposed operation. Vehicle paths for the design vehicle negotiating the below intersections are shown as Appendix B:

- Fogarty Road / Quarry Access intersection north,
- Fogarty Road / Quarry Access intersection south,
- Nine Mile Road / Fogarty Road intersection,
- Ridgeland Road / Nine Mile Road intersection,
- Wandal Road / Campbell Street / Exhibition Road roundabout,
- Campbell Street / North Street roundabout,
- Albert Street / Campbell Street intersection,
- Albert Street / George Street intersection and
- Bruce Highway / Capricorn Highway roundabout.

## 2.5 Road Safety

### 2.5.1 Road Crash History Review

A review of the road crash history along the critical intersections of the proposed haulage route was undertaken using the road crash data available from the Queensland Globe and DTMR databases, with the assessment completed for the last five years (2018-2023). The analysis was completed within 200 metres of the intersections outside Rockhampton CBD and within 50 metres within Rockhampton CBD. Locations of crashes are diagrammatically presented in Figure 2.17.

Within the study period, 13 FSI (Fatal or Serious Injury) incidents were recorded and three others. There was one fatal incident recorded, at the Ridgeland Road / Nine Mile Road intersection, however the incident occurred on adjacent Ridgeland Road approaches and not on the critical movement (right turn egress, left turn ingress) associated with the proposed haulage route.

Based on the above it is not expected that any specific road safety risks are present along the haulage route that would greatly impact on the traffic movements associated with the proposed operation. However, it is noted that a Condition of Approval (2112-26672 SRA) issued in September 2022 for the haulage operations at 250 Fogarty Road includes an upgrade of the Ridgeland Road / Nine Mile Road intersection to provide a Short Auxiliary Left Turn (AUL(s)).



Figure 2.17: Road crash location along the critical sections of the transport route [Source: Google Earth / Queensland Globe]

## 2.6 Pavement Impact

### 2.6.1 Pavement Condition

#### Nine Mile Road

Based on the information provided by RRC the existing quarry is conditioned to pay a road maintenance levy of \$0.4153 per tonne, with Consumer Price Index (CPI) increase. The relevant authority (RRC) has not provided pavement roughness data for the section of Nine Mile Road subject to the proposed haulage operation.

#### State Controlled Roads

Traffic count data (for 2021) and the marginal cost values along each road section along the Ridgeland Road, the Bruce Highway and the Capricorn Highway has been provided by the Road Asset Management section of DTMR. A summary of the count data is provided as Appendix A.

A representation of data available along the proposed haulage road is provided in Figure 2.18.

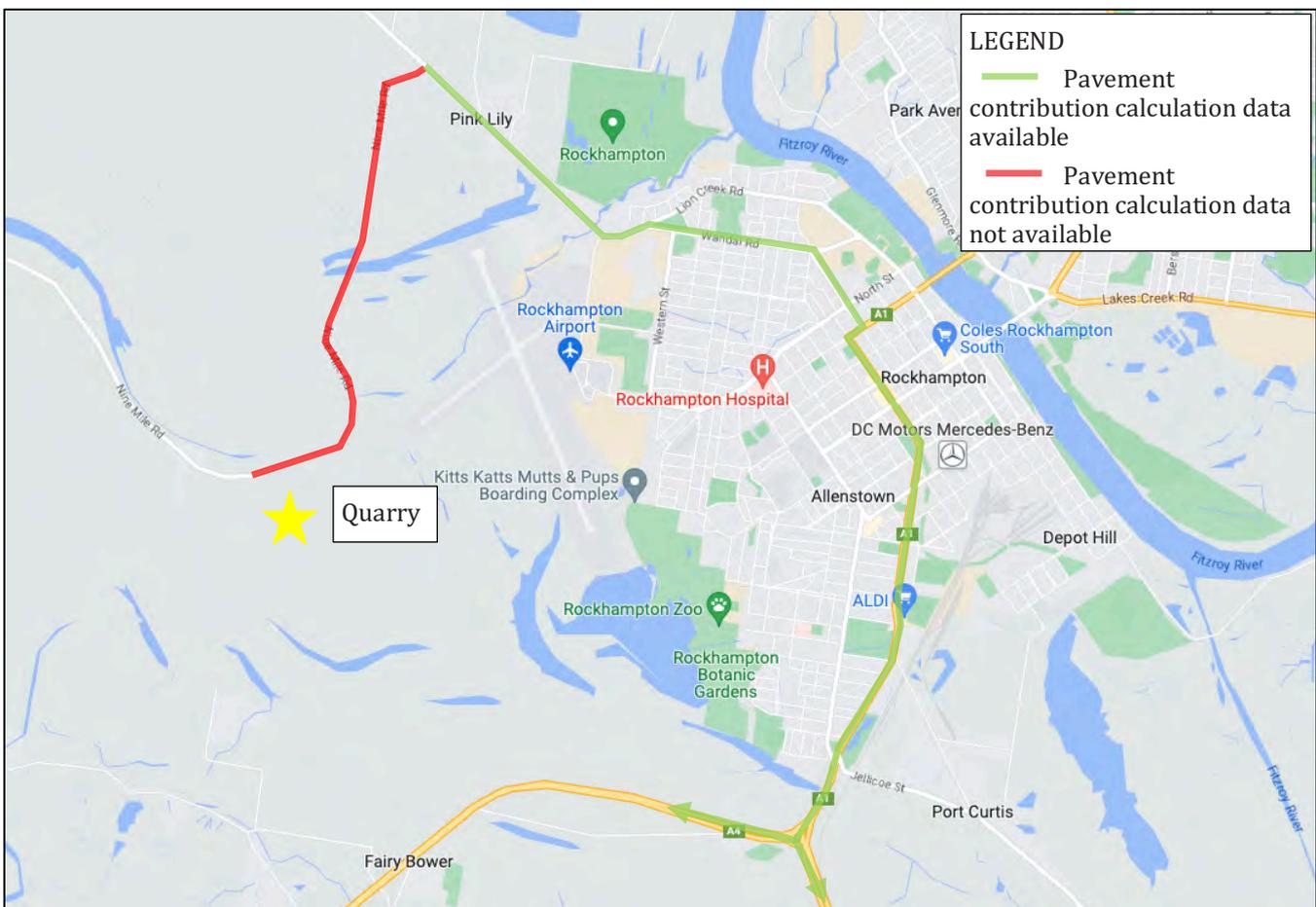


Figure 2.18 - Pavement contribution calculation data availability

## 2.6.2 Pavement Loadings

### Council Controlled Network

Given the limited data made available by RCC and recent approvals in the area, pavement impacts along the Council controlled section of the haulage route has been determined through application of the road maintenance levy of \$0.22 per tonne (adjusted to CPI). Application of such to the proposed increase in haulage capacity (250,000 tonnes), results in a maintenance levy of up to \$55,000 per annum charged on an annual basis in accordance with recorded levels of extraction.

It is noted that the calculated pavement contribution along the State controlled section of the route is approximately a third of the proposed levy of \$0.22 per tonne (Section 5.1.2).

### State Controlled Network

The pavement impact assessment along the State controlled sections of the route has been undertaken in accordance with the GTIA Practice Note: Pavement Impact Assessment (December 2018), using Standard Axle Repetitions and associated marginal cost of pavement damage. Marginal Cost values for road wear have been obtained from the Road Asset Management section of DTMR.

In accordance with the GTIA pavement impact mitigation is required for any road sections where the development traffic (during construction and operation) exceeds 5% of the background equivalent SARs. In accordance with Table 4 of the GTIA, the mitigation of pavement impacts occurs for a period of 20 years after the opening of the final stage of the project.

Data has been obtained for Ridgeland Road, the Bruce Highway and the Capricorn Highway, with a summary of existing SAR's shown in the marginal cost tables presented as Appendix C.

In accordance with the Pavement Impact Assessment Practice Note, a value of 3.2 SAR<sub>4</sub> / HV has been adopted to calculate background SARs on all roads other than the Bruce Highway for which 2.9 SAR<sub>4</sub> / HV has been applied.

## 3 Development Traffic

### 3.1 Traffic Generation

As previously identified, the proposed road haulage operations are understood to involve an increased transportation of approximately 250,000 tonnes of material from the Quarry through the Rockhampton township up to the Bruce Highway / Capricorn Highway roundabout and then south or west. The haulage of material is intended to operate 300 days per year, 12 hours per day.

Further to this, the proponent has advised that the haulage operation will be undertaken by a Truck and Dog (3-axle truck and 4-axle dog) with a typical payload of 36 tonnes, accounting for the use of general mass limits for the vehicle as described in the NHVR Common Heavy Freight Vehicle Configurations.

Based on the general operational information above, an estimate of the expected daily and peak hour transport vehicle movements can be established as shown in Table 3.1 below.

Table 3.1: Transport vehicle generation road haulage scenarios (250,000 tonnes annually)

Haulage Scenario		Annual Haulage Scenario
		250,000
Days per year		300
Tonnage per day		833.3
Trucks	Capacity (t)	
No. Truck + Dogs per day	36	24 (23.15)
Up to Bruce Hwy / Capricorn Hwy (100%)	36	24 (23.15)
Bruce Hwy / Capricorn Hwy South (62.5%)	36	15 (14.47)
Bruce Hwy / Capricorn Hwy West (37.5%)	36	9 (8.68)
Hours per day		12
Tonnage per hour		69.44
No. Truck + Dogs per hour		2 (1.93)

Adopting the daily transport rates and the payload of the identified transport vehicle, the proposed road haulage operations are anticipated to generate the following:

- up to 24 haulage vehicle round trip movements per day up to the Bruce Highway / Capricorn Highway roundabout,
- up to 15 haulage vehicle round trip movements per day on the Bruce Highway south of the Bruce Highway / Capricorn Highway roundabout and
- up to 9 haulage vehicle round trip movements per day on the Capricorn Highway west of the Bruce Highway / Capricorn Highway roundabout.

## 3.2 Development Traffic Volumes on the Network

Based on the information identified above, it can be seen that the proposed road haulage operations are anticipated to generate up to 24 round trip haulage vehicles per day (48 trips total).

In terms of the peak hour distribution of the haulage vehicle traffic volumes, based on the identified 12-hour work day, the additional traffic movements along the haulage route are anticipated to be in the order of 1-2 trips in each direction (4 trips total) of travel per peak hour.

## 4 Impact Assessment and Mitigation

Based on the information provided above, it was determined that the critical elements of the surrounding road network in terms of the potential impact of the proposed haulage routes are as follows:

- Nine Mile Road / Fogarty Road intersection,
- Nine Mile Road,
- Ridgelands Road / Nine Mile Road intersection,
- Ridgelands Road,
- Wandal Road / Campbell Street / Exhibition Road roundabout,
- Campbell Street / North Street roundabout,
- Albert Street / Campbell Street intersection,
- Bruce Highway,
- Albert Street / George Street intersection,
- Bruce Highway / Capricorn Highway roundabout and
- Capricorn Highway.

Further assessment of the impacts of the proposed haulage operations on these road network elements is provided in the following sections.

### 4.1 With and Without Development Traffic Volumes

#### 4.1.1 Road Link Volumes

As previously noted, the quantity of material to be transported along the haulage route is understood to be increased for up to 250,000 tonnes over approximately 365 days (300 haulage days).

The proposed haulage vehicle has been confirmed to be a Truck and Dog (3-axle truck, 4-axle dog) configuration. The haulage scenario has therefore been assessed for such vehicle, with a summary of the calculated percentage increase in daily traffic volumes along each relevant road link detailed in Appendix C.

### 4.2 Intersection Impact Assessment and Mitigation

As previously identified, the proposed haulage operation is anticipated to lead to a maximum increase in peak hour traffic volumes of 2 inbound and 2 outbound heavy vehicle movements between the Quarry and the Bruce Highway / Capricorn Highway roundabout. Swept path analysis of the maximum design vehicle negotiating critical intersections along each route is shown as Appendix B.

Based on this minimal increase in peak hour traffic volumes, which equates to one heavy vehicle movement approximately every 15 minutes, the impact of the proposed road haulage activities on the operation (including vehicle delay) of each intersection is anticipated to be negligible.

### 4.3 Road Link Capacity Assessment and Mitigation

Based on detailed road link volumes calculations shown as Appendix C it is expected that the additional traffic volumes generated by the proposed haulage operation will be in the order of up to 48 heavy vehicles per day for the 250,000 tonnes (365 days / 300 hauling days) of material. These additional traffic movements equate to an increase of more than 5 % of background demand on Ridgelands Road and not on the Bruce Highway or the Capricorn Highway.

## 4.4 Pavement Impact Assessment and Mitigation

The assessment of potential pavement impacts of the project involves a comparison between the existing pavement loading ESAs and the estimated increase in ESAs generated by additional heavy vehicles associated with the proposed haulage operations.

Tables 4.1 shows the assumed configuration of the design haulage vehicle, as well as the average loaded and unloaded ESAs/HV values as well as SAR4 and SAR5 values for the vehicle configurations (noting the assumption that the vehicles will travel from the quarry fully loaded and return unloaded).

For the purposes of determining impacts along the SCR, the following SAR4, SAR5 values have been applied for the development generated heavy vehicles, in accordance with the Pavement Impact Assessment Practice Note. It is noted that the values adopted for the loaded vehicles are conservative (high) as they assume that each vehicle is carrying the maximum legal payload.

Table 4.1: Assumed vehicle configurations and SAR4/SAR5 Values

Vehicle Class	Vehicle Configuration	SAR4 (Class 10)		SAR5 (Class 10)	
		Unloaded	Loaded	Unloaded	Loaded
Truck + Dog (19) (3-axle truck / 4-axle dog)*		0.53	6.3	0.42	7.09

\*As per NVHR Vehicle Configuration Table

The comparison of the background and development pavement loadings along the identified transport route has been undertaken based on the above vehicle combination, with a summary of results provided in Table 5.1, and further details of the calculations undertaken provided for reference in Appendix C.

As demonstrated in Appendix C, the results of the analysis indicate that the additional heavy vehicle movements associated with the proposed road haulage operations are expected to lead to an increase in pavement loadings along sections of the transport route. As such pavement impact contribution calculations were undertaken using the DTMR marginal cost method. This method is generally accepted as the standard methodology of assessment for State controlled roads. The resultant pavement maintenance and rehabilitation contributions required along the Council and State controlled roads associated with the proposed haulage route are summarised in Tables 5.1 and 5.2, with detailed analysis provided as Appendix C.

## 5 Conclusions

### 5.1 Summary of Impacts and Mitigation Measures Proposed

#### 5.1.1 Traffic Impacts

Based on the relatively low background traffic volumes and the relatively small increase in traffic numbers (up to a maximum of 24 vpd in each direction), it is anticipated that the proposed haulage operations will have a relatively small impact on the traffic operation of the identified mid-block sections along the haulage routes, with adequate capacity expected to be available on each road link to cater for the additional heavy vehicles.

Further to this, the proposed road haulage operations were estimated to only lead to a maximum increase in peak hour traffic volumes of 2 inbound and 2 outbound heavy vehicles. As such, the impact of the proposed operations at the critical intersection along the transport route can also be deemed to be negligible.

#### 5.1.2 Pavement Impacts

An assessment of the expected pavement impacts to the relevant routes was undertaken for the proposed haulage operation using Truck and Dog vehicle combination.

This assessment identified that the additional heavy vehicle movements associated with the proposed road haulage operation are expected to lead to an increase in pavement loadings along Ridgelands Road with the outbound values above the recommended 5% impact trigger for the proposed haulage scenario assessed. Impacts on the Bruce Highway and the Capricorn Highway are under the 5% impact trigger.

As such pavement impact contribution calculations were undertaken using the DTMR marginal cost methodology along the State controlled network, with the contribution values shown in Table 5.1. As discussed in Section 1.3, the road maintenance contribution levy of \$0.22 per tonne has been applied over Nine Mile Road. These are calculated to be required to offset the identified pavement impacts of the proposed haulage operations along Nine Mile Road and Ridgelands Road.

Table 5.1: Recommended Project pavement contributions (route analysis)

Route Section	Vehicle Configuration	Haulage Volume (tonnes)	Jurisdiction	Contribution Calculation Method	Cents / tonne
Nine Mile Road	Truck + Dog	250,000	RRC	Equivalent rate at \$0.22/t (Section 1.3)	22.00
Ridgelands Road - 511 Ch0.0 - Ch4.7	Truck + Dog	250,000	DTMR	Marginal Cost	7.53
Bruce Highway - 10F Ch0.0 - Ch0.9	Truck + Dog	250,000	DTMR	Marginal Cost	0
Bruce Highway - 10E Ch106.0 - 121.1	Truck + Dog	250,000	DTMR	Marginal Cost	0
Capricorn Highway - 16A Ch0.0 - Ch10.0	Truck + Dog	250,000	DTMR	Marginal Cost	0

Table 5.2: Estimated route contributions for haulage of 250,000 tonnes of material annually

Route Section	Length	Cents / tonne	Cents / tonne / km	Contribution
Nine Mile Road	4.5	22.00	4.88	\$55,000.00
<b>TOTAL RRC JURISDICTION</b>	<b>4.5</b>	<b>22.00</b>	<b>4.88</b>	<b>\$55,000.00</b>
Ridgelands Road - 511 Ch0.0 - Ch4.7	4.7	7.53	1.60	\$18,833.94
<b>TOTAL DTMR JURISDICTION</b>	<b>4.7</b>	<b>7.53</b>	<b>1.60</b>	<b>\$18,833.94</b>
<b>TOTAL</b>	<b>9.6</b>	<b>29.53</b>	<b>3.08</b>	<b>\$73,833.94</b>

## Appendix A: Annual Average Daily Traffic (AADT)

## A-1: Nine Mile Road AADT

**From:** Adithya Anilkumar <[Adithya.Anilkumar@rrc.qld.gov.au](mailto:Adithya.Anilkumar@rrc.qld.gov.au)>

**Date:** Friday, 24 February 2023 at 7:18 am

**To:**

**Subject:** RE: Nine Mile Road

Hello Maja

The recorded AADT between Ridgeland Rd and Fogarty Rd taken on 12/8/22 was 465 Vehicles. Heavy Vehicle percentage 38.6%.

Regards

Adi

**Adithya Anilkumar**

**Technical Officer (Traffic and Transport) | Strategic Infrastructure**

Rockhampton Regional Council

Ph: 4936 8937 | Fax: 1300 22 55 79 | E-mail: [adithya.anilkumar@rrc.qld.gov.au](mailto:adithya.anilkumar@rrc.qld.gov.au)

Address: PO Box 1860, Rockhampton Q 4700 | Web: [www.rockhamptonregion.qld.gov.au](http://www.rockhamptonregion.qld.gov.au)

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## A-2: Ridgeland Road AADT Segment Reports





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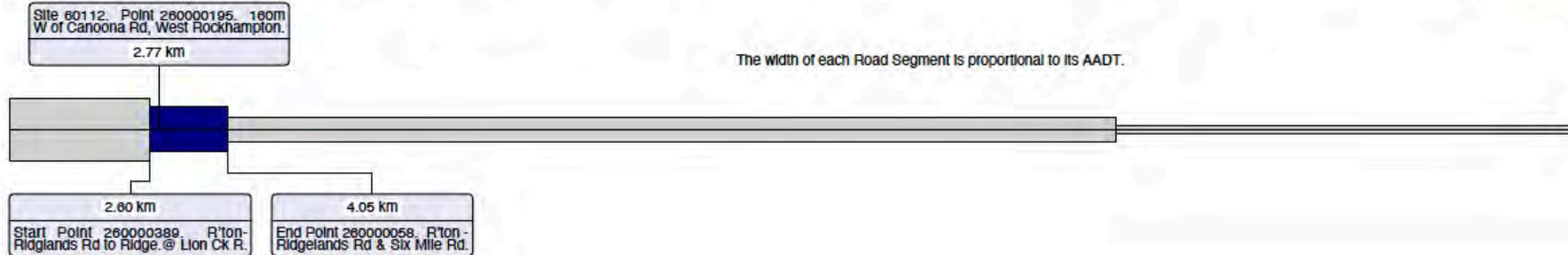
Area 404 - Fitzroy District  
Road Segment from 2.596km to 4.051km

Traffic Analysis and Reporting System  
**AADT Segment Report**

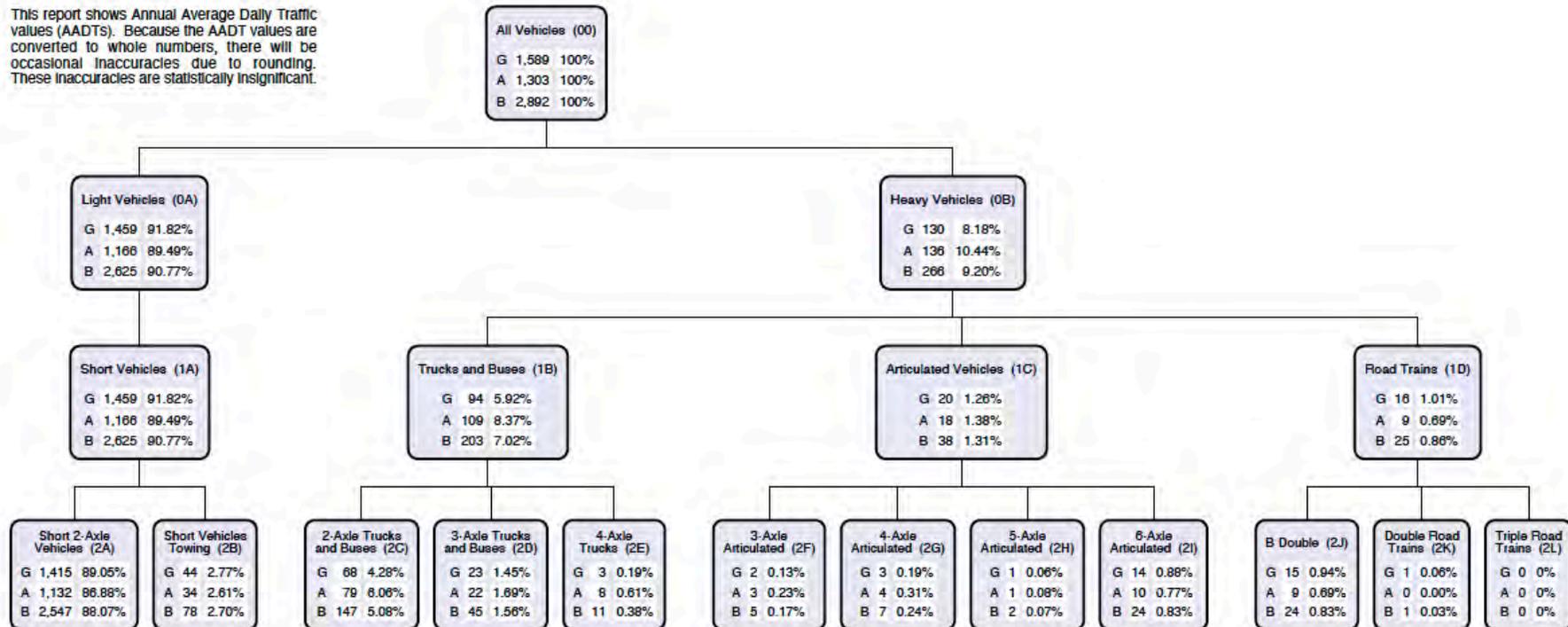
Road Section 511 - ROCKHAMPTON - RIDGELANDS ROAD  
Segment Site 60112 Traffic Year 2020 Data Collection Year 2020

**TARS**

Page 2 of 2 (2 of 7)



This report shows Annual Average Daily Traffic values (AADTs). Because the AADT values are converted to whole numbers, there will be occasional inaccuracies due to rounding. These inaccuracies are statistically insignificant.





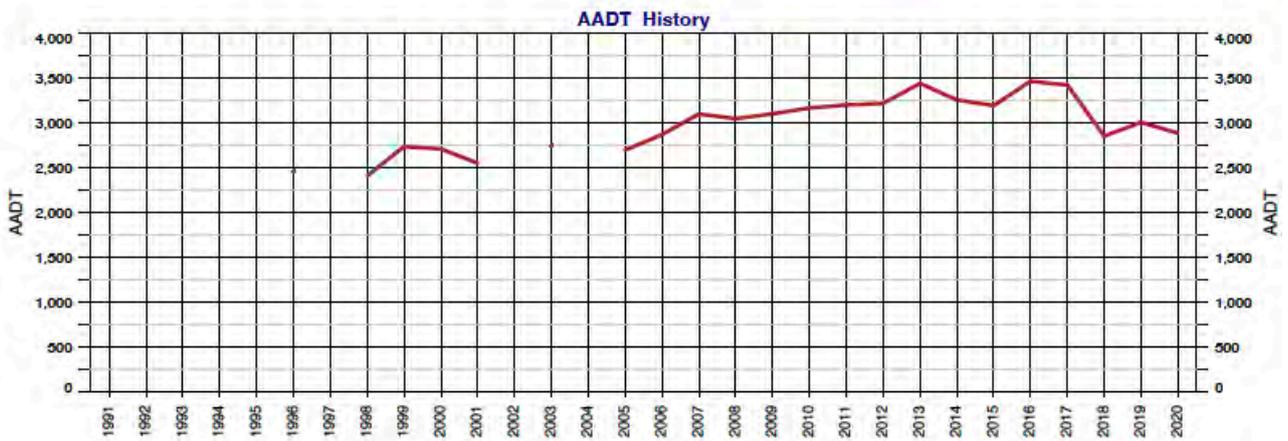
Traffic Analysis and Reporting System  
Annual Volume Report

TARS

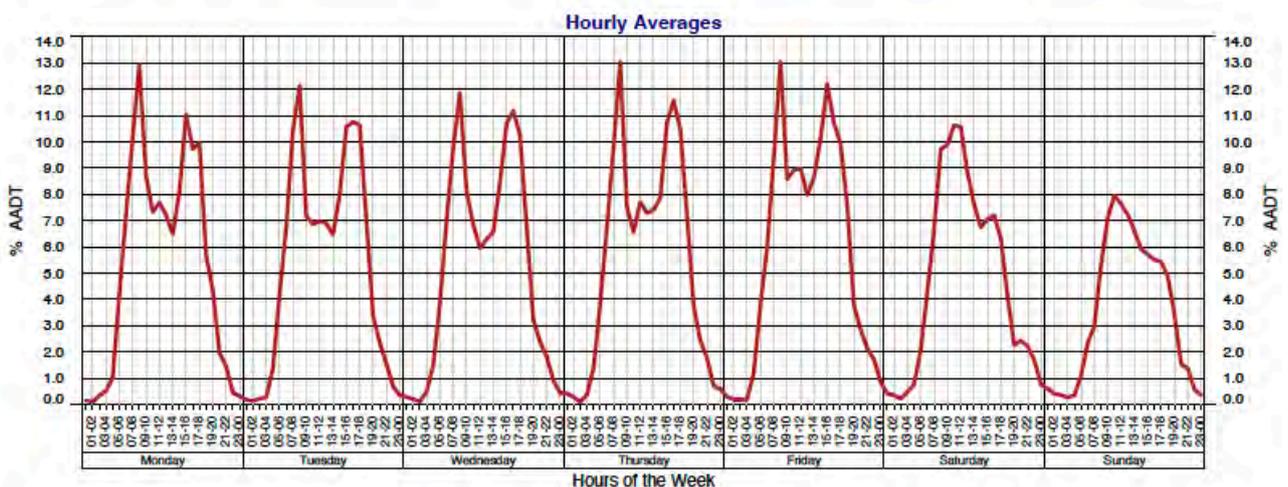
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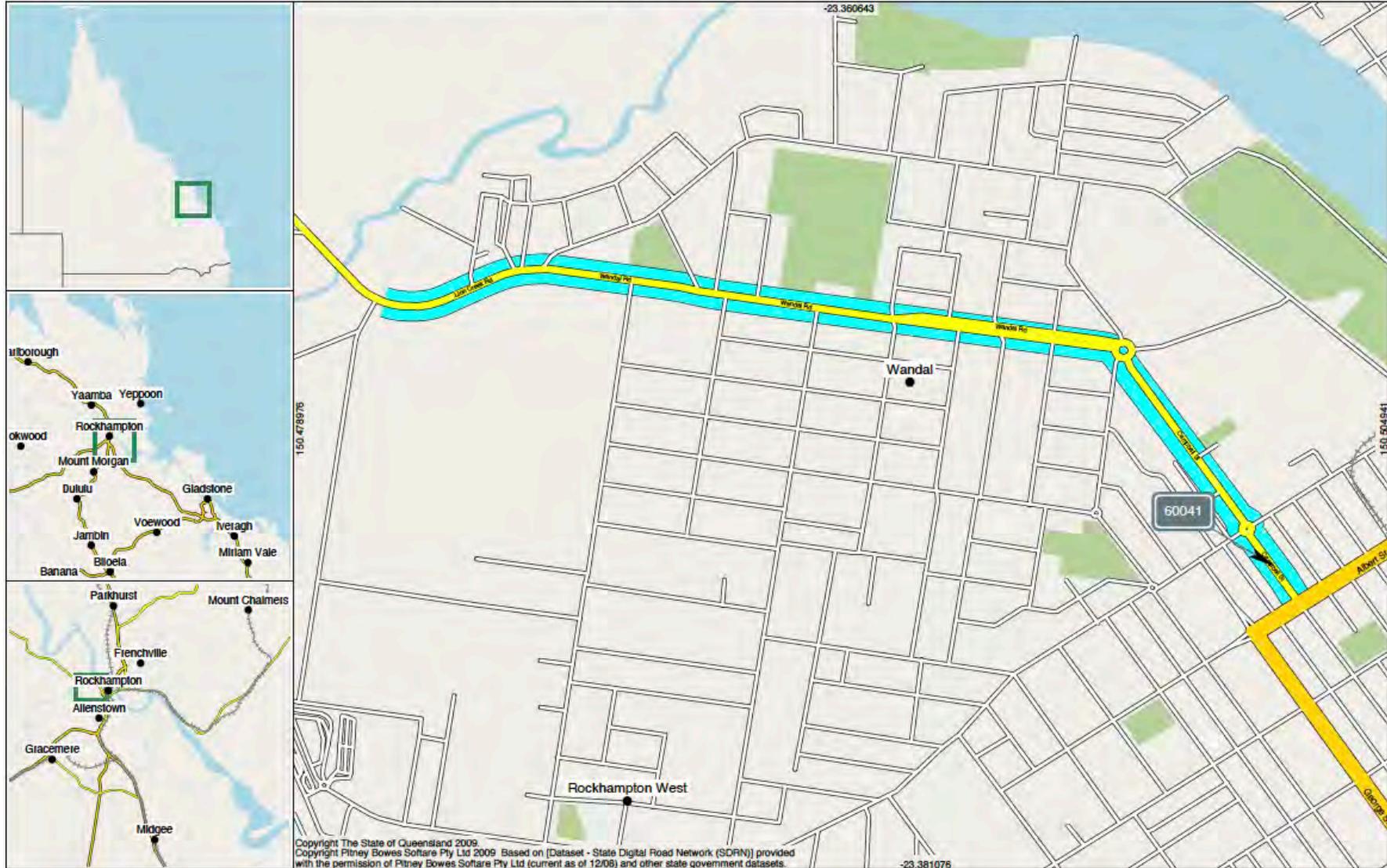
Page 2 of 3 (5 of 7)

Area	404 - Fitzroy District	Year	2020	Growth last Year	-3.98%
Road Section	511 - ROCKHAMPTON - RIDGELANDS ROAD	AADT	2,892	Growth last 5 Yrs	-3.15%
Site	60112 - 160m W of Canoona Rd, West Rockhampton	Avg Week Day	3,730	Growth last 10 Yrs	-1.66%
Thru Dist	2.77	Avg Weekend Day	2,834		
Type	C - Coverage				
Stream	TB - Bi-directional traffic flow				

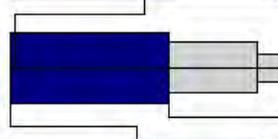


Year	AADT	1-Year Growth	5-Year Growth	10-Year Growth
2020	2,892	-3.98%	-3.15%	-1.66%
2019	3,012	5.39%	-2.28%	-0.99%
2018	2,858	-16.63%	-4.22%	-1.58%
2017	3,428	-1.21%	1.03%	1.13%
2016	3,470	8.47%	1.88%	1.61%
2015	3,199	-1.93%	-0.28%	0.84%
2014	3,262	-5.34%	0.69%	
2013	3,446	6.92%	2.73%	2.52%
2012	3,223	0.58%	1.01%	
2011	3,205	1.04%	1.63%	2.13%
2010	3,172	2.09%	2.50%	2.07%
2009	3,107	1.77%		1.80%
2008	3,053	-1.67%	2.55%	1.96%
2007	3,105	8.00%		
2006	2,875	6.40%	2.24%	1.55%
2005	2,702		0.35%	
2004				
2003	2,756		1.64%	
2002				
2001	2,556	-5.89%	0.38%	
2000	2,716	-0.91%		
1999	2,741	13.55%		
1998	2,414			
1997				
1996	2,468			
1995				
1994				
1993				
1992				
1991				





Site 60041, Point 260000067, 95m N of Bruce Hwy, Rockhampton.  
0.10 km

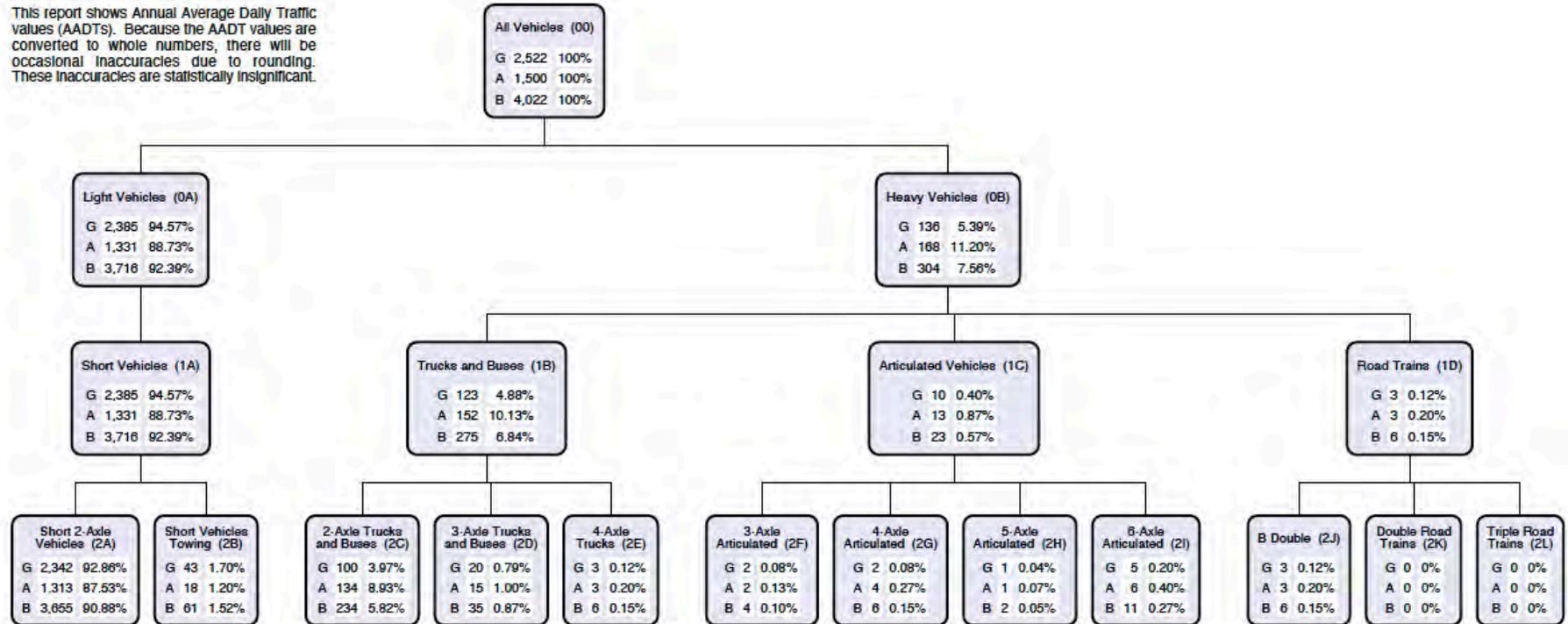


0.00 km  
Start Point 260000068, Campbell St to Ridgeland @ Bruce Hwy.

2.60 km  
End Point 260000389, R'ton-Ridglands Rd to Ridge.@ Lion Ck R.

The width of each Road Segment is proportional to its AADT.

This report shows Annual Average Daily Traffic values (AADTs). Because the AADT values are converted to whole numbers, there will be occasional inaccuracies due to rounding. These inaccuracies are statistically insignificant.





Traffic Analysis and Reporting System  
Annual Volume Report

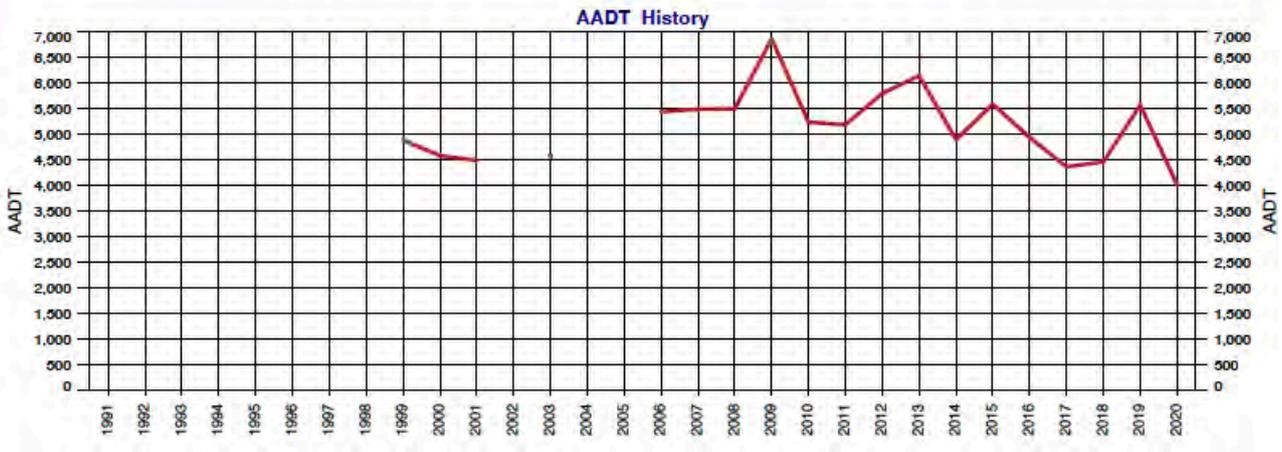
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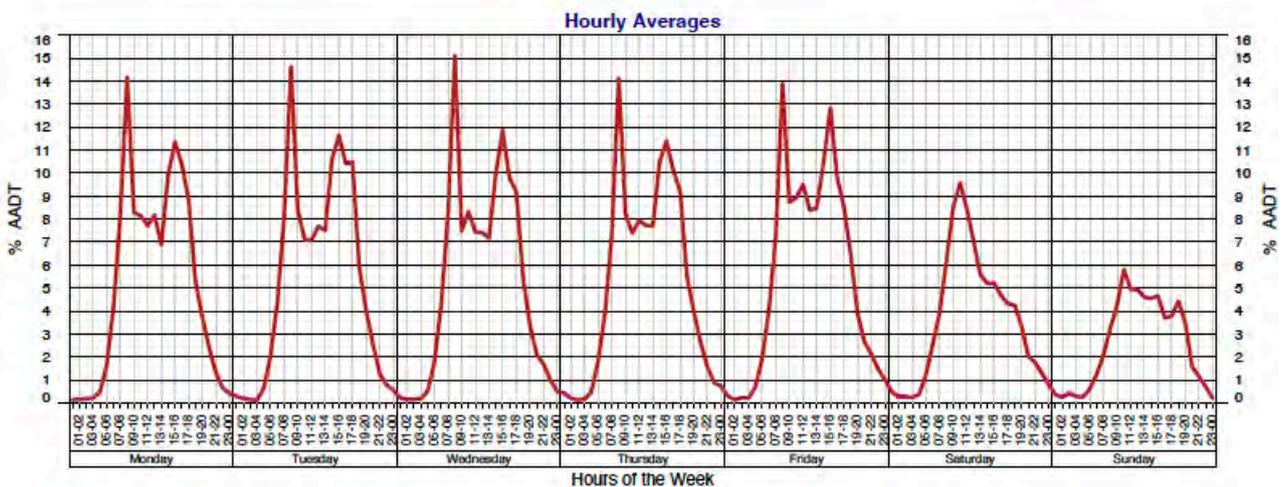
Page 2 of 3 (5 of 7)

Area 404 - Fitzroy District  
Road Section 511 - ROCKHAMPTON - RIDGELANDS ROAD  
Site 60041 - 95m N of Bruce Hwy, Rockhampton  
Thru Dist 0.095  
Type C - Coverage  
Stream TB - Bi-directional traffic flow

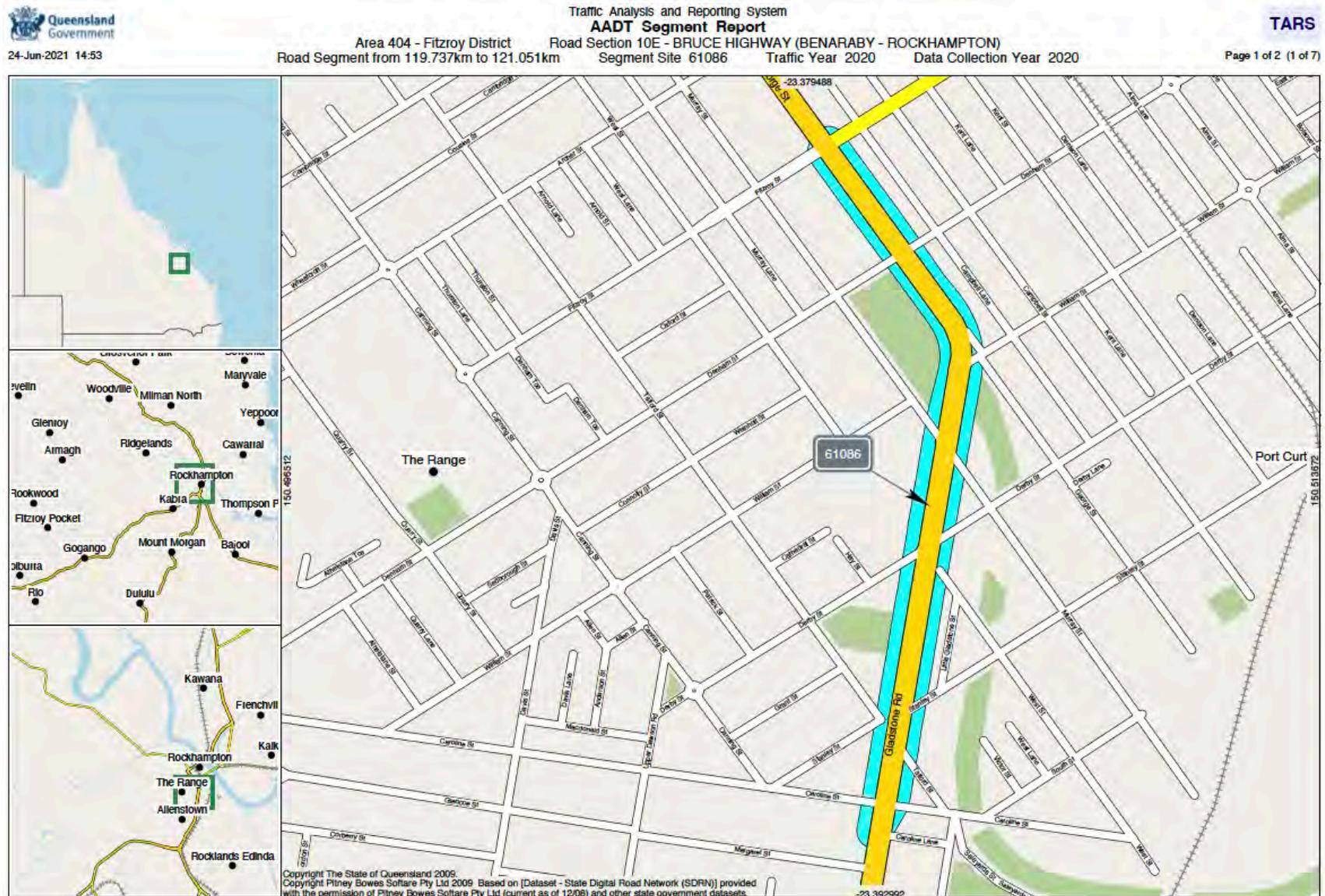
Year	2020	Growth last Year	-27.91%
AADT	4,022	Growth last 5 Yrs	-5.77%
Avg Week Day	5,027	Growth last 10 Yrs	-3.90%
Avg Weekend Day	2,976		



Year	AADT	1-Year Growth	5-Year Growth	10-Year Growth
2020	4,022	-27.91%	-5.77%	-3.90%
2019	5,579	24.89%	3.15%	-0.03%
2018	4,487	2.10%	-5.02%	-3.25%
2017	4,375	-11.54%	-6.56%	-3.57%
2016	4,948	-11.60%	-2.94%	-1.82%
2015	5,595	14.09%	0.83%	
2014	4,904	-20.26%	-4.77%	
2013	6,150	5.96%	1.81%	2.30%
2012	5,804	11.77%	0.53%	
2011	5,193	-0.97%	-2.18%	0.56%
2010	5,244	-23.68%		1.16%
2009	6,871	24.84%		4.94%
2008	5,504	0.15%	3.18%	
2007	5,496	0.90%		
2006	5,447		4.44%	

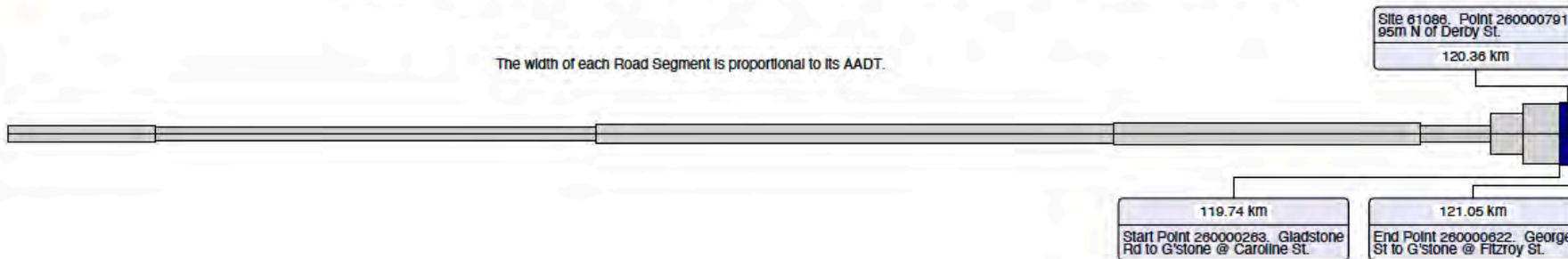


### A-3: Bruce Highway AADT Segment Reports

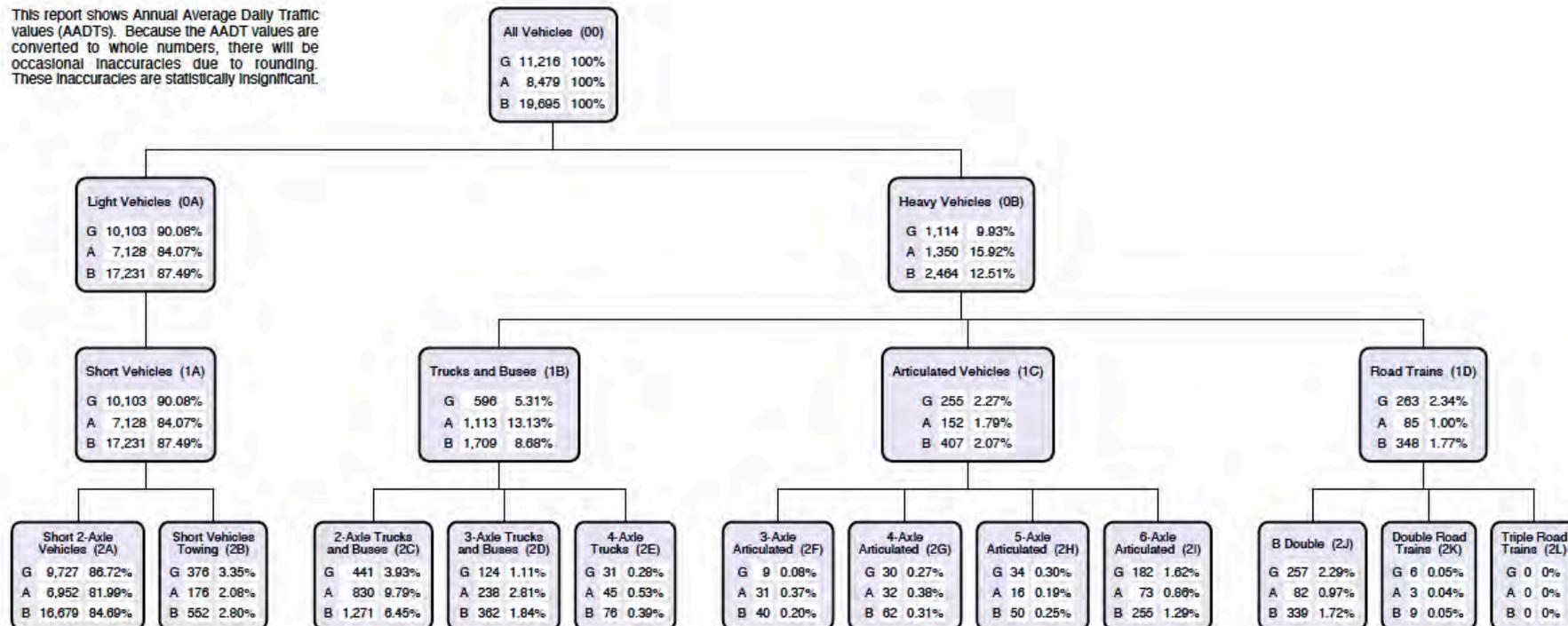


**ADT Segment Report**

Area 404 - Fitzroy District Road Section 10E - BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)  
Road Segment from 119.737km to 121.051km Segment Site 61086 Traffic Year 2020 Data Collection Year 2020



This report shows Annual Average Daily Traffic values (AADTs). Because the AADT values are converted to whole numbers, there will be occasional inaccuracies due to rounding. These inaccuracies are statistically insignificant.





Traffic Analysis and Reporting System  
Annual Volume Report

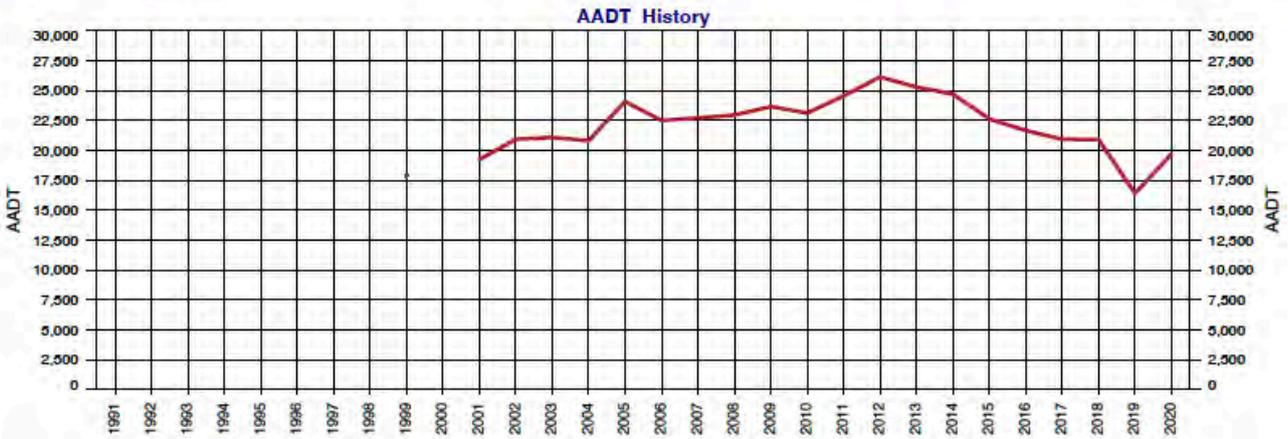
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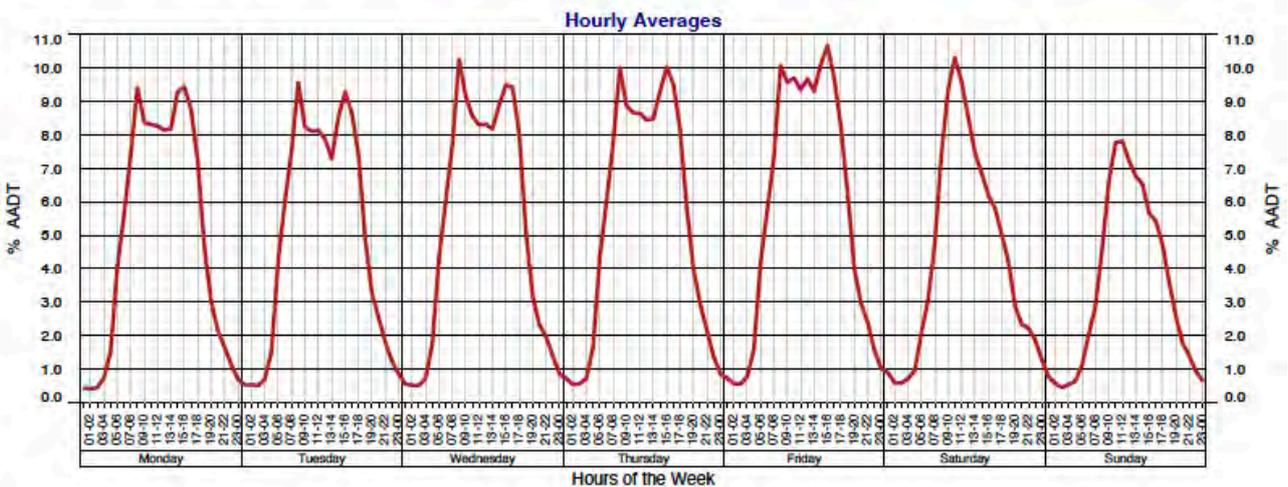
Page 2 of 3 (5 of 7)

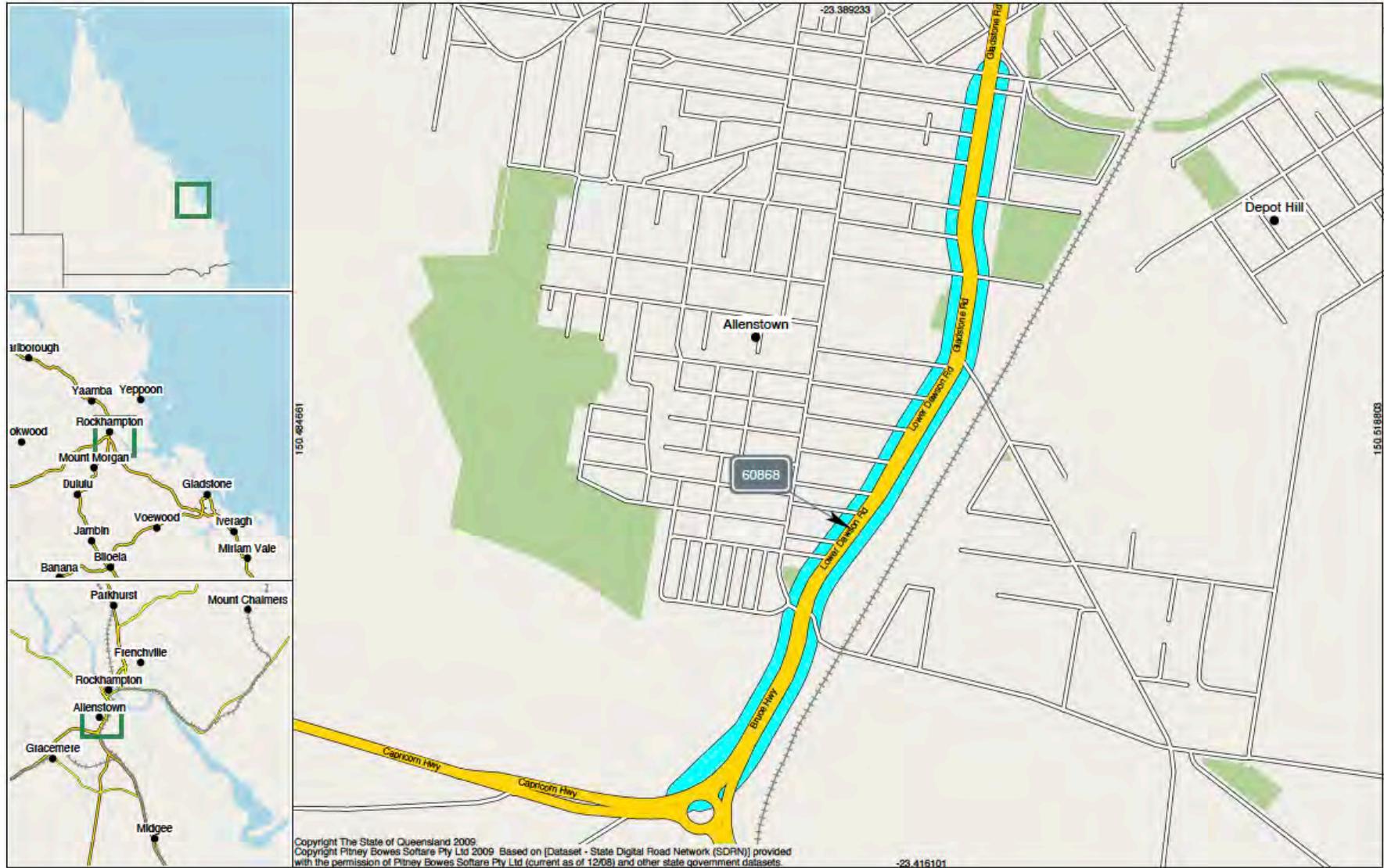
Area 404 - Fitzroy District  
Road Section 10E - BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)  
Site 61086 - 95m N of Derby St, (George St)  
Thru Dist 120.36  
Type C - Coverage  
Stream TB - Bi-directional traffic flow

Year	2020	Growth last Year	19.93%
AADT	19,695	Growth last 5 Yrs	-2.16%
Avg Week Day	24,618	Growth last 10 Yrs	-2.61%
Avg Weekend Day	18,316		

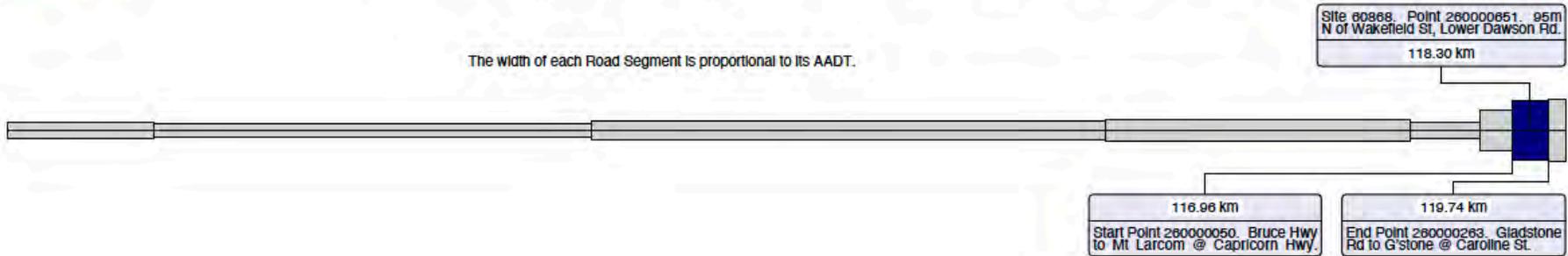


Year	AADT	1-Year Growth	5-Year Growth	10-Year Growth
2020	19,695	19.93%	-2.16%	-2.61%
2019	16,422	-21.47%	-8.51%	-5.23%
2018	20,912	-0.14%	-3.45%	-1.87%
2017	20,942	-3.36%	-4.54%	-1.76%
2016	21,671	-4.29%	-3.83%	-1.14%
2015	22,642	-8.40%	-2.11%	-0.55%
2014	24,718	-2.28%	0.67%	1.07%
2013	25,296	-3.25%	1.92%	1.69%
2012	26,146	6.47%	3.38%	2.44%
2011	24,558	6.16%	1.98%	1.95%
2010	23,132	-2.27%	-0.09%	
2009	23,670	3.10%	1.53%	2.28%
2008	22,958	1.04%	1.31%	
2007	22,722	0.91%	1.57%	
2006	22,518	-6.54%	2.51%	
2005	24,094	15.75%		
2004	20,816	-1.34%	2.52%	
2003	21,098	0.75%		
2002	20,941	8.87%		
2001	19,235			
2000				
1999	17,882			
1998				
1997				
1996				
1995				
1994				
1993				
1992				
1991				

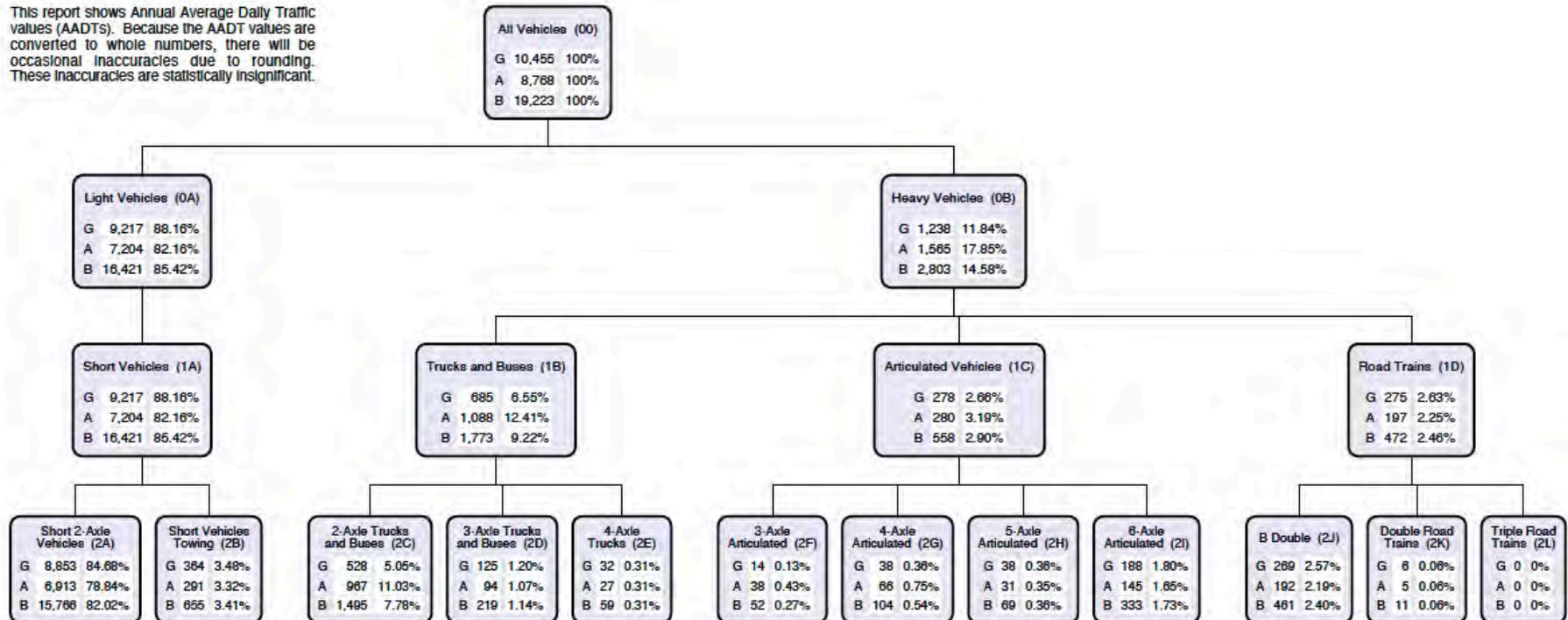




The width of each Road Segment is proportional to its AADT.



This report shows Annual Average Daily Traffic values (AADTs). Because the AADT values are converted to whole numbers, there will be occasional inaccuracies due to rounding. These inaccuracies are statistically insignificant.





Traffic Analysis and Reporting System  
**Annual Volume Report**

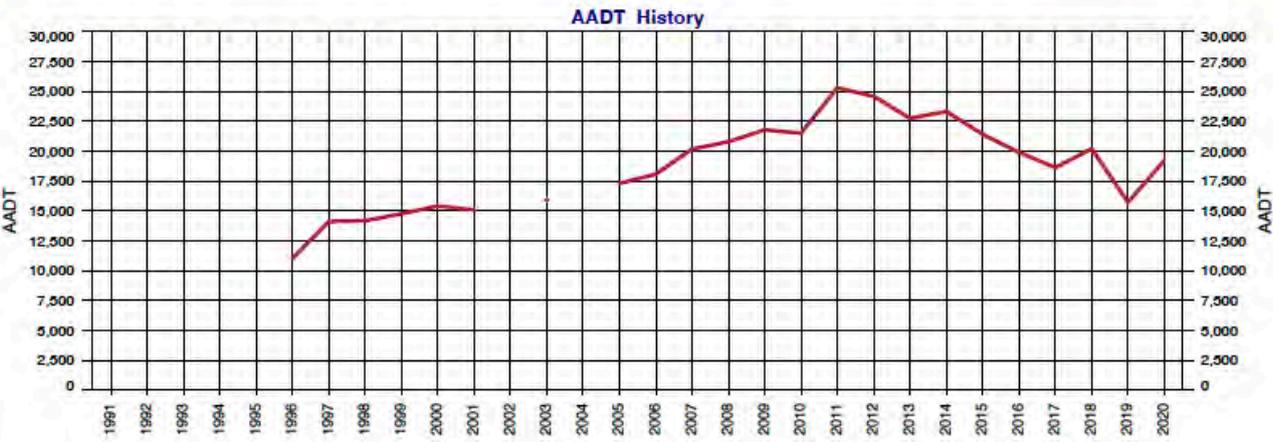
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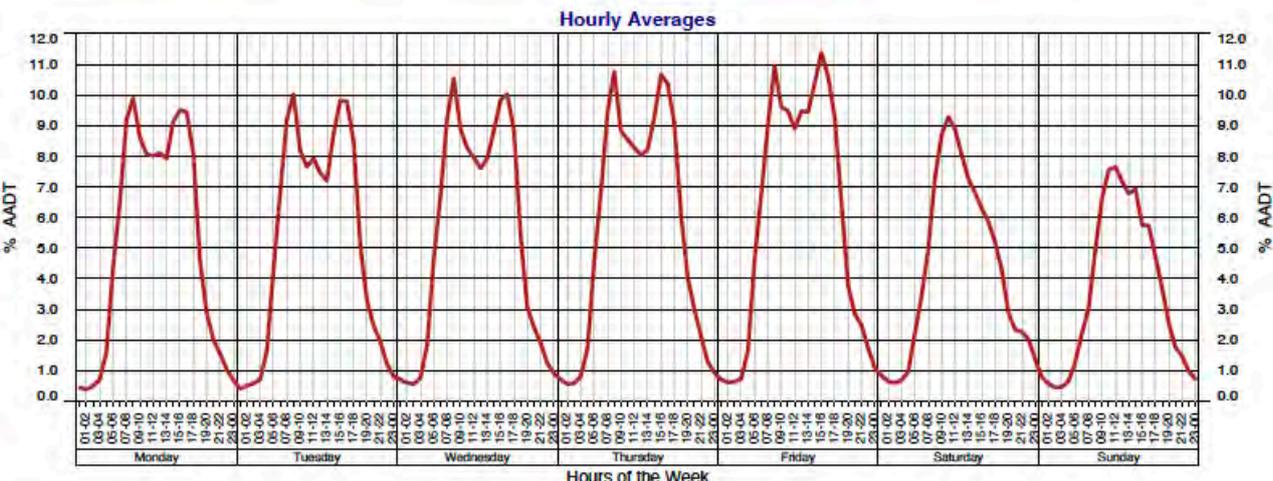
Page 2 of 3 (5 of 7)

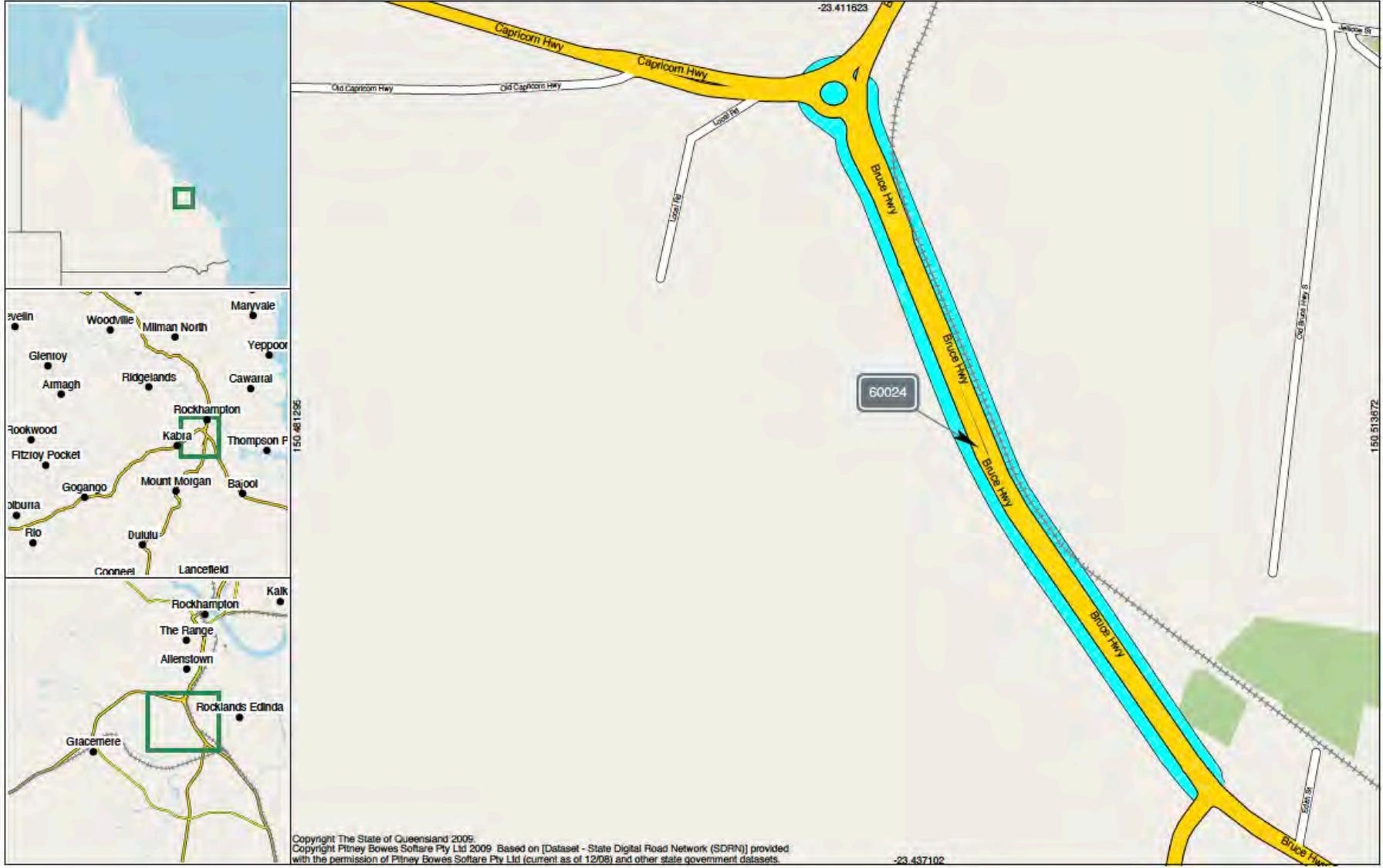
Area 404 - Fitzroy District  
Road Section 10E - BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)  
Site 60868 - 95m N of Wakefield St, (Lower Dawson Rd)  
Thru Dist 118.295  
Type C - Coverage  
Stream TB - Bi-directional traffic flow

Year 2020 Growth last Year 22.16%  
AADT 19,223 Growth last 5 Yrs -0.88%  
Avg Week Day 24,989 Growth last 10 Yrs -2.16%  
Avg Weekend Day 17,877

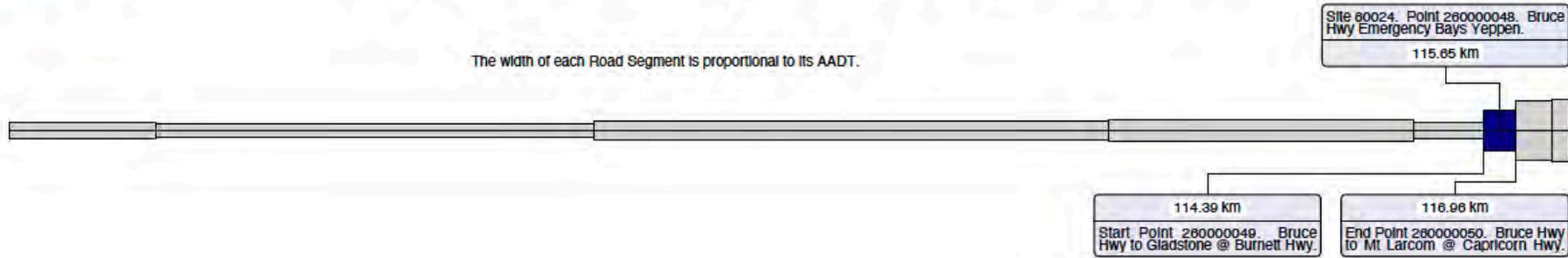


Year	AADT	1-Year Growth	5-Year Growth	10-Year Growth
2020	19,223	22.16%	-0.88%	-2.16%
2019	15,736	-22.15%	-7.85%	-4.99%
2018	20,213	8.47%	-2.21%	-1.40%
2017	18,635	-6.37%	-5.66%	-2.33%
2016	19,903	-7.07%	-5.03%	-0.89%
2015	21,418	-8.16%	-2.36%	0.76%
2014	23,321	2.45%	0.61%	
2013	22,763	-7.46%	0.93%	2.87%
2012	24,597	-2.80%	4.20%	
2011	25,308	17.59%	6.83%	5.97%
2010	21,521	-1.23%	3.77%	3.82%
2009	21,789	4.81%		4.44%
2008	20,790	3.00%	5.79%	4.21%
2007	20,184	11.61%		4.14%
2006	18,084	4.49%	3.88%	3.57%
2005	17,307		2.91%	
2004				
2003	15,909		2.00%	
2002				
2001	15,096	-2.11%	3.78%	
2000	15,421	4.34%		
1999	14,779	4.22%		
1998	14,181	0.39%		
1997	14,126	28.02%		
1996	11,034			
1995				
1994				
1993				
1992				
1991				

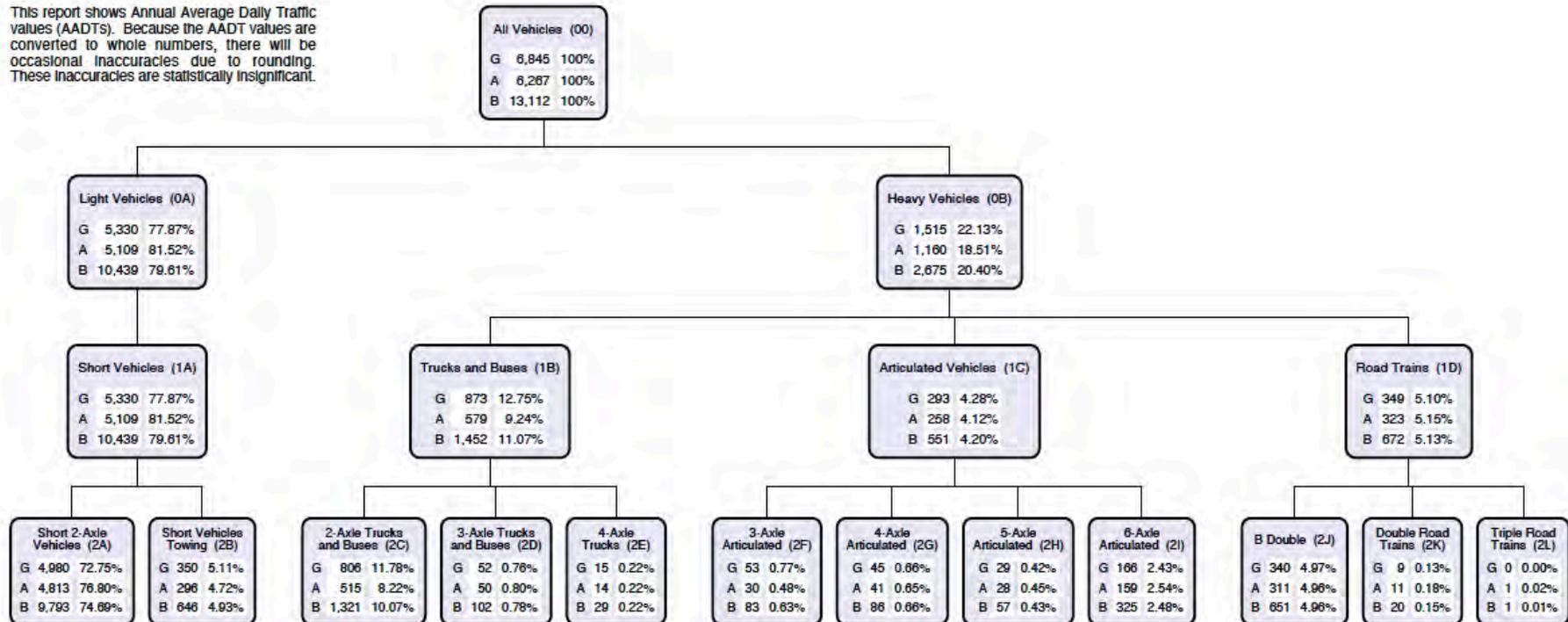




The width of each Road Segment is proportional to its AADT.



This report shows Annual Average Daily Traffic values (AADTs). Because the AADT values are converted to whole numbers, there will be occasional inaccuracies due to rounding. These inaccuracies are statistically insignificant.





Traffic Analysis and Reporting System  
Annual Volume Report

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Area 404 - Fitzroy District  
Road Section 10E - BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)  
Site 60024 - Emergency Bays, Yeppen, N of Burnett Hwy  
Thru Dist 115.65  
Type C - Coverage  
Stream TB - Bi-directional traffic flow

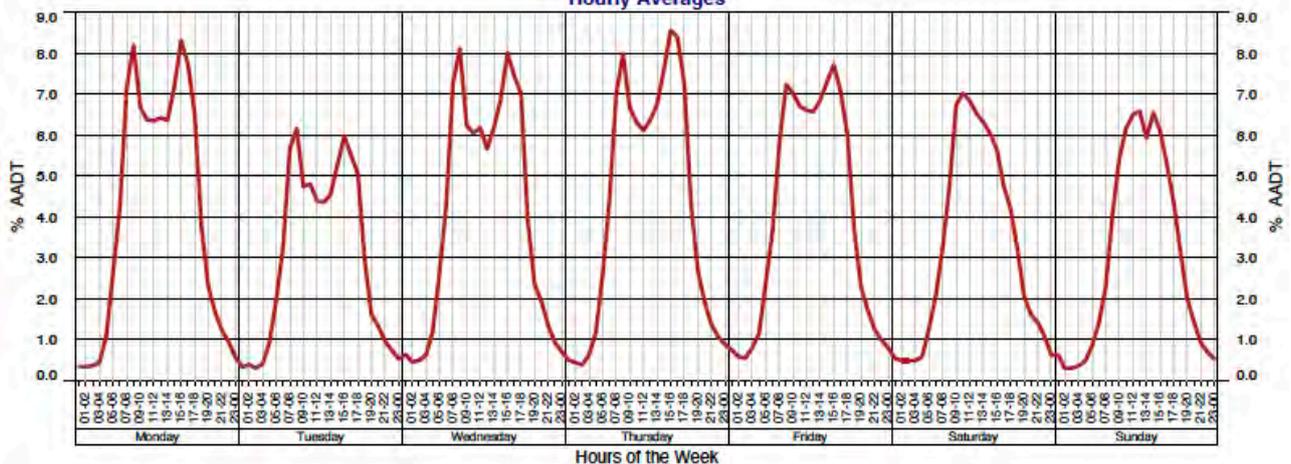
Year 2020  
AADT 13,112  
Avg Week Day 12,063  
Avg Weekend Day 9,834  
Growth last Year  
Growth last 5 Yrs  
Growth last 10 Yrs 5.12%

AADT History

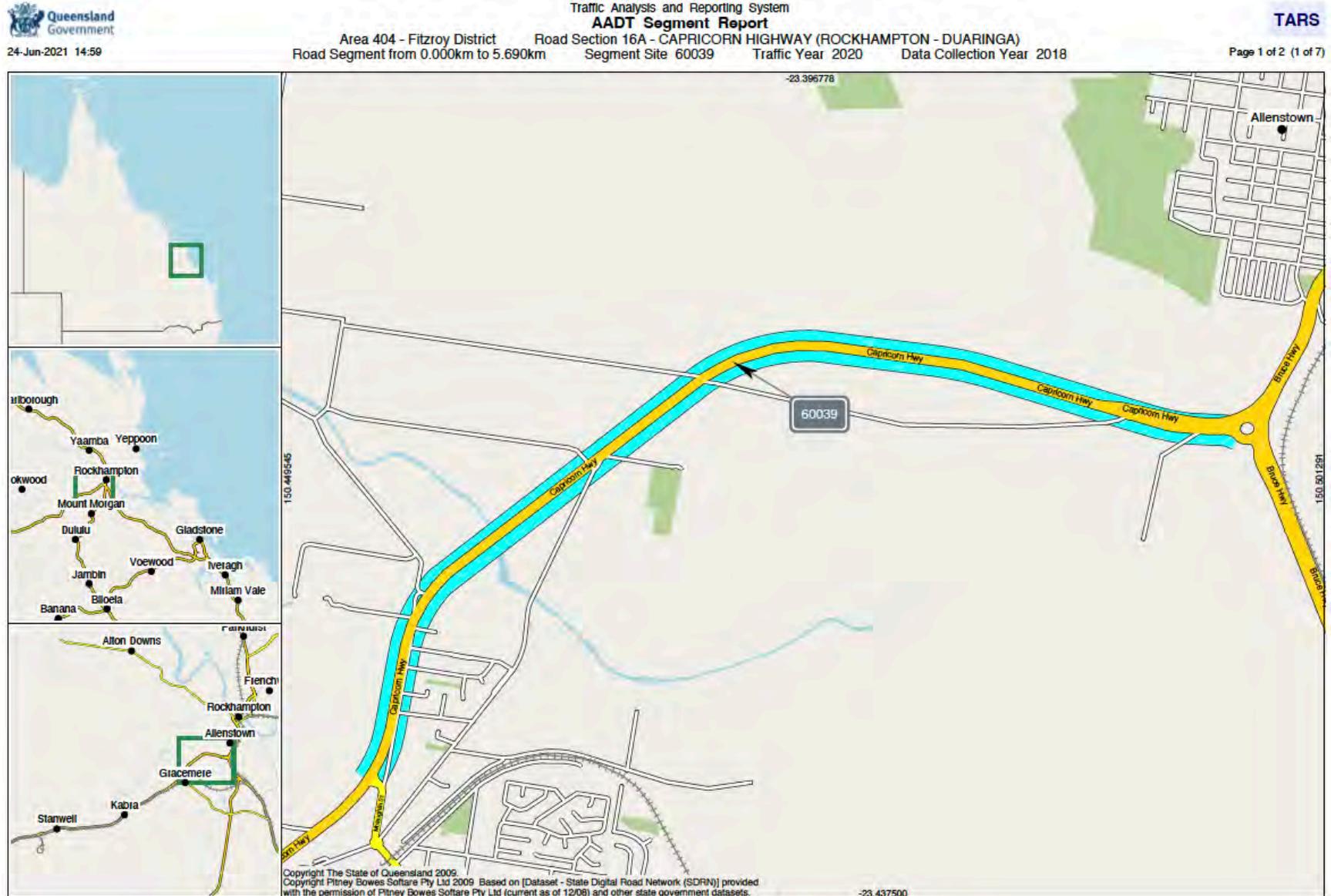


Year	AADT	1-Year Growth	5-Year Growth	10-Year Growth
2020	13,112			5.12%
2019				
2018	9,210	-8.93%	0.36%	0.91%
2017	10,113	4.01%	3.28%	2.43%
2016	9,723		1.32%	2.77%
2015				
2014	8,606	-4.74%	0.51%	2.21%
2013	9,034	2.15%	2.13%	3.44%
2012	8,844	-11.50%	1.91%	3.36%
2011	9,993	19.86%	8.30%	5.29%
2010	8,337	11.52%	4.49%	2.78%
2009	7,476	-11.38%	2.57%	1.90%
2008	8,436	2.30%	6.96%	3.70%
2007	8,246	31.94%	6.01%	
2006	6,250	-5.73%	-2.50%	
2005	6,630	1.94%	-0.96%	
2004	6,504	0.34%	0.65%	
2003	6,482	-7.37%	0.23%	
2002	6,998	-2.53%		
2001	7,180	5.84%		
2000	6,784	26.47%		
1999	5,384	-20.66%		
1998	6,761			
1997				
1996				
1995				
1994				
1993				
1992				
1991				

Hourly Averages

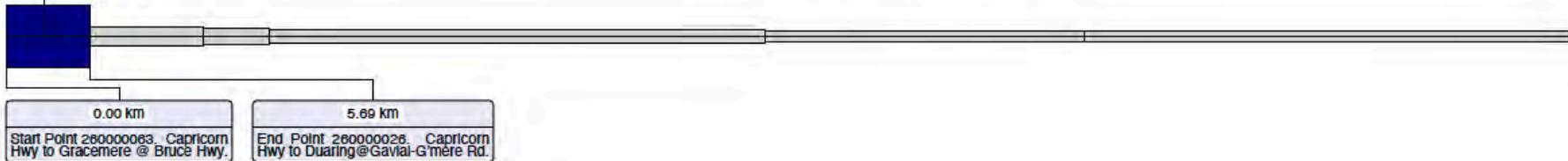


# A-4: Capricorn Highway AADT Segment Report



Site 60039 Point 260000062 190m E of Nelson St, Fairy Bower, E of Gracemere.  
2.63 km

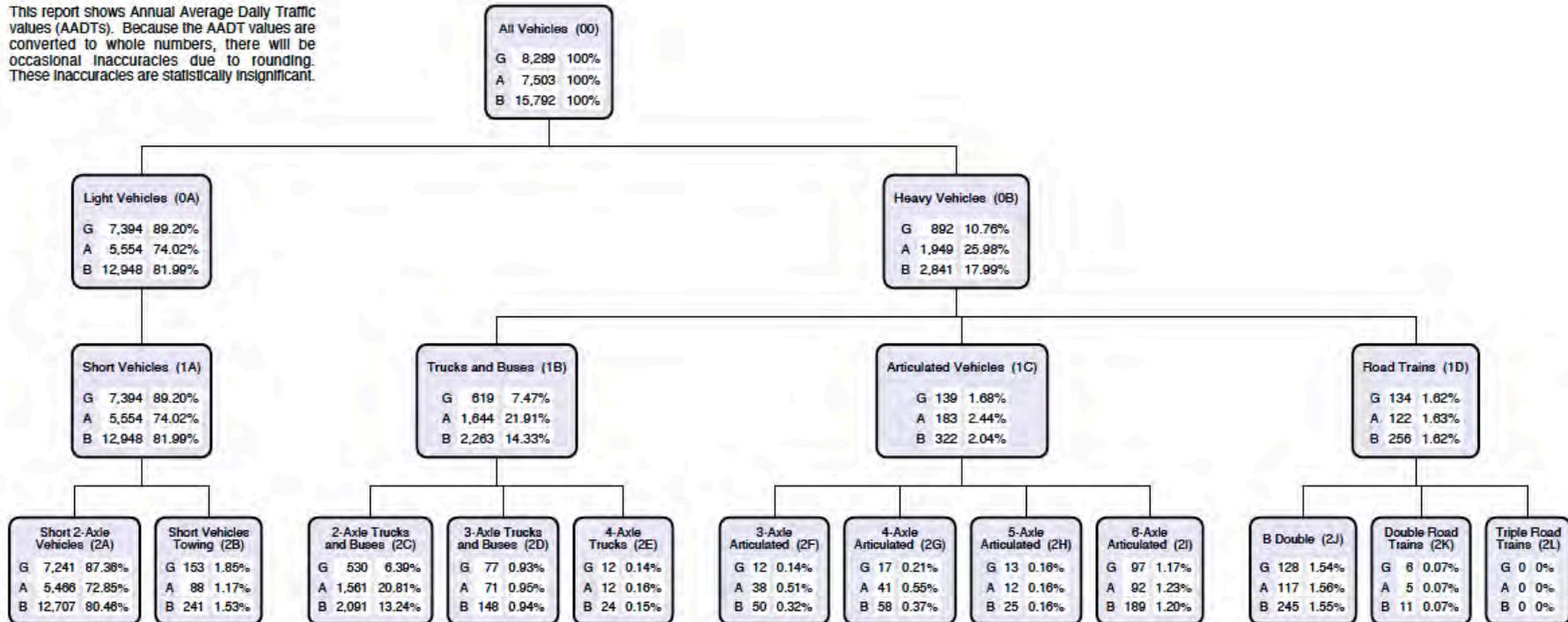
The width of each Road Segment is proportional to its AADT.



0.00 km  
Start Point 260000063 Capricorn Hwy to Gracemere @ Bruce Hwy.

5.69 km  
End Point 260000026 Capricorn Hwy to Duaringa @ Gavial-G'mere Rd.

This report shows Annual Average Daily Traffic values (AADTs). Because the AADT values are converted to whole numbers, there will be occasional inaccuracies due to rounding. These inaccuracies are statistically insignificant.





Traffic Analysis and Reporting System  
Annual Volume Report

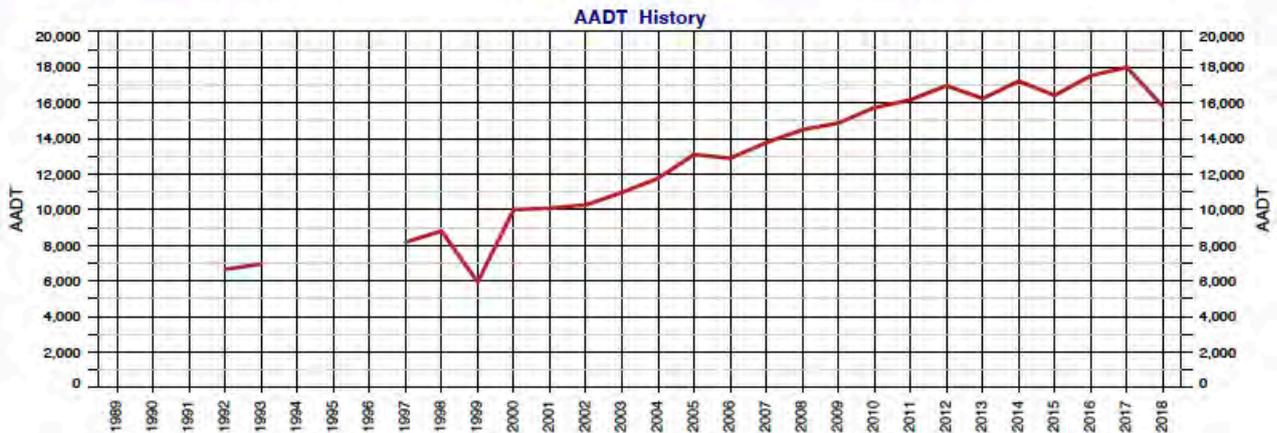
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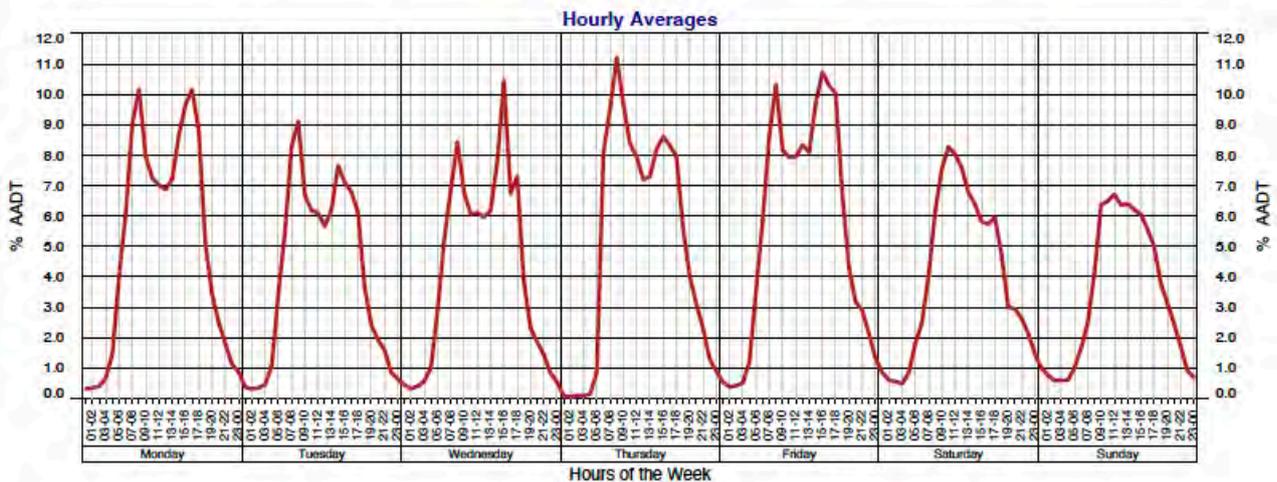
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Area 404 - Fitzroy District  
Road Section 16A - CAPRICORN HIGHWAY (ROCKHAMPTON - DUARINGA)  
Site 60039 - 190m E of Nelson St, Fairy Bower  
Thru Dist 2.635  
Type C - Coverage  
Stream TB - Bi-directional traffic flow

Year 2018 AADT 15,792 Growth last Year -12.28%  
AADT 15,792 Growth last 5 Yrs -1.70%  
Avg Week Day 18,002 Growth last 10 Yrs -0.03%  
Avg Weekend Day 13,896



Year	AAADT	1-Year Growth	5-Year Growth	10-Year Growth
2018	15,792	-12.28%	-1.70%	-0.03%
2017	18,002	2.70%	1.93%	2.31%
2016	17,528	6.73%	1.58%	2.48%
2015	16,422	-4.62%	0.27%	1.96%
2014	17,217	6.00%	2.52%	3.31%
2013	16,242	-4.28%	1.81%	3.20%
2012	16,968	4.94%	4.22%	4.68%
2011	16,169	2.72%	4.27%	4.70%
2010	15,741	5.88%	4.35%	4.94%
2009	14,867	2.61%	4.24%	6.03%
2008	14,489	5.27%	5.25%	6.26%
2007	13,784	6.75%	5.62%	6.17%
2006	12,894	-1.60%	5.20%	
2005	13,103	11.40%	6.74%	
2004	11,762	7.23%	9.25%	
2003	10,969	6.80%	7.66%	5.59%
2002	10,271	1.83%	6.51%	4.92%
2001	10,088	0.81%		
2000	10,005	68.43%		
1999	5,940	-32.55%		
1998	8,807	7.70%	4.96%	
1997	8,177		4.19%	
1996				
1995				
1994				
1993	6,949	4.43%		
1992	6,654			
1991				
1990				
1989				



## Appendix B: Intersections and Heavy Vehicle Manoeuvring

### B-1: Traffic Direction

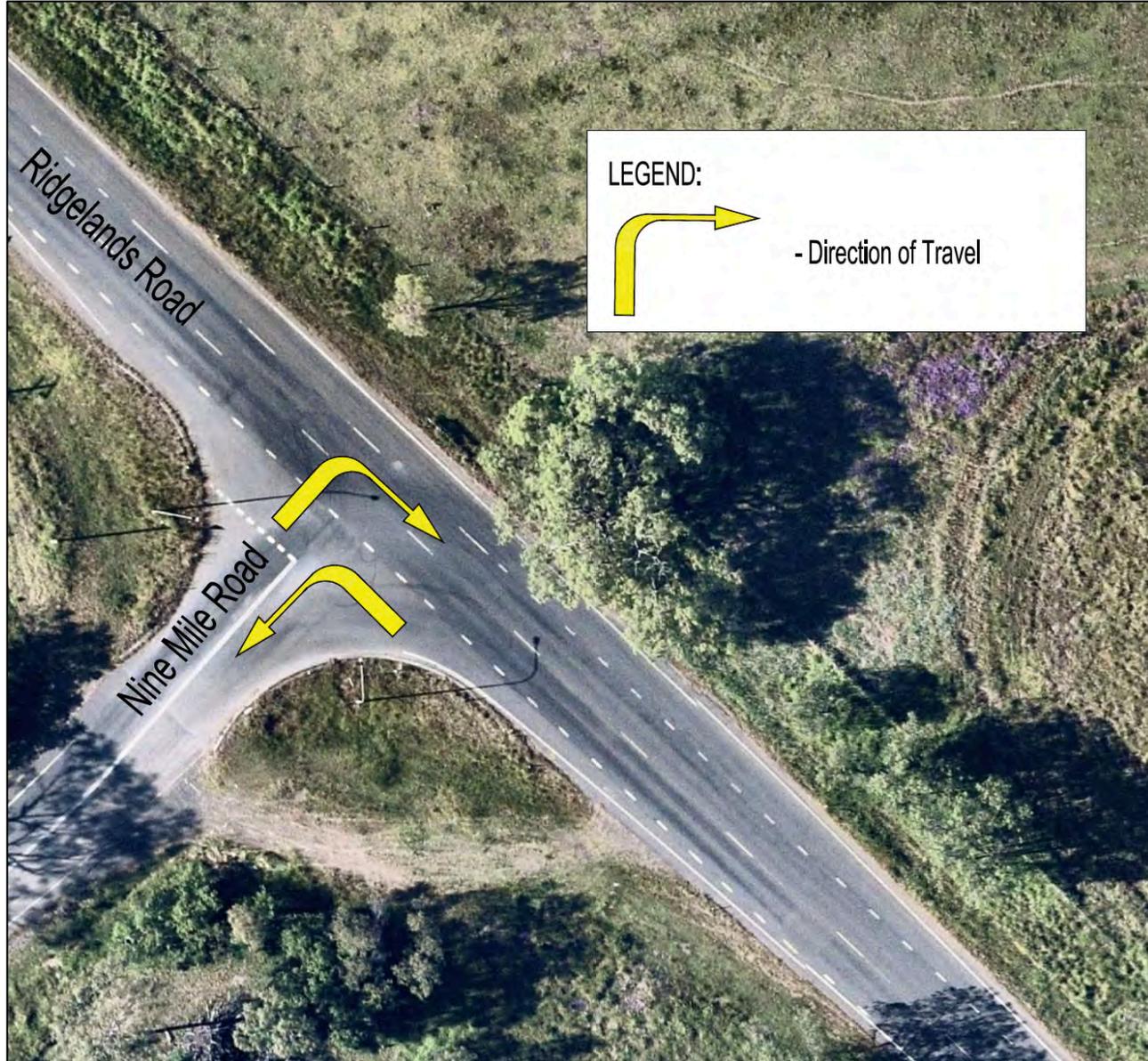
Fogarty Road / Quarry Access Intersections



Nine Mile Road / Fogarty Road Intersection



Ridgелands Road / Nine Mile Road Intersection



Wandal Road / Campbell Street / Exhibition Road Roundabout



Campbell Street / North Street Roundabout



Albert Street / Campbell Street Intersection and Albert Street / George Street Intersection



Bruce Highway / Capricorn Highway Roundabout



## B-2: Truck + Dog Manoeuvring

Fogarty Road / Quarry Access Intersections



Nine Mile Road / Fogarty Road Intersection



Ridgелands Road / Nine Mile Road Intersection



Wandal Road / Campbell Street / Exhibition Road Roundabout



Campbell Street / North Street Roundabout



Albert Street / Campbell Street Intersection and Albert Street / George Street Intersection



Bruce Highway / Capricorn Highway Roundabout



# Appendix C: Pavement Impact Calculations

Marginal Cost Method Pavement Impact Assessment

**Pavement Marginal Cost Impact Assessment**

Lot 100 Quarry (250k tonnes / p.a.)

YEAR 2021 TRUCK + (4) DOG

30.901 km (Route Distance)

61.802 km (Total KM Drive)

SAR4 Loaded:	6.3
SAR4 Unloaded:	0.53

Cents / tonne	7.53
Cents / tonne / km driven	0.12

TRUCK PAYLOAD: 36 tonnes

HAULAGE: 250000 tonnes

TOTAL CONTRIBUTION \$18,833.94

Loaded	ROAD NAME	ROAD SECTION ID	DIRECTION	SUPERSEY_CWAY Y	CARRIAGEWAY CODE	CHANGE		LENGTH (km)	PAVEMENT TYPE	MARGINAL COST	DAMAGE EXPONENT	EXIST HV				DEVELOPMENT VOLUMES (350xhp.a)	VEHICLE CLASS 10	LOAD STATUS	DEVELOPMENT SAR PER YEAR	%	DEV
						TDIST_START	TDIST_END					AADT	SAR	VOL/YR	SAR/YR						
Unloaded	BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	Gazettal	1	1	106	106.1	0.1	GN	1.17	4	907	2630	32652	960060	4340	UNLOADED	2300	0.24%	0	
	BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	Gazettal	1	1	106.1	106.2	0.1	GN	1.17	4	907	2630	32652	960060	4340	UNLOADED	2300	0.24%	0	
	BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	Gazettal	1	1	106.2	106.3	0.1	GN	1.17	4	907	2630	32652	960060	4340	UNLOADED	2300	0.24%	0	
	BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	Gazettal	1	1	106.3	106.4	0.1	GN	1.17	4	907	2630	32652	960060	4340	UNLOADED	2300	0.24%	0	
	BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	Gazettal	1	1	106.4	106.5	0.1	GN	1.16	4	907	2630	32652	960060	4340	UNLOADED	2300	0.24%	0	
	BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	Gazettal	1	1	106.5	106.6	0.1	GN	1.17	4	907	2630	32652	960060	4340	UNLOADED	2300	0.24%	0	
	BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	Gazettal	1	1	106.6	106.7	0.1	GN	1.17	4	907	2630	32652	960060	4340	UNLOADED	2300	0.24%	0	
	BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	Gazettal	1	1	106.7	106.8	0.1	GN	1.19	4	907	2630	32652	960060	4340	UNLOADED	2300	0.24%	0	
	BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	Gazettal	1	1	106.8	106.9	0.1	GN	3.41	4	907	2630	32652	960060	4340	UNLOADED	2300	0.24%	0	
	BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	Gazettal	1	1	106.9	107	0.1	GN	2.79	4	907	2630	32652	960060	4340	UNLOADED	2300	0.24%	0	
	BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	Gazettal	1	1	107	107.1	0.1	GN	2.36	4	907	2630	32652	960060	4340	UNLOADED	2300	0.24%	0	
	BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	Gazettal	1	1	107.1	107.2	0.1	GN	2.28	4	907	2630	32652	960060	4340	UNLOADED	2300	0.24%	0	
	BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	Gazettal	1	1	107.2	107.3	0.1	GN	2.34	4	907	2630	32652	960060	4340	UNLOADED	2300	0.24%	0	
	BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	Gazettal	1	1	107.3	107.4	0.1	GN	2.31	4	907	2630	32652	960060	4340	UNLOADED	2300	0.24%	0	
	BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	Gazettal	1	1	107.4	107.5	0.1	GN	2.26	4	907	2630	32652	960060	4340	UNLOADED	2300	0.24%	0	
	BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	Gazettal	1	1	107.5	107.6	0.1	GN	2.36	4	907	2630	32652	960060	4340	UNLOADED	2300	0.24%	0	
	BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	Gazettal	1	1	107.6	107.7	0.1	GN	2.37	4	907	2630	32652	960060	4340	UNLOADED	2300	0.24%	0	
	BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	Gazettal	1	1	107.7	107.8	0.1	GN	2.36	4	907	2630	32652	960060	4340	UNLOADED	2300	0.24%	0	
	BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	Gazettal	1	1	107.8	107.9	0.1	GN	2.33	4	907	2630	32652	960060	4340	UNLOADED	2300	0.24%	0	
	BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	Gazettal	1	1	107.9	108	0.1	GN	2.34	4	907	2630	32652	960060	4340	UNLOADED	2300	0.24%	0	
	BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	Gazettal	1	1	108	108.1	0.1	GN	2.33	4	907	2630	32652	960060	4340	UNLOADED	2300	0.24%	0	
	BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	Gazettal	1	1	108.1	108.2	0.1	GN	2.34	4	907	2630	32652	960060	4340	UNLOADED	2300	0.24%	0	
	BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	Gazettal	1	1	108.2	108.3	0.1	GN	2.36	4	907	2630	32652	960060	4340	UNLOADED	2300	0.24%	0	
	BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	Gazettal	1	1	108.3	108.4	0.1	GN	1.17	4	907	2630	32652	960060	4340	UNLOADED	2300	0.24%	0	
	BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	Gazettal	1	1	108.4	108.5	0.1	GN	1.15	4	907	2630	32652	960060	4340	UNLOADED	2300	0.24%	0	
	BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	Gazettal	1	1	108.5	108.6	0.1	GN	1.15	4	907	2630	32652	960060	4340	UNLOADED	2300	0.24%	0	
	BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	Gazettal	1	1	108.6	108.7	0.1	GN	1.16	4	907	2630	32652	960060	4340	UNLOADED	2300	0.24%	0	
	BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	Gazettal	1	1	108.7	108.8	0.1	GN	1.22	4	907	2630	32652	960060	4340	UNLOADED	2300	0.24%	0	
	BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	Gazettal	1	1	108.8	108.9	0.1	GN	1.63	4	907	2630	32652	960060	4340	UNLOADED	2300	0.24%	0	
	BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	Gazettal	1	1	108.9	109	0.1	GN	1.99	4	907	2630	32652	960060	4340	UNLOADED	2300	0.24%	0	
	BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	Gazettal	1	1	109	109.1	0.1	GN	1.83	4	801	2323	28836	847859	4340	UNLOADED	2300	0.27%	0	
	BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	Gazettal	1	1	109.1	109.2	0.1	GN	1.36	4	801	2323	28836	847859	4340	UNLOADED	2300	0.27%	0	
	BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	Gazettal	1	1	109.2	109.3	0.1	GN	1.14	4	801	2323	28836	847859	4340	UNLOADED	2300	0.27%	0	
	BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	Gazettal	1	1	109.3	109.4	0.1	GN	1.14	4	801	2323	28836	847859	4340	UNLOADED	2300	0.27%	0	
	BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	Gazettal	1	1	109.4	109.5	0.1	GN	1.6	4	801	2323	28836	847859	4340	UNLOADED	2300	0.27%	0	
	BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	Gazettal	1	1	109.5	109.6	0.1	GN	2.03	4	801	2323	28836	847859	4340	UNLOADED	2300	0.27%	0	
	BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	Gazettal	1	1	109.6	109.7	0.1	GN	2.31	4	801	2323	28836	847859	4340	UNLOADED	2300	0.27%	0	
	BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	Gazettal	1	1	109.7	109.8	0.1	GN	2.31	4	801	2323	28836	847859	4340	UNLOADED	2300	0.27%	0	
	BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	Gazettal	1	1	109.8	109.9	0.1	GN	2.48	4	801	2323	28836	847859	4340	UNLOADED	2300	0.27%	0	
	BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	Gazettal	1	1	109.9	110	0.1	GN	2.51	4	801	2323	28836	847859	4340	UNLOADED	2300	0.27%	0	
	BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	Gazettal	1	1	110	110.1	0.1	GN	2.58	4	801	2323	28836	847859	4340	UNLOADED	2300	0.27%	0	
	BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	Gazettal	1	1	110.1	110.2	0.1	GN	2.47	4	801	2323	28836	847859	4340	UNLOADED	2300	0.27%	0	
	BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	Gazettal	1	1	110.2	110.3	0.1	GN	2.29	4	801	2323	28836	847859	4340	UNLOADED	2300	0.27%	0	
	BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	Gazettal	1	1	110.3	110.4	0.1	GN	2.16	4	801	2323	28836	847859	4340	UNLOADED	2300	0.27%	0	
	BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	Gazettal	1	1	110.4	110.5	0.1	GN	2.12	4	801	2323	28836	847859	4340	UNLOADED	2300	0.27%	0	
	BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	Gazettal	1	1	110.5	110.6	0.1	GN	2.16	4	801	2323	28836	847859	4340	UNLOADED	2300	0.27%	0	
	BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	Gazettal	1	1	110.6	110.7	0.1	GN	2.2	4	801	2323	28836	847859	4340	UNLOADED	2300	0.27%	0	
	BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	Gazettal	1	1	110.7	110.8	0.1	GN	2.14	4	801	2323	28836	847859	4340	UNLOADED	2300	0.27%	0	
	BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	Gazettal	1	1	110.8	110.9	0.1	GN	2.13	4	801	2323	28836	847859	4340	UNLOADED	2300	0.27%	0	
	BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	Gazettal	1	1	110.9	111	0.1	GN	2.09	4	801	2323	28836	847859	4340	UNLOADED	2300	0.27%	0	
	BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	Gazettal	1	1	111	111.1	0.1	GN	1.89	4	801	2323	28836	847859	4340	UNLOADED	2300	0.27%	0	
	BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	Gazettal	1	1	111.1	111.2	0.1	GN	1.61	4	801	2323	28836	847859	4340	UNLOADED	2300	0.27%	0	
	BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	Gazettal	1	1	111.2	111.3	0.1	GN	2.83	4	801	2323	28836	847859	4340	UNLOADED	2300	0.27%	0	
	BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	Gazettal	1	1	111.3	111.4	0.1	GN	1.47	4	801	2323	28836	847859	4340	UNLOADED	2300	0.27%	0	
	BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	Gazettal	1	1	111.4	111.5	0.1	GN	1.55	4	801	2323	28836	847859	4340	UNLOADED	2300	0.27%	0	
	BRUCE HIGHWAY (BENARABY - ROCKHAMPTON)	10E	Gazettal	1	1	1															







CAPRICORN HIGHWAY (ROCKHAMPTON - DUARING)	16A	Gazettal	1	1	7.6	7.7	0.1	GN	5.08	4	723	2314	26028	844464	2604	LOADED	16406	1.94%	0
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARING)	16A	Gazettal	1	1	7.7	7.8	0.1	GN	5.08	4	723	2314	26028	844464	2604	LOADED	16406	1.94%	0
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARING)	16A	Gazettal	1	1	7.8	7.9	0.1	GN	5.27	4	723	2314	26028	844464	2604	LOADED	16406	1.94%	0
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARING)	16A	Gazettal	1	1	7.9	8	0.1	GN	3.27	4	723	2314	26028	844464	2604	LOADED	16406	1.94%	0
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARING)	16A	Gazettal	1	1	8	8.1	0.1	GN	2.96	4	723	2314	26028	844464	2604	LOADED	16406	1.94%	0
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARING)	16A	Gazettal	1	1	8.1	8.2	0.1	GN	2.97	4	723	2314	26028	844464	2604	LOADED	16406	1.94%	0
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARING)	16A	Gazettal	1	1	8.2	8.3	0.1	GN	3.5	4	723	2314	26028	844464	2604	LOADED	16406	1.94%	0
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARING)	16A	Gazettal	1	1	8.3	8.4	0.1	GN	3.28	4	723	2314	26028	844464	2604	LOADED	16406	1.94%	0
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARING)	16A	Gazettal	1	1	8.4	8.5	0.1	GN	3.83	4	723	2314	26028	844464	2604	LOADED	16406	1.94%	0
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARING)	16A	Gazettal	1	1	8.5	8.6	0.1	GN	4.36	4	723	2314	26028	844464	2604	LOADED	16406	1.94%	0
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARING)	16A	Gazettal	1	1	8.6	8.7	0.1	GN	3.87	4	723	2314	26028	844464	2604	LOADED	16406	1.94%	0
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARING)	16A	Gazettal	1	1	8.7	8.8	0.1	GN	3.51	4	723	2314	26028	844464	2604	LOADED	16406	1.94%	0
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARING)	16A	Gazettal	1	1	8.8	8.9	0.1	GN	2.97	4	723	2314	26028	844464	2604	LOADED	16406	1.94%	0
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARING)	16A	Gazettal	1	1	8.9	9	0.1	GN	2.96	4	723	2314	26028	844464	2604	LOADED	16406	1.94%	0
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARING)	16A	Gazettal	1	1	9	9.1	0.1	GN	3	4	723	2314	26028	844464	2604	LOADED	16406	1.94%	0
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARING)	16A	Gazettal	1	1	9.1	9.2	0.1	GN	3	4	723	2314	26028	844464	2604	LOADED	16406	1.94%	0
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARING)	16A	Gazettal	1	1	9.2	9.3	0.1	AC	3.27	5	723	2314	26028	844464	2604	LOADED	16406	1.94%	0
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARING)	16A	Gazettal	1	1	9.3	9.39	0.09	AC	3.73	5	723	2314	26028	844464	2604	LOADED	16406	1.94%	0
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARING)	16A	Gazettal	1	2	9.39	9.4	0.01	AC	3.73	5	723	2314	26028	844464	2604	LOADED	16406	1.94%	0
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARING)	16A	Gazettal	3	3	9.4	9.5	0.1	AC	3.11	5	723	2314	26028	844464	2604	LOADED	16406	1.94%	0
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARING)	16A	Gazettal	1	2	9.5	9.6	0.1	AC	3.55	5	723	2314	26028	844464	2604	LOADED	16406	1.94%	0
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARING)	16A	Gazettal	1	2	9.6	9.7	0.1	AC	3.32	5	723	2314	26028	844464	2604	LOADED	16406	1.94%	0
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARING)	16A	Gazettal	3	3	9.6	9.7	0.1	AC	3.32	5	723	2314	26028	844464	2604	LOADED	16406	1.94%	0
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARING)	16A	Gazettal	3	3	9.7	9.8	0.1	AC	3.13	5	723	2314	26028	844464	2604	LOADED	16406	1.94%	0
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARING)	16A	Gazettal	3	3	9.8	9.9	0.1	AC	3.3	5	723	2314	26028	844464	2604	LOADED	16406	1.94%	0
CAPRICORN HIGHWAY (ROCKHAMPTON - DUARING)	16A	Gazettal	3	3	9.9	10	0.1	AC	3.64	5	723	2314	26028	844464	2604	LOADED	16406	1.94%	0
ROCKHAMPTON - RIDGELANDS ROAD	511	Against Gazettal	1	1	0	0.1	0.1	AC	13.64	5	215	688	7740	251120	6944	LOADED	43750	17.42%	\$596.75
ROCKHAMPTON - RIDGELANDS ROAD	511	Against Gazettal	1	1	0.1	0.17	0.07	AC	13.64	5	215	688	7740	251120	6944	LOADED	43750	17.42%	\$417.73
ROCKHAMPTON - RIDGELANDS ROAD	511	Against Gazettal	1	2	0.17	0.2	0.03	AC	13.64	5	215	688	7740	251120	6944	LOADED	43750	17.42%	\$179.03
ROCKHAMPTON - RIDGELANDS ROAD	511	Against Gazettal	3	3	0.2	0.245	0.045	AC	13.64	5	253	810	9108	295504	6944	LOADED	43750	14.81%	\$268.54
ROCKHAMPTON - RIDGELANDS ROAD	511	Against Gazettal	1	1	0.245	0.3	0.055	AC	13.64	5	253	810	9108	295504	6944	LOADED	43750	14.81%	\$328.21
ROCKHAMPTON - RIDGELANDS ROAD	511	Against Gazettal	1	1	0.3	0.4	0.1	AC	8.33	5	253	810	9108	295504	6944	LOADED	43750	14.81%	\$364.44
ROCKHAMPTON - RIDGELANDS ROAD	511	Against Gazettal	1	1	0.4	0.5	0.1	AC	20.76	5	253	810	9108	295504	6944	LOADED	43750	14.81%	\$908.25
ROCKHAMPTON - RIDGELANDS ROAD	511	Against Gazettal	1	1	0.5	0.6	0.1	AC	8.77	5	253	810	9108	295504	6944	LOADED	43750	14.81%	\$383.69
ROCKHAMPTON - RIDGELANDS ROAD	511	Against Gazettal	1	1	0.6	0.7	0.1	AC	9.03	5	253	810	9108	295504	6944	LOADED	43750	14.81%	\$395.06
ROCKHAMPTON - RIDGELANDS ROAD	511	Against Gazettal	1	1	0.7	0.73	0.03	AC	8.25	5	253	810	9108	295504	6944	LOADED	43750	14.81%	\$108.28
ROCKHAMPTON - RIDGELANDS ROAD	511	Against Gazettal	3	3	0.73	0.8	0.07	AC	8.25	5	253	810	9108	295504	6944	LOADED	43750	14.81%	\$252.66
ROCKHAMPTON - RIDGELANDS ROAD	511	Against Gazettal	3	3	0.8	0.9	0.1	AC	12.81	5	177	566	6372	206736	6944	LOADED	43750	21.16%	\$560.44
ROCKHAMPTON - RIDGELANDS ROAD	511	Against Gazettal	1	2	0.9	1	0.1	AC	11.67	5	177	566	6372	206736	6944	LOADED	43750	21.16%	\$510.56
ROCKHAMPTON - RIDGELANDS ROAD	511	Against Gazettal	1	2	1	1.1	0.1	AC	6.43	5	177	566	6372	206736	6944	LOADED	43750	21.16%	\$281.31
ROCKHAMPTON - RIDGELANDS ROAD	511	Against Gazettal	3	3	1.1	1.2	0.1	AC	2.3	5	177	566	6372	206736	6944	LOADED	43750	21.16%	\$100.63
ROCKHAMPTON - RIDGELANDS ROAD	511	Against Gazettal	1	2	1.2	1.3	0.1	AC	2.73	5	177	566	6372	206736	6944	LOADED	43750	21.16%	\$119.44
ROCKHAMPTON - RIDGELANDS ROAD	511	Against Gazettal	3	3	1.3	1.31	0.01	AC	15.26	5	177	566	6372	206736	6944	LOADED	43750	21.16%	\$66.76
ROCKHAMPTON - RIDGELANDS ROAD	511	Against Gazettal	1	1	1.31	1.4	0.09	GN	15.26	4	177	566	6372	206736	6944	LOADED	43750	21.16%	\$600.86
ROCKHAMPTON - RIDGELANDS ROAD	511	Against Gazettal	1	1	1.4	1.5	0.1	GN	15.34	4	177	566	6372	206736	6944	LOADED	43750	21.16%	\$671.13
ROCKHAMPTON - RIDGELANDS ROAD	511	Against Gazettal	1	1	1.5	1.6	0.1	GN	15.17	4	177	566	6372	206736	6944	LOADED	43750	21.16%	\$663.69
ROCKHAMPTON - RIDGELANDS ROAD	511	Against Gazettal	1	1	1.6	1.7	0.1	GN	14.46	4	177	566	6372	206736	6944	LOADED	43750	21.16%	\$632.63
ROCKHAMPTON - RIDGELANDS ROAD	511	Against Gazettal	1	1	1.7	1.8	0.1	GN	15.24	4	177	566	6372	206736	6944	LOADED	43750	21.16%	\$666.75
ROCKHAMPTON - RIDGELANDS ROAD	511	Against Gazettal	1	1	1.8	1.9	0.1	GN	11.27	4	177	566	6372	206736	6944	LOADED	43750	21.16%	\$493.06
ROCKHAMPTON - RIDGELANDS ROAD	511	Against Gazettal	1	1	1.9	2	0.1	GN	8.69	4	177	566	6372	206736	6944	LOADED	43750	21.16%	\$380.19
ROCKHAMPTON - RIDGELANDS ROAD	511	Against Gazettal	1	1	2	2.1	0.1	GN	23.86	4	177	566	6372	206736	6944	LOADED	43750	21.16%	\$1,043.88
ROCKHAMPTON - RIDGELANDS ROAD	511	Against Gazettal	1	1	2.1	2.2	0.1	GN	13.25	4	177	566	6372	206736	6944	LOADED	43750	21.16%	\$579.69
ROCKHAMPTON - RIDGELANDS ROAD	511	Against Gazettal	1	1	2.2	2.3	0.1	GN	6.69	4	170	544	6120	198560	6944	LOADED	43750	22.03%	\$292.69
ROCKHAMPTON - RIDGELANDS ROAD	511	Against Gazettal	1	1	2.3	2.4	0.1	GN	9.35	4	170	544	6120	198560	6944	LOADED	43750	22.03%	\$409.06
ROCKHAMPTON - RIDGELANDS ROAD	511	Against Gazettal	1	1	2.4	2.5	0.1	GN	7.87	4	170	544	6120	198560	6944	LOADED	43750	22.03%	\$344.31
ROCKHAMPTON - RIDGELANDS ROAD	511	Against Gazettal	1	1	2.5	2.6	0.1	GN	6.64	4	170	544	6120	198560	6944	LOADED	43750	22.03%	\$290.50
ROCKHAMPTON - RIDGELANDS ROAD	511	Against Gazettal	1	1	2.6	2.7	0.1	GN	7.93	4	170	544	6120	198560	6944	LOADED	43750	22.03%	\$346.94
ROCKHAMPTON - RIDGELANDS ROAD	511	Against Gazettal	1	1	2.7	2.8	0.1	GN	4.2	4	170	544	6120	198560	6944	LOADED	43750	22.03%	\$183.75
ROCKHAMPTON - RIDGELANDS ROAD	511	Against Gazettal	1	1	2.8	2.9	0.1	GN	7.75	4	170	544	6120	198560	6944	LOADED	43750	22.03%	\$339.06
ROCKHAMPTON - RIDGELANDS ROAD	511	Against Gazettal	1	1	2.9	3	0.1	GN	7.64	4	170	544	6120	198560	6944	LOADED	43750	22.03%	\$334.25
ROCKHAMPTON - RIDGELANDS ROAD	511	Against Gazettal	1	1	3	3.1	0.1	GN	3.12	4	170	544	6120	198560	6944	LOADED	43750	22.03%	\$136.50
ROCKHAMPTON - RIDGELANDS ROAD	511	Against Gazettal	1	1	3.1	3.2	0.1	GN	5.01	4	170	544	6120	198560	6944	LOADED	43750	22.03%	\$219.19
ROCKHAMPTON - RIDGELANDS ROAD	511	Against Gazettal	1	1	3.2	3.3	0.1	GN	3.02	4	170	544	6120	198560	6944	LOADED	43750	22.03%	\$132.13
ROCKHAMPTON - RIDGELANDS ROAD	511	Against Gazettal	1	1	3.3	3.4	0.1	GN	4.98	4	170	544	6120	198560	6944	LOADED	43750	22.03%	\$217.88
ROCKHAMPTON - RIDGELANDS ROAD	511	Against Gazettal	1	1	3.4	3.5	0.1	GN	2.86	4	170	544	6120	198560	6944	LOADED	43750	22.03%	\$125.13
ROCKHAMPTON - RIDGELANDS ROAD	511	Against Gazettal	1	1	3.5	3.6	0.1	GN	5.74	4	170	544	6120	198560	6944	LOADED	43750	22.03%	\$251.13
ROCKHAMPTON - RIDGELANDS ROAD	511	Against Gazettal	1	1	3.6	3.7	0.1	GN	5.66	4	170	544	6120	198560	6944	LOADED	43750	22.03%	\$247.63
ROCKHAMPTON - RIDGELANDS ROAD	511	Against Gazettal	1	1	3.7	3.8	0.1	GN	6.08	4	170	544	6120	198560	6944	LOADED	43750	22.03%	\$266.00
ROCKHAMPTON - RIDGELANDS ROAD	511	Against Gazettal	1	1	3.8	3.9	0.1	GN	5.73	4	170	544	6120	198560	6944	LOADED	43750	22.03%	\$250.69
ROCKHAMPTON - RIDGELANDS ROAD	511	Against Gazettal	1	1	3.9	4													